
THE DEVELOPMENT OF EDUCATION IN CANADA

REPORT OF CANADA

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COUNCIL OF MINISTERS OF EDUCATION, CANADA

CANADIAN COMMISSION FOR UNESCO



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by

The Council of Ministers of Education, Canada

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Report from Canada (2001)

SUMMARY

The twentieth century in Canada ended on a note of profound changes in education directed toward creating a learning society, changes centred around the five features of accountability, high-quality education, accessibility, mobility, and responsiveness to learners' needs.

A number of important changes have been initiated over the last decade of the 20th century and are now in various stages of completion. With the beginning of the new millennium, education in Canada is undergoing a host of transformations that can be grouped under the following headings:

Reorganization and restructuring

Officials in charge of education have made substantial changes in the internal organization of ministries/departments of education, accountability structures, and administrative structures at all levels of the education system.

Funding reform

The 1990s saw governments take major steps to put public finances on a sound footing. To reduce public debt and deficits, they reduced grants to education, only to partly restore funding at the beginning of the new millennium.

Generally speaking, new spending is targeted toward specific government initiatives in areas such as performance assessment and curriculum renewal, early childhood development, information and communication technologies, training and postsecondary teaching. Efforts are being made everywhere in Canada to focus spending on curriculum, classroom activities, testing student performance and learning, while reducing administrative expenses.

Cuts in funding to postsecondary education and increased private versus public funding in that area have resulted in increased tuition fees and student debt during the 1990s. Most education administrations have attempted in recent years to remedy the situation through special measures such as tuition freezes or controls or by altering the terms of student loan repayments.

Curriculum renewal

In many instances, governments have adopted initiatives to achieve tighter control over curriculum, even going so far as to centralize this function again in the ministry/department of education for elementary and secondary education, and imposing more specific standards for postsecondary education and training.

Curricula have been overhauled to better prepare graduates for the new era of information, communication, and globalization.

In recent years, we have seen a return to core subjects such as languages (both first and second) and mathematics, as well as increased emphasis on science and technology. Themes of globalization, competitiveness, and productivity have guided many administrations in this effort.

Early childhood development

Early childhood development took on great importance for all education administrations at the end of the 20th century. Every province and territory recognized that early childhood development represents an investment in Canada's future and that early intervention results in lasting advantages that will extend throughout a child's lifetime.

The federal government and provincial and territorial governments (with the exception of Quebec) have adopted an Early Childhood Development Initiative that aims to:

- promote health during pregnancy, at birth, and throughout early childhood.
- improve support for parents and families.
- strengthen early childhood development, learning, and child care.
- strengthen community support.

The Quebec government has indicated that it prefers to set up its own early childhood development programs, given its jurisdiction in the field.

Performance assessment

With their vision of responsibility and accountability, governments have placed great emphasis in recent years on the importance of reporting to students, parents, and taxpayers on outcomes achieved by educational institutions and administrations. To do this, all administrations have adopted strategies and programs to assess student performance.

The provinces and territories, in partnership with the Council of Ministers of Education, Canada (CMEC), are working on the application of national testing and participating in a number of international assessments; they have also developed their own student testing programs at elementary and secondary levels.

At the postsecondary level, administrations have tightened standards, and some have instituted achievement indicators and mechanisms for informing taxpayers and students on how the expected outcomes have been achieved.

Emergence of information and communication technologies at all levels

Canada has set itself the challenge of taking action to get all schools in Canada connected to the Internet. Apart from the slowdown in the implementation process in some First Nations communities, this objective was reached in 1999. The new objective is to ensure high-speed regular access to the Internet for all students and improved operation of the new education technologies.

Helping students from the elementary level through the postsecondary level to be ready to take part in the information and communication age is a key priority. In the majority of cases, this means deciding on the skills that all students must have; making major investments in information-processing hardware, software, and connectivity; providing professional training and development for teaching staff; and increasing access to the new technologies for all students.

Cooperation and shared services

During the 1990s, various departments of education set up a number of shared initiatives in the area of curriculum and student performance assessment. In a joint declaration in Victoria, British Columbia, in September 1999, the Council of Ministers of Education, Canada emphasized collaboration and cooperation as key priorities.

Through CMEC, the provinces and territories also adopted an agreement to ensure student mobility throughout Canada, and just recently concluded a common agreement on copyright. The federal government and the provinces and territories are working together with CMEC on the Pan-Canadian Education Indicators Program.

The Atlantic provinces and the Western provinces have both formed consortiums to collaborate on curriculum and performance assessment projects. Universities across Canada have created numerous research networks in the area of humanities and social sciences, notably in education.

Departments of education are also encouraging collaboration and shared services in their own jurisdictions and within their respective regions, in such varied fields as transportation, distance education, curriculum and performance assessment. Most of the provinces have, among other initiatives, adopted strategies for articulating postsecondary programs.

Transition to the job market

Initiatives to help learners make the transition from their studies to the job market include changes in vocational and technical education, apprenticeship programs, vocational guidance, and cooperative education programs.

Emphasis is also being placed on programs that promote partnerships between the postsecondary education system and industry, so that students gain relevant skills. Elsewhere, the emphasis is on community, workplace experience, and co-op programs intended to increase community participation in decision-making with respect to vocational training and retraining. Access to training programs through information and communication technologies is also taking on increased importance.

Quality of education

Improving student performance and preparing them for globalization and the information age require ongoing improvement in the quality of education.

In addition to steps taken to overhaul programs and institute student testing, most administrations have adopted strategies to upgrade and improve supervision and professional development for teaching staff.

Future challenges

Implementing and consolidating all of these many changes are the challenges facing education officials.

- Consolidation of changes in structures and organizations.
- Fiscal responsibility and renewed investment in education.
- Balance and relevance in curriculum.
- Efficient use of information and communication technologies to provide access to education and training.
- Manpower training and adult participation in education.
- Early childhood development.
- Issues of diversity and inclusiveness.
- Cooperation and sharing knowledge and resources.
- Performance assessment.

We will examine these challenges further in this report.

FOREWORD

This report, *The Development of Education in Canada*, was prepared by the Council of Ministers of Education, Canada (CMEC) with the support of the Federal Government and the Canadian Commission for UNESCO at the request of the International Bureau of Education (IBE) for the 46th Session of the International Conference on Education (ICE). It was written in accordance with directives forwarded by the IBE to all UNESCO Member States.

The Report from Canada on the special theme of the 46th ICE, “Education for all for learning to live together in the twenty-first century: contents and learning strategies,” is published separately. We describe below Canada’s systems of education, to place the information in the report in context.

Canada is made up of ten provinces and three territories; in the context of a federal system in which powers are divided between the federal government and the provinces and territories, the latter are responsible for education. The *Constitution Act of 1867* (s. 93) stipulates that “[I]n and for each Province the Legislature may exclusively make Laws in relation to Education” Accordingly, every province and territory set up educational structures and institutions that were unique to it and that, despite the many similarities, reflect the distinctive character of regions separated by considerable distances and the diversity of the country’s historical and cultural heritage.

Canada’s two official languages are English — the first language of approximately 59 per cent of the population — and French, the first language of approximately 23 per cent. The majority of francophones live in Quebec, where they form 82 per cent of the population, but there are also large numbers of francophones in New Brunswick, Ontario and Manitoba. Education in Canada is offered in both official languages, but to varying degrees depending on the region.

Legislation in individual provinces consists of provincial statutes, along with bylaws and regulations of local school boards or commissions that set out the division of responsibilities in the area of public instruction. The Federal Government passed two legislative acts, the *Northwest Territories Act* and the *Yukon Act*, giving the two territories responsibility for education services, for which the federal government assumes funding. The new territory of Nunavut was created in 1999. Each territory has created its own department or ministry of education and manages the delivery of education services. The power enjoyed by provinces and territories over education gives them the authority to delegate power to local school boards or commissions, or to other agencies established or recognized by the provinces or territories.

Members of school boards or commissions in the provinces and territories (or, in the case of New Brunswick, district education councils) are directly elected. The rights and duties of these agencies are set out in provincial or territorial legislation governing that area, and are generally uniform across Canada.

The power delegated to local authorities by the province or territory is optional in nature; it is granted at the discretion of the provincial or territorial government. The delegation of power by

the province or territory does not mean that the latter waives its authority in educational matters, given that it is the provincial legislature that determines the extent of local powers.

The power exercised by school boards or commissions or councils generally consists in applying curriculum, overseeing the operation and administration of school systems, obtaining the necessary financial resources, proposing new construction or other major capital projects, and assuming responsibility for personnel. During the 1990s and early in 2000, certain provinces centralized again in the ministry or department a number of functions that had previously been delegated to school boards or commissions.

The Federal Government (the federal government) is responsible for the elementary and secondary education of registered Indians living on reserves and the Inuit. The First Nations have their own primary and secondary education system, and are claiming full control over educational matters on the basis of the principle of the right to self-government.

The federal government is also responsible for the education and training of Canadian Armed Forces members and the Correctional Service of Canada (penitentiary) inmates.

Preschool programs

All provinces and territories in Canada offer preschool or kindergarten programs organized by local school authorities to provide at least one year of school or preschool to children aged four and five.

Elementary and secondary education

Elementary and secondary education come under the authority of the department or ministry of education in each province and territory. Public education is free for anyone having Canadian citizenship or permanent resident status up to the end of secondary school (normally age 18). The length of compulsory schooling varies by province or territory: generally speaking, school is compulsory from age 6 or 7 up to 16. In one province (New Brunswick), it is compulsory from 5 to 18.

In most provinces and territories, elementary education covers the first six to eight years of compulsory schooling. After that, students enter secondary school. A wide range of programs in the academic and vocational areas are offered at secondary level. The first years are devoted to compulsory subjects and a few optional subjects. In subsequent years, the number of compulsory subjects goes down, allowing students to devote more time to specialized courses to prepare them for the job market or programs leading to the college or university of their choice. The secondary studies diploma is given to students who successfully complete the compulsory and optional courses in their respective programs of study.

Special Education: There are various mechanisms in place in public schools for students with learning difficulties, students who have a physical or mental disability, gifted students, etc. In some cases, there are special programs, while in others, such students are placed in regular classes and take common programs to the extent that they are able. The First Nations have

developed a national policy for funding that will enable them to deliver special education services to First Nations children.

Private Schools: Along with government-funded schools, there are independent or private schools in all provinces and territories that must meet general standards set by the province or territory for elementary and secondary schools. Although in most cases these schools closely follow the curriculum and criteria for awarding diplomas set by the department or ministry of education, they operate independently of public schools and charge tuition fees. Five provinces — British Columbia, Alberta, Saskatchewan, Manitoba, Quebec — and one territory, Northwest Territories, provide a certain level of funding for these schools. As of May 2001, Ontario is considering the possibility of offering a tax credit to parents of students in private schools.

The transition point between elementary and secondary school is not necessarily the same everywhere. School boards and commissions sometimes mark the elementary/secondary continuum by dividing schools into kindergarten to grade 6 (K–6), followed by grades 7 to 9 (junior high school) and then grades 10 to 12 (senior high school). Secondary education in Quebec ends with grade 11.

Postsecondary education

Students who successfully complete their secondary studies may apply to enter a college or university, depending on the part of the country and whether they are academically eligible.

In Quebec, where eleven years are required to complete secondary school, as opposed to twelve years in other provinces and territories in Canada, students must attend a Cégep (*établissement public d'enseignement général et professionnel*) or a private college and obtain a *diplôme d'études collégiales* before continuing with university studies. Cégeps and most colleges offer two streams — one referred to as “general” that prepares graduates for university, and the other referred to as “vocational” that prepares students to enter the job market directly.

It is possible to complete postsecondary studies in public or private institutions; some grant university degrees, others do not. College-level institutions such as technical and vocational institutes, community colleges, Cégeps and institutes of technology offer continuing education and training programs in the areas of business, applied arts, technology, social services, and some health sciences. Programs vary in length from six months to three years. Some provinces also have private vocational training colleges. Generally speaking, these colleges award certificates and diplomas of college studies, and do not give academic degrees. In 1995–1996, Alberta launched a demonstration project in which colleges and technical institutions could award applied degrees to enrich students' vocational preparation. In 2000, Ontario passed legislation that would permit colleges to offer applied degrees in certain fields of study, subject to specified conditions.

Some colleges, in collaboration with business, have developed custom training services and specialized programs in leading-edge or high-tech areas. Specialized technical training programs prepare students for jobs in the trades, the industrial sector, agriculture or technical fields. One-year programs (24 to 30 weeks) are recognized with a certificate or attestation, and two- or three-

year programs with a diploma. Certain programs last four years; they are made up of courses that are general in nature, as opposed to courses that prepare students for specific jobs.

The British Columbia community college system enables students to complete two years of academic course work toward a bachelor's degree. Students who complete a prescribed set of first- and second-year university transfer courses are eligible to receive an associate degree from a college. Students who wish to pursue further studies can complete the third and fourth years of a degree program at a university college or university and receive a baccalaureate degree.

Degree programs are offered in universities and some colleges that are authorized to do so. Most universities in Canada, particularly in the major cities, offer a full range of programs. A number of them have developed specialty fields and fields of specific excellence. Finally, there are a few specialized universities that do not have a campus, but offer correspondence courses or distance education.

University studies are divided into three cycles leading to degrees: bachelor's, master's, and doctorate (Ph.D.). Not all universities have graduate-level (master's and doctorate) programs. As well, most universities, within these three cycles, have one- to three-year programs leading to various certificates and diplomas.

Undergraduate programs may last three or four years, depending on the program and the province. Universities in some provinces award a general bachelor's degree after three years, and an honours degree that requires a fourth year. In other provinces, students must complete four years of study for a bachelor's degree, either general or honours.

Master's studies follow the honours undergraduate degree, requiring at least one year of study and usually two. Certain kinds of master's degrees require a written dissertation or a professional practicum.

The doctorate (Ph.D.) degree follows upon the master's, and usually requires three years of study. Most students take four to five years, on average, to complete their doctoral studies. They must take seminars and a specific number of courses, do research, and write and defend a thesis.

Some private firms also offer postsecondary assessment programs.

Council of Ministers of Education, Canada

The Council of Ministers of Education, Canada (CMEC) was created in 1967 by the provincial education ministers, with the support of their provincial governments. In a country where each province and territory is responsible for its education system, the CMEC is the only framework providing departments of education with an opportunity to work collectively. Given the specific characteristics of their communities and their educational network, the local First Nations authorities feel that the current structure of the Council of Ministers of Education, Canada does not permit an accurate representation of the situation of the First Nations in educational matters.

Through the CMEC, the provinces and territories are able to collaborate on a diverse range of projects at elementary, secondary, and postsecondary levels. As an instrument of the provinces,

the CMEC is a mechanism that allows education ministers to consult on matters of common interest, represent Canada at international education-related activities, provide liaison with various federal government departments and agencies, and cooperate with other national organizations in the field of education.

The Federal Government

In Canada, as we stressed earlier, the provinces and territories are responsible for all levels of education. Since Confederation, however, and particularly since World War II, the Federal Government has played an important support role, based on the common federal-provincial/territorial objective of enhancing the country's human resources. This support arises out of two concerns in connection with the federal government's overall responsibility for the welfare of the federation: first, awareness of the essential role played by colleges and universities in creating a better-trained work force, a key component in the strength of the national economy; and second, the desire to see all Canadians, without distinction as to where they live, have equivalent access to opportunities for postsecondary education and learning. By virtue of the latter imperative, the federal government is involved in facilitating student mobility both in Canada and abroad.

The Canadian government also plays an important support role for the provinces and territories with regard to education in minority-official-language communities. The federal government turns over money to the provinces and territories under the Official Languages in Education Program (OLEP) to facilitate and enrich education in the minority language for members of both the minority and majority language communities (e.g., French Second Language and immersion programs).

In the field of manpower training and rehabilitation, the Canadian government has recently downloaded powers and responsibilities to the provinces.

The federal government has fiscal responsibility for First Nations education. Under this responsibility, it transfers funding to the communities so that they can administer their own schools and postsecondary programs. The Canadian First Nations thereby affirm their authority and jurisdiction in education.

Also, one of the highlights in the April 2001 Report of the Auditor General of Canada states that: "Indian and Northern Affairs Canada cannot demonstrate that it has reached the objective it had set, namely that of helping on-reserve First Nations students meet their educational needs and aspirations. For example, the Department cannot be certain that these students are receiving a culturally appropriate education. Moreover, in the opinion of the First Nations Education Council, the progress made to date to bring the schooling levels of on-reserve students up to national standards has been slow to the point of being unacceptable. At the rate progress is now being made, it will take more than 20 years for their level of schooling to equal that of other Canadians.

1.0 ECONOMIC, SOCIAL AND POLITICAL CONTEXT OF EDUCATION

Canada, a federation of ten provinces and three territories (with the creation of the territory of Nunavut in 1999), has a population of approximately 30 million people. With a geographic area of 9,970,610 km², it is the second largest country in the world in this respect. The majority of Canadians, 77 per cent of the population, live in urban areas. Most live in close proximity to the U.S. border, while the rest of the population is scattered in various regions from ocean to ocean.

1.1 Standard of living

Canada ranks sixth in the world for standard of living (measured as per capita Gross Domestic Product). Canada ranks first among nations when not only the per capita GDP is counted but also other factors such as life expectancy and education that contribute to “quality of life.”

1.2 Economic development

In economic terms, Canada is a strong, highly developed nation, a member of the Group of Eight (G-8) and the Organisation for Economic Co-operation and Development (OECD). The Canadian economy in the past several decades has gone from one based essentially on agriculture and resource extraction to one based on industrialization and technology. A marked recession in the early 1990s brought general attention to reducing the deficit and public spending, resulting in a call for a more effective, more accountable operation of public programs. Education, however, remained a high-priority investment for governments, reflecting the Canadian people’s firm commitment to learning. Spending on education, all levels taken together, represents 7 per cent of Canada’s GDP, more than in the other G-8 countries.

1.3 Official languages

Canada has two official languages: English (the first language of about 59 per cent of Canadians) and French (the first language of 23 per cent of Canadians).

A good number of Canadians (18 per cent) have more than one first language, or a first language other than English or French: Chinese, Italian, German, Polish, Spanish, Portuguese, Punjabi, Ukrainian, Arabic, Dutch, Tagalog, Greek, Vietnamese, Cree, Inuktitut, or other languages.

The *Official Languages Act* makes French and English the two official languages of Canada, and provides special measures to revitalize francophone and anglophone minority language groups and assist them in their development. Federal government institutions in Canada reflect the equal status of the two official languages by offering their services bilingually, as does the province of New Brunswick, Canada’s only officially bilingual province.

Immigration, however, has an effect on the composition of social and cultural groups in Canada whose language is other than English or French. Some 60 per cent of immigrants under the age of 18 who are recently arrived in Canada speak neither of the two official languages. Immigration to Canada currently numbers about 200,000 people annually. The

province of Ontario alone takes in over 50 per cent of the children and young immigrants. In many of the major urban centres of Canada — Toronto, Vancouver and Montreal — the linguistic and cultural diversity of the population is becoming increasingly apparent. These students represent a particular challenge for school systems, which must provide them with French or English Second Language programs, as well as special attention and follow-up.

Outside of Quebec and New Brunswick, English remains the predominant language used at home by young people of school age. In contrast, French is the language spoken in 85 per cent of the homes in Quebec and approximately 33 per cent of the homes in New Brunswick. Many other languages are spoken in Canada, especially now that Africa and Asia have displaced Europe as the principal sources of immigration. In several provinces (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, and Quebec), a language other than French or English is spoken in 5 to 10 per cent of homes. In the Northwest Territories, 49 per cent of the population is Aboriginal. Of this Aboriginal population, 40 per cent has indicated an ability to speak an Aboriginal language.

1.4 Diversity

With regard to diversity, Canada is a very open country that encourages respect for the culture of all its inhabitants. The *Canadian Charter of Rights and Freedoms, 1982* protects citizens against discrimination based on colour, race, religion, gender, or any other demographic feature. All levels of government and all official education systems actively pursue this objective.

1.5 Demographic trends

With the exception of the First Nations and Inuit communities where the trends are diametrically opposed, according to forecasts, the population of preschool age should continue to decline slightly in the census of 2001 compared to 1996. It should then remain stable until 2006, and then rise after that.

The population aged 5–24 should continue to grow slightly. Since 1986, however, the proportion of the 5–24 age group compared to the population of working age (25–64) is experiencing a drop that should continue until 2016. This drop is the result of variations in population distribution. Since 1991, the population aged 5–24 has risen very little, while the working-age and senior populations have both increased considerably. Nonetheless, the 5–24 population is higher than that of seniors, and should remain so until 2016.

Growth in the working age population as a proportion of the total population aged 5–24 and 65+ should remain relatively stable until 2016. The working-age population will continue to represent the biggest proportion of the population.

Educational levels of the 5–24 population rose between 1990 and 1998. Overall, young women (25–29) are now achieving higher levels of education than men in the same age group.

1.6 Children living in low-income families

In the last national census in 1996, the average family consisted of 3.1 people, including 1.2 children. This is in sharp contrast to the average in First Nations and Inuit communities, which is far greater than the national average.

Many children in Canada live in low-income families. Compared to other children, they experience more emotional and behaviour disorders and are less likely to do well in school. Also, from a social viewpoint, they may well have more difficulty in gaining acceptance from others.

The proportion of children living in low-income families began to rise in the early 1990s, in the wake of a period of economic recession, and has not stopped climbing since then. The recovery that began in the mid-1990s was not accompanied by as high an employment growth rate as in the recovery of the 1980s. Moreover, changes in access to social programs (notably employment insurance and welfare) may have increased the percentage of children living in low-income families.

Children of single-parent families, which in most cases are headed by women, are much more likely to find themselves in a low-income situation than children living in families where both parents are present. Since women's incomes, generally speaking, are lower than men's, the situation raises a considerable problem when the mother is the only person in the family earning an income. Single-parent families are thus more likely to depend on government transfer payments as their main source of income and are affected more directly by changes in government policy.

Families with young children are more frequently in a low-income situation than others, since the parents, who are often younger themselves, earn lower wages than older workers as a result of being less experienced.

More recent studies (April 2001) reveal, however, that there has been a significant reduction in the past year in the number of children living below the poverty line; the studies cannot confirm whether this trend might hold.

2.0 EDUCATIONAL POLICIES

2.1 Fundamental values

Fleming (1993) pointed out that three major educational and social values helped define Canadians' attitudes toward public education, attitudes that transcend individual education systems in the provinces and territories.

The first of these values is *equal access*. This concept, which in the beginning meant making public education accessible to a small population spread out across the whole country, is today directed toward removing roadblocks to education linked to language, gender, or physical or mental disability.

Closely related to equal access is the concept of *uniformity of educational resources* — a person's place of residence should not adversely affect the quality or choice of programs.

The third important concept is *cultural pluralism*. At the birth of Confederation in 1867, race, language, and religion were the cornerstones on which recognition of the right to education rested. With Canada's adoption of a multiculturalism policy in the 1970s, a major principle recognized by many levels of government and social institutions made respect for diversity a sizable challenge for schools. The 1970s were highly significant for the First Nations, too, since it was the decade that saw the end of the residential school system. This was a dark period during which the school system was used as a tool to assimilate First Nations children.

2.2 Legal and constitutional foundations

In Canada, Section 93 of the *Constitution Act, 1982* (previously known as *The British North America Act, 1867*) recognizes the exclusive power of the provinces to make laws with respect to education. Provincial ministries/departments of education may thus use legislation on education or school teaching and related regulations to exercise their jurisdiction over curriculum content, the extent of school funding, professional training and accreditation of teachers, methods and standards for testing students, school hierarchical and administrative structures, constitution of school boards, and the design and distribution of teaching materials (Fleming, 1993).

Aside from the full powers given the provinces in matters of education, the *Constitution Act, 1982* and the *Canadian Charter of Rights and Freedoms, 1982* recognize special rights with regard to denominational education and instruction in the minority language, and guarantee all Canadian citizens the right to reasonable protection and equal treatment before the law, regardless of their race, religion, or nationality of origin (Brown and Zuker, 1994). In this context, the right to denominational education allows Catholics and Protestants to maintain their own school systems independent of each other; the right to instruction in the language of the minority applies to both francophone and anglophone linguistic minorities.

3.0 STRUCTURE OF EDUCATION AND TRAINING IN CANADA

Responsibility for education in Canada rests with the ten provinces and three territories. Consequently, the educational structure and institutions are very similar — each province and territory developed them, taking into account the particular situation of the population served as well as its cultural and historical heritage. The graph in Appendix 1 shows the different education and training structures that exist in Canada today.

3.1 Preschool programs

The majority of provinces and territories offer preschool or kindergarten programs prior to grade 1 of elementary education. These programs are managed by local school authorities.

Early childhood development programs received attention from every administration in the late 1990s and in the beginning of the new century. Most have adopted or enriched and strengthened early childhood health and learning programs. These programs are recognized under such names as Healthy Children Initiative in the Northwest Territories; School Meals,

Inner City Schools, and Kids at Risk in British Columbia; Early Years Challenge Fund in Ontario; and Integrated School-Linked Services in Saskatchewan.

3.2 Elementary and secondary education

Public education is free for anyone having Canadian citizenship or permanent resident status up to the end of secondary school (normally age 18). The length of compulsory schooling varies by province or territory: generally speaking, school is compulsory from age 6 or 7 up to 16.

In most provinces and territories, elementary education covers the first six to eight years of compulsory schooling. After that, students enter secondary school, where a wide range of programs in the academic and vocational areas are offered. The secondary studies diploma is given to students who successfully complete the compulsory and optional courses in their respective programs of study.

The transition point between elementary and secondary school is not necessarily the same everywhere. School boards and commissions sometimes mark the elementary/secondary continuum by dividing schools into different levels. Schools in northern and rural communities often contain all levels (kindergarten to the end of high school). Secondary education in Quebec ends with grade 11. In Ontario, students normally fulfill the requirements for their secondary school diploma, including the Ontario Academic Courses (OAC), in four or five years. Ontario students who entered grade 9 in 1999 are now in a new, four-year program (grade 13 no longer exists).

Residents may also obtain high school equivalency through adult basic education programming and/or obtain a high school credential by passing the Test of General Educational Development (GED).

3.3 Postsecondary education

Students who successfully complete their secondary studies may apply to enter a college or university. Generally speaking, registration in vocational trades programs, such as apprenticeship programs leading to a vocation or trade, does not require a secondary school diploma. It is possible for a student to enter a postsecondary institution without coming directly from a secondary school. For example, students may enrol in a college-level program after obtaining a university degree. Postsecondary education is offered in public and private institutions, some of which grant degrees.

In Quebec, where eleven years are required to complete secondary school, students who wish to continue with university studies must attend a *Cégep* (*Collège d'enseignement général et professionnel*) or a private college and obtain a *diplôme d'études collégiales*. Cégeps and colleges offer two streams: one, referred to as "general," that prepares graduates for university; and the other, referred to as "technical," that prepares students to enter the job market directly.

Colleges, such as technical and vocational institutions, community colleges, regional colleges, Cégeps, and technology institutes, offer continuing education programs which are

all directed toward the adult population, as well as professional development programs in business, applied arts, technology, social services, and health sciences. Programs vary in length from six months to three years.

Generally speaking, colleges award diplomas or certificates for college studies. However, in British Columbia, Alberta, and to a lesser extent in Manitoba and the Northwest Territories, community colleges offer courses allowing students to take the equivalent of two years of courses toward a bachelor's degree. These programs allow students to complete their third and fourth years in a university college or university and earn a degree. In several provinces and territories, students must apply for admission and have their college studies assessed to determine whether they can receive university credits for the courses completed.

Programs leading to a degree are offered in universities and in non-university institutions authorized to grant degrees. Most universities in Canada, especially in major cities, offer a full range of programs. Others are more specialized and have developed fields of excellence. There are also a number of specialized universities that do not have a campus, but offer distance training programs.

University studies are divided into three cycles leading to degrees: bachelor's, master's and doctorate (Ph.D.). Not all universities have graduate level (master's and doctorate) programs. As well, most universities offer one- to three-year programs at undergraduate or graduate level leading to various certificates and diplomas.

Ontario and New Brunswick adopted legislation early in 2000 authorizing the creation of private universities and the granting of degrees in certain college programs, subject to successful review by a new Quality Assessment Board. This legislation ensures a quality control mechanism is in a place for privately awarded degree programs, including those offered through the Internet.

In the Northwest Territories, Aurora College delivers courses that allow students to complete the equivalent of two years of credits toward some bachelor's degree programs.

3.4 Council of Ministers of Education, Canada

Unlike most governments, Canada does not have a national department or ministry of education. Nonetheless, while it does not share in the exercise of direct power over education, the federal government, using its resources, exerts a degree of influence over policies, standards, and objectives in this sector.

The Council of Ministers of Education, Canada (CMEC) is a national body created by the Ministers of Education in 1967 with the aim of promoting discussion of issues of common interest as well as collaboration and consultation among provinces and territories, providing liaison with the federal government, and representing Canada internationally in the education field.

In September 1999, in Victoria, British Columbia, the ministers of education of Canada's ten provinces and three territories issued the following Joint Ministerial Declaration:

“We, the ministers responsible for education, unanimously reaffirm our responsibility for providing leadership in education at the pan-Canadian level through the Council of Ministers of Education, Canada. While the provinces and territories remain responsible for education in their jurisdictions, there continues to be a need for joint action. We believe that our collective will to work together will create a synergy that will benefit each province and territory.

We believe that education is a lifelong learning process and that we must continue to strive to create a learning society in which the acquisition, renewal, and use of knowledge are cherished. We also believe that the future of our society depends on informed and educated citizens who, while fulfilling their own goals of personal and professional development, also contribute to social and economic progress. On the international scene, our activities should reflect these values and our priorities, while contributing to strengthening our role globally. Above all, we want all citizens to have a fair and equitable opportunity in whatever educational and training endeavours they may pursue.”

Aware of the need for collaboration at the pan-Canadian level, the CMEC adopted the following priorities for joint action:

- Focusing on education outcomes
- Sharing information on best practices
- Collaborating on curriculum initiatives
- Promoting policy-related research
- Strengthening the postsecondary sector and increasing access
- Supporting international activities
- Promoting mobility
- Enhancing CMEC as a forum for effective and fruitful cooperation with the federal government

4.0 MAIN FEATURES AND OBJECTIVES OF REFORMS

4.1 Reorganization and restructuring

In the last two decades, provincial and territorial governments have made sizable changes in the organization and structures of accountability in Canada’s school systems.

4.1.1 Changes in structures

The governments of Quebec and Newfoundland and Labrador obtained constitutional amendments enabling them to create language-based, non-denominational school boards.

In 1984, Ontario had approved complete funding for Roman Catholic Schools to the end of the secondary level. Following organizational reforms in 1996, English and French-language district school boards, both Roman Catholic and non-denominational, were formally established.

In New Brunswick, the provincial government abolished school boards in 1996 and replaced them with advisory councils made up of parents. In 2001, a further restructuring took place with the establishment of publicly and locally elected district education

councils. This new governance structure provides an enhanced role for parents and community members, while reducing the number of districts.

4.1.2 Reorganization of government departments

The arrangement of government departments related to education is essentially a function of Cabinet-making by the provincial government leadership. Also, during the 1980s and 1990s, governments merged departments in order to reduce the administrative costs of education. So it is that in some jurisdictions, a single department is responsible for both education and early childhood, the elementary, secondary and postsecondary levels, and adult education.

By contrast, Ontario has returned to two separate ministries, the Ministry of Education with responsibility for funding, curriculum, and policy-making for elementary and secondary education, and the Ministry of Training, Colleges and Universities with responsibility for higher education and training.

On January 17, 2001, Manitoba also announced the creation of a department of postsecondary education. In February 2001, Newfoundland announced the creation of the Department of Youth Services and Post-Secondary Education to provide focus on all matters relating to postsecondary education, youth services, and international education.

Several provinces have also centralized essential functions again, until now given over to local administrations, such as programming, funding, and evaluation of teaching staff.

4.1.3 Reducing the number of school boards

Most provinces have reduced the number of school boards, commissions, or districts in the last ten years. The reasons for the reductions include efficiency (cost-saving), improved effectiveness, accountability and transparency.

In Alberta, the government reduced the number of a school boards from 141 to 62. Ontario reduced its number from 126 to 72, British Columbia from 75 to 57, and Newfoundland and Labrador from 27 to 11. In 1992, New Brunswick went from 42 school districts to 18, and reduced the number again in 2001 from 18 to 14 (nine anglophone and five francophone). In Quebec, the number of school boards was reduced to 72 in July 1998.

All administrations have now created language-based management structures, thereby opening access to school management to all official-language minority communities.

In almost all jurisdictions where restructuring took place, school councils were set up to increase parents' participation in decision making in the schools. In Ontario, for instance, a Provincial Parents' Council of 18 people was set up in 1993, among other things to supervise the role of parent councils in school administration. At the beginning of 2000, the Ontario government adopted measures to further strengthen the role of school councils by clarifying their advisory role (provision of advice to the principal), and providing clear and consistent guidelines and resources, in order to improve student

achievement and enhance accountability through the active participation of parents in all aspects of student life.

4.1.4 Accountability structures

The majority of provinces and territories have adopted strategies to ensure that government departments and especially local administrations and elementary and secondary educational institutions are accountable to parents and taxpayers on the ways they spend public money and on their ability to achieve the desired outcomes in terms of quality of learning.

Among these measures are school or parent councils, standardized report cards, and publication of the results of provincial or territorial testing.

At the secondary level is the introduction of standards for various programs and the establishment and implementation of performance indicators, among them indicators of employer and student satisfaction.

Ontario created new organizations to facilitate major reforms: an Education Improvement Commission would oversee the overhaul of district school boards and new administrative arrangements; the Education Quality and Accountability Office, at arm's length from the Ministry, would oversee province-wide testing that would lead to validation and improvement of curriculum; and a new College of Teachers, also at arm's length, would provide registration and professional development services for the teaching profession.

Quebec held its Estates General on Education and adopted a ministerial action plan for education reform, which addresses all levels of the system.

In Newfoundland and Labrador, the Department of Education has been working with school districts and other educational agencies to implement the government-wide accountability framework for public bodies.

A number of these strategies and in particular the criteria used for evaluation of programs have been questioned by the Canadian Teachers' Federation and their provincial/territorial members. In their opinion, the criteria used are too narrow and do not reflect the quality of learning.

4.2 Funding reform

In the early 1990s, the Canadian government reduced transfer payments to the provinces and territories in order to put public finances in order. The provinces and territories in turn reduced funding for education.

In addition, several provinces and territories limited discretionary spending and tax collecting powers at the local level, and tightened overall spending controls at provincial level.

Lastly, at the postsecondary level, funding has been reduced and tuition fees raised. Postsecondary institutions also resorted increasingly to partnerships and donations from the private sector.

At the start of a new millennium, however, governments have begun to reinvest in education and training. The federal government re-established some of the lost transfer payments, and provinces and territories announced certain increases in funding for education beginning in 2000, particularly in infrastructure, early childhood development, technical and vocational education, and postsecondary education. However, Canada is one of only three OECD countries that is investing a smaller percentage of its GNP in education (OECD report, *Education at a Glance*)

Some provinces have also taken steps to eliminate tuition fee increases at postsecondary level.

4.3 Curriculum renewal

Curricula have always been designed to preserve and transmit society's values and heritage, while preparing new generations to face future challenges.

Internationalization and globalization, the explosion in knowledge and communication, the accelerated pace of technological progress, and the complexity of living in an organized society are all future challenges. The world will soon require of our children a formidable ability to adapt, communicate, solve problems and be creative, and so there is a need to update current curricula.

Since 1997, Quebec has undertaken a large-scale reform that will be implemented gradually between 2000 and 2006. This reform is intended to revitalize preschool education and elementary and secondary education to better prepare young people for future challenges and promote their academic success, to enhance vocational and technical training, to consolidate and streamline higher education and to provide for greater access to continuing education..

One of the most important reforms in Ontario dealt with curriculum, which was revised from junior kindergarten to grade 12. The Ontario Ministry of Education was determined that students should have access to high-quality education, marked by high academic standards and a curriculum that clearly defines what students are supposed to learn and when they must learn it.

The Atlantic provinces have developed a common curriculum and a testing program in the four common basic subjects — language arts (English), social studies, science, and mathematics.

The western provinces are participating in a number of curriculum projects as part of the Western Canadian Protocol for Collaboration in Basic Education.

British Columbia revised and modernized all K–12 curriculum between 1995 and 1998. The province now has a program of regular curriculum review in place. The British Columbia

Curriculum Cycle ensures that each K–12 curriculum document is reviewed on a maximum 5-year cycle and revised when necessary. All British Columbia Curriculum is available at: www.bced.gov.bc.ca/curriculum/.

In Newfoundland and Labrador, the Department of Education, in addition to participating in curriculum development through the Atlantic Provinces Education Foundation, has placed an increased emphasis on literacy, particularly in the early grades. The Department has also undertaken initiatives to ensure students have modern technology education and second-language programs, and curricula with a cultural emphasis.

A new initiative launched in Nunavut to prepare students for the challenges and demands of a future strongly marked by technology, while preserving traditional values and knowledge, will incorporate traditional Native learning into a new science program. Since taking over their education system, the First Nations have developed and modified their curricula according to the objectives set for provincial schools. This has been in part to make it easier for students to transfer to another school, but it is due more to the lack of funding for curriculum development. Nevertheless, the First Nations have made important changes to their school programs to meet the cultural needs of their children.

The Canadian Teachers' Federation notes that many curriculum initiatives are being implemented too rapidly and without the participation of teachers and their provincial/territorial associations in the development of the proposals. Furthermore, in their opinion, the necessary resources and time for the professional development required to help teachers implement these programs are often lacking.

4.4 Early childhood development

The Canadian government, in collaboration with all provinces and territories except Quebec, has adopted an early childhood development initiative for which financial transfers to the provinces and territories will begin in April 2001.

In anticipation of this, the provinces and territories have already undertaken new initiatives and new programs in early childhood development

Ontario, for example, has set up the Early Years Challenge Fund, and Alberta the Alberta Children's Initiative. Healthy Child Manitoba is an inter-departmental and cross-sectoral initiative in the area of early childhood development.

Quebec has already taken a series of innovative measures to facilitate early childhood development. Notable among these measures is child care at \$5 a day.

Newfoundland and Labrador's initiative *Stepping into the Future* includes funding for early childhood literacy programs, a comprehensive Transition to School program, as well as Early Intervention Services for Children with Disabilities.

4.5 Performance testing

Education Horizons, a White Paper issued by the government of Nova Scotia, deals with the need to improve the performance of the education system. According to the report, many of the methods currently being used in the education field were designed for a quite different time. They may have worked in the past, but the current generation is living in a rapidly changing world. With regard to Aboriginal school systems, the First Nations are managing their own programs and services, which are elsewhere managed differently. At present, this reality is not being recognized in the job market.

Traditional models of jobs and employment are being transformed, and social and cultural issues are becoming more complex. Today's workplace requires individuals who are able to work as part of a team and who have excellent skills in written communication, mathematics, problem solving, and applying technology. Some people feel that current education standards are too low. The problem is not necessarily a decline in our students' performance, but rather a job market that is changing rapidly and requires a labour force that has more knowledge and higher-level thinking skills than ever in today's fast-moving world.

The Canadian people are also questioning the effectiveness with which school systems are responding to students' and society's needs.

In order to provide part of the answer to this question, the School Achievement Indicators Program (SAIP) was launched by the provinces and territories, through the Council of Ministers of Education, Canada (CMEC), to assess the achievement level of 13- and 16-year-old students in mathematics, problem solving, reading and writing, and science. One of the major aspects of the program consisted in performing a Canada-wide assessment of math skills in April 1993, and an assessment of reading and writing skills in April 1994. An assessment of science skills has now been added. This information, combined with assessment mechanisms set up by the provinces and territories on an individual basis, will provide a reference point for each department or ministry of education in examining its curriculum and other aspects of the school system.

The Alberta Department of Learning administers achievement tests at grades 3, 6, and 9 in order to measure the progress made by students and set basic standards for achievement. The Department also administers diploma exams in core subjects at the grade 12 level.

British Columbia currently assesses Foundation Skills (reading, writing, and numeracy) at grades 4, 7, and 10 and conducts matriculation exams for core subjects and languages at grade 12.

Quebec has developed achievement indicators for the elementary and secondary levels, and publishes the results of matriculation exams for all school boards and schools every year.

In 1994, Saskatchewan published the first report on its educational indicators program, showing results of initial tests in mathematics and language arts administered to students in grades 5, 8 and 11.

The Newfoundland and Labrador Department of Education has been administering criterion-referenced tests to grades 3, 6, and 9 students since 1993. These tests enable the Department of Education to determine student achievement in relation to the curriculum outcomes and to use the information to improve the teaching/learning process. Once the results of these tests are available, the Department of Education collaborates with the school districts and schools through the school improvement process to create action plans based on the data for each school and district. The Department also administers public examinations for senior high students as part of high school certification.

Ontario set up the Education Quality and Accountability Office (EQAO), an organization at arm's length from the Ministry, to design and oversee province-wide assessments for grades 3, 6, and 9. A grade 10 literacy test will be a compulsory part of obtaining a secondary school diploma from 2001–2002. In June 2001, the Minister announced new tests in science, social studies, English and mathematics, in selected grades, to complement the standardized tests currently conducted by the EQAO.

At a Canada-wide level, all jurisdictions, with the exception of Quebec, are currently preparing a common framework for learning achievement in science for K–12 (kindergarten to grade 12). In Ontario, the desired results have been set for all subjects in the elementary and secondary curriculum.

In all provincial and territorial school administrations, issues of responsibility and accountability have taken on scope and are seen as priorities and essential components of operation and management at all levels of government.

All administrations have set up mechanisms for assessing achievement and for accountability to parents and taxpayers. Improvement programs are also planned as a follow-up to assessment.

The Canadian Teachers' Federation is concerned about the tendency of governments to increase their focus on high stakes testing of students. It has indicated to CMEC that it is prepared to work with them to broaden the School Achievement Indicators Program (SAIP) to include indicators that would address generic skills, values and ethics and other factors that are as critical as, if not more critical than, testing of specific and limited subjects.

4.6 Transition to the job market

The transition from school to the job market was a subject of great concern in Canada throughout the 1990s. Various problems arose: the high rate of youth unemployment, changes in the nature of the Canadian economy and labour market, young people's growing expectations with regard to postsecondary education, the worry over teenagers who may drop out of high school without the necessary job skills, the degree of effectiveness of programs at secondary and postsecondary levels in preparing young people for work in the 21st century.

We tend to think of the school-to-work transition as a period in life when someone goes from being a full-time student, ordinarily at secondary or postsecondary level, to being a full-time

worker in the adult world. You drop out of school or get a diploma and leave, then you “go to work.”

Today in Canada, the school-to-work transition is much more complex. Many people combine work and education in any number of ways. Some go back and forth from school to work several times, and progress from one training program to another, as well as from part-time to full-time work and vice versa. It is these varied passages that are referred to as school-to-work transitions.

The Conference Board of Canada has used its influence to bring the issue to the attention of educators and the public, specifically through the promotion of school-business partnerships and publishing a list of employability-related skills.

The Canadian government, in particular Human Resources Development Canada, has highlighted the links that join schooling, staying in school, and employment. Recognizing these links between vocational training, schooling, and work, the federal government, during the 1990s, transferred the major share of responsibility for training to the provinces, with the exception of Ontario, where negotiations are under way.

HRDC has nonetheless sponsored projects in connection with learning, human resource development, jobs and transitions. Among these projects are: Youth Internship Canada, Sectoral Partnership Initiatives, Youth Service Canada, and Youth Link.

Industry Canada offers the National Graduate Register, Student Connection Program, and Canada's Computers for Schools Program.

Many new programs, resources and services have been created in the provinces and territories dealing directly or indirectly with school-to-work transitions and directed toward categories of students who may experience more difficulty in finding a job. Here are a few examples of these:

- school-business partnerships
- target programs
- vocational training programs
- technology training and career advancement programs
- alternating work-study or cooperative education programs
- mentoring programs
- apprenticeship programs

4.7 Quality of teaching

Education is a provincial and territorial jurisdiction, and hence there are no Canada-wide policies with regard to teaching. Education systems from coast to coast to coast, however, have undergone (and are still undergoing) considerable changes.

In the past fifteen years, the provinces and territories have adopted measures to ensure higher quality teaching. Several administrations have revised or fundamentally altered the acts and regulations governing the teaching profession.

In Alberta, for instance, Bill 48 on the teaching profession seeks to harmonize the Alberta Teachers' Association's disciplinary procedures with those of other professions in the province and broaden the requirements for obtaining a teaching certificate so as to encompass both academic and competency criteria.

In February 1995, the Ontario Ministry of Education and Training announced major reforms in teacher training. These reforms included, among other things, the establishment of standards of practice, two-year training programs, a provincial framework for professional development of all educators, compulsory renewal of teaching certificates after five years, certification of teacher training programs, and creation of the Ontario College of Teachers. British Columbia has a College of Teachers that regulates teacher preparation, discipline, and certification for the province. The College is authorized and regulated by the Teaching Profession Act.

The College is now in place and dispenses authorization to practise the teaching profession and governs the profession in Ontario. It develops new standards of practice, investigates complaints of misconduct involving teachers, approves all teacher-training programs in the province, and closely monitors teachers' professional development throughout their careers.

Ontario has also adopted an initiative to assess teachers that includes:

- tests of language skills and qualification toward certification of new teachers
- criteria for re-certification, compulsory professional development program and assessment in professional development courses for experienced teachers
- new standards for assessing teacher performance
- academic upgrading policies
- certification review process
- mechanisms for parent participation

Since September 1994, students in New Brunswick who wish to teach must have two university degrees: a bachelor of education and a bachelor's degree in another discipline. Both may be obtained concurrently in five years or consecutively. Teacher training programs also reflect a better balance between pedagogy and subjects that will be taught, and professional development opportunities have been enhanced.

Nova Scotia requires students to obtain an approved bachelor's degree and successfully complete a teacher training program, also approved, which in this province generally means obtaining a bachelor of education degree over two years.

In Quebec, required competencies for teachers at the end of their pre-service training have been redefined; practical training has become more important and, as in New Brunswick, professional development and practicum mechanisms have been improved.

These directions, which presently guide universities in developing new programs, reaffirm the professional nature of the act of teaching and the urgency of raising admission standards for training and entering the profession. They place the emphasis on the importance of longer practical training (700 hours) and a better balance between training in academic disciplines and training in the psychological and social aspects of education. Lastly, they advocate a more integrated and versatile training of future teachers.

Ongoing teacher training is taken into consideration at various levels of the education system: the Quebec Ministry of education, school boards, teachers' unions, and more recently at government level with the adoption in June 1995 of legislation in the form of *An Act to foster the development of manpower training*.

The Canadian Teachers' Federation notes that in several provinces major changes regarding certification and professional development of teachers have been instituted without the involvement or support of teachers and their federations. According to CTF, imposed changes exacerbate teacher-government relations rather than improve the quality of teaching.

5.0 EDUCATIONAL INSTITUTIONS AND ENROLMENT

5.1 Institutions

In 1996–1997, there were approximately 16,000 elementary and secondary schools in Canada, representing only a slight increase over 1995–1996. Over 95 per cent of these schools had an enrolment of under 1,000.

Also in 1996–1997, Canada had 204 colleges, most of which (90 per cent) had an enrolment of under 5,000.

Universities are generally larger than other educational institutions. Among the 76 universities in Canada in 1996–1997, only 43 had enrolments of under 5,000. Twenty-five universities, as compared to only three colleges, had over 10,000 full-time students.

At the other end of the spectrum, approximately 20 per cent of universities and other degree-granting institutions were small institutions with fewer than 300 students. These institutions often specialize in a single discipline, theology being the most frequent one.

The highest percentage of small schools, in Newfoundland and Labrador, the western provinces, and the territories, highlight the relationship between the number of small schools with fewer than 50 students and geography, as well as population distribution in the provinces and territories. The size of schools and the regions they serve have repercussions on the costs of teaching and opportunities for offering specialized teaching and services.

5.2 Enrolment

5.2.1 Elementary and secondary

The level of education of the population aged 25–54 rose between 1990 and 1998. Overall, young women aged 25–29 are now achieving educational levels higher than for men in the same age group.

The number of people who completed at least secondary studies is also increasing.

A portion of the increased enrolments in British Columbia, Ontario, and Alberta doubtless reflects the popularity of these provinces in recent years as an immigration destination; the drop in enrolments in Newfoundland and Labrador reflects the emigration movement that the province has experienced.

The increase in enrolments may also indicate that a greater number of students are staying in school after the age of compulsory schooling.

Demographic projections lead us to believe that the Atlantic provinces, Quebec, Manitoba, Saskatchewan, and Yukon should see lower enrolments. These provinces and the territory may experience conflicting pressures to maintain human and financial resources at their current levels and to reduce these resources in reaction to the decline in enrolment.

Ontario, Alberta, British Columbia, and the Northwest Territories, however, where the population aged 5–24 should rise, may experience pressure to obtain increased funding levels to ensure a constant level of spending per student as student numbers rise.

In 2002–2003, Ontario will complete the process of changing the length of the secondary curriculum from five to four years. The following year, Ontario will see a drop in enrolment in its secondary schools as a result of this change.

5.2.2 College enrolment

The economic recession of the early 1990s may have contributed to the growth of enrolment in colleges, as more people decided to stay in school rather than look for a job. Since the number of people holding a college diploma signalled that they were working in a field directly related to their course of study leads to the conclusion that curriculum designed to develop skills and gain knowledge directly applicable to the workplace is particularly important when it comes to college-level studies.

University transfer programs offered in British Columbia and Alberta continue to provide opportunities for transition to university for many students. In British Columbia, high levels of satisfaction with their studies have been consistently reported by respondents from college Arts and Science programs to the student outcomes survey during the last decade.

The increased enrolment in provinces and territories where the population aged 18–21 is in decline shows the growing importance of postsecondary education and training in today's society. Such an increase may reflect both higher rates of participation by people in the 18–21 age group and the fact of continuing studies beyond the normal school-leaving age, since a greater proportion of the students are not part of this age group.

The increase in college enrolments is limited, however, by the number of available places. If the participation rate continues to climb, it could be at the root of pressure on enrolment in provinces and territories where the general population is increasing and helps neutralize the effect of the population declines in other provinces or territories.

Elimination of grade 13, the fifth year of secondary studies in Ontario, which will affect students obtaining their secondary diplomas in 2002–2003, will be a major concern for people involved in planning secondary education in Ontario. The change may also have repercussions for students across Canada who wish to continue their postsecondary education in Ontario, as well as for other provinces and territories that are likely to see an increase in the number of Ontario students applying to study elsewhere.

Appendix 2 (Figure 3.11) shows that full-time enrolment figures rose between 1987–1988 and 1997–1998, except in the Northwest Territories, whereas part-time enrolment rose up until 1992–1993, then declined. Appendix 3 (Figure 3.12) shows that full-time student enrolment in programs leading to technical careers increased by 33 per cent.

Students represented over 50 per cent of full-time and part-time figures in both programs leading to technical careers and university transfer programs. The percentage of women enrolled full-time or part-time in programs leading to technical careers dropped slightly between 1987–1988 and 1997–1998, while the number of women enrolled full-time and part-time in university transfer and university college programs increased in the same period (Appendix 4 — Figure 3.14 and Appendix 5 — Table 3.17).

Between 1987–1988 and 1997–1998, full-time enrolment in programs leading to technical careers increased in all provinces and territories. As described above, increases in enrolment in the Atlantic provinces may be attributable in large part to changes in eligibility requirements for admission. The growth of enrolment was highest in Ontario, British Columbia, and Yukon.

Women's enrolment as a proportion of total enrolment in programs leading to technical careers increased slightly between 1987–1988 and 1997–1998 in Alberta and British Columbia, and increased considerably in the Yukon and the Northwest Territories, where it reached 66 per cent (Appendix 4 — Figure 3.14). In all the other provinces, women's enrolment declined; it was less than 50 per cent of total enrolment in the Atlantic provinces.

University transfer programs and university programs dispensed by colleges are not offered in all provinces and territories. Among those that do, Alberta saw its enrolment more than triple, and enrolments in British Columbia rose by approximately 54 per cent. In Quebec, enrolment dropped by 8 per cent.

In 1997–1998, women represented over 50 per cent of total enrolment in university transfer programs and university college programs in all provinces and territories except Manitoba.

Full-time enrolment in programs leading to technical careers increased by almost one-third. Part-time enrolment rose in the early 1990s, but subsequently declined. Women's enrolment represented over half of the total figure.

5.2.3 University enrolment

The percentage of the 25–54 population who obtained a university degree rose between 1990 and 1998. The university enrolment indicator shows similar growth between 1987–1988 and 1997–1998, as a result of increases in both population and participation rates. Demographic projections indicate that overall in Canada, the population aged 18–24, the typical age group of the university population, will remain relatively stable over the coming years.

Despite the overall increase in enrolment since 1987–1988, indices of schooling rates and enrolment have not changed greatly since the early 1990s. Several factors, such as the cost of attending university, the availability of other training programs, and the strong economy and number of job opportunities influence students' decision to attend university or not, and thus affect enrolment. The extent of programs also has an effect on enrolment, since some educational institutions may be able to operate at full capacity or are faced with budget and other restrictions that in practice limit program expansion.

Part-time enrolment has shown a significant drop since 1992–1993.

University student mobility is one of the key factors influencing enrolment. Students are able to look for the program that best suits them, not only in Canada, but anywhere in the world. Similarly, students from other countries are able to enrol in Canadian universities.

Women's participation rate in part-time undergraduate university studies has traditionally been higher than the rate for men; they are now also a majority in full-time undergraduate studies. At graduate level, the number of female students nearly matches the number of male students. This leads us to believe that, to some extent, the imbalance in relative enrolment figures between men and women has now become less pronounced.

As described in the section on college enrolment, the elimination of grade 13 from Ontario secondary schools in 2002–2003 will be a major concern for those involved in planning postsecondary education in Ontario. The change may also have repercussions for students from other parts of Canada who wish to continue their postsecondary studies in Ontario, as well as for other provinces and territories, which are likely to see an increase in the number of Ontario students applying to schools outside Ontario.

Full-time enrolment of women at all university levels increased in all provinces between 1987–1988 and 1997–1998 (Appendix 6 — Figure 3.19 and Appendix 7 — Figure 3.20). Women represented over 55 per cent of undergraduate enrolment in 1997–1998, with the

highest percentage being in Prince Edward Island, at 61 per cent. Women's enrolment at graduate level in Prince Edward Island is also high; the province is the only one with more women than men at that level. In all other provinces except Saskatchewan, women represent almost 50 per cent of enrolment at graduate level. New Brunswick has the highest percentage increase (Appendix 7 — Figure 3.20).

In all provinces, women form a higher percentage of part-time enrolment at all levels than they do of full-time, except at graduate level in Prince Edward Island. The participation rate is no longer climbing and has remained stable since the early 1990s. Women's full-time undergraduate enrolment increased, and reached 56 per cent of total enrolment in 1997–1998.

All provinces reported increases in full-time enrolment. Men's enrolment at undergraduate level did not exceed 45 per cent in any province.

5.2.4 Adult participation in education

Students taking formal education programs are not all of typical student age. Some are adults who are returning to school to obtain a diploma or degree, while others are there for professional development or to acquire new skills. Adult participation in education may also reflect their participation in employment-related education and training programs.

Older students have different requirements and concerns from those of younger students, such as a need for transition programs to ease their return to school, the need for help in establishing a balance between family and studies, or recognition of their work experience. Postsecondary institutions, in particular, must continue to meet adult students' need for programs to enable them to gain the necessary skills and training to succeed in today's job market.

Adult participation in formal education increased slightly between 1991 and 1997. In 1991 and 1997, the participation rate of 17–24-year-olds was noticeably higher than the 25–54 rate. Given, however, that the 25–54 age group is larger, the number of students in this group is much higher in absolute terms. In 1997, at both educational levels combined, 1.4 million students aged 25 to 54 were enrolled in formal programs, compared to 576,000 students aged 17 to 24.

Participation of students aged 25–54 increased slightly in Nova Scotia and Alberta. In 1997, the province with the highest participation rate for 17–24 was Ontario (24 per cent); for the 25–54 age group, the highest participation rate was in Alberta (11 per cent).

In all provinces during the two above-mentioned years, the participation rate for 17–24 was higher than for 25–54.

5.2.5 Employment-related Adult Education

More and more Canadians are taking training or refresher courses during their career. Canada needs an educated, qualified, and versatile work force if it is to remain competitive. We can reach this goal by directly advocating continuing education and

training for both working people and the unemployed. This sort of training is particularly important for the latter, inasmuch as it will give them skills that are in demand on the job market, and thereby help them re-enter the market successfully.

In 1997, approximately 27 per cent of people aged 25–54 were taking some form of employment-related adult education or training program, a slightly lower figure than the 29 per cent who were doing so in 1991. There was little difference in men's and women's participation in 1997, as opposed to 1991, when the participation rate for men was higher than the rate for women. While this happened at all educational levels, the drop in participation was sharpest among university graduates.

Over one million people aged 25–54 participated in formal education programs in 1997. Postsecondary programs received the majority of these enrolments.

6.0 EDUCATION FUNDING

Governments in Canada have always provided the resources for education services for their citizens. The proportion of public money allocated for this purpose is one indicator of the priority that governments give to education. Education represents the second largest category of public spending in Canada, exceeded only by health spending. The amount of government investment in education depends on factors such as the demographic structure of the population, participation rates at various levels of education, national costs of educational resources, and the strength of the economy.

Governments are striving to improve the quality of education for the benefit of their citizens. While there are many ways of approaching the issue, a number of governments are asking for more spending per student, or for a redistribution of current budgets to better reflect changes in priorities. However, given the complexity of the education field, differences in public spending on education do not necessarily translate into differences in the overall quality of education.

Particularly as concerns higher education, consideration must also be given to the issue of the appropriate combination of public and private funding. Investment in education is advantageous for both individuals and society (OECD, 1998). Consequently, it is reasonable to feel that both should contribute to the cost of education. These debates are not unique to Canada; other OECD member countries are grappling with the same issues.

Universities in most Canadian provinces now rely more on private funding from tuition fees and less on public funding from government (Little, 1997).

Nonetheless, based on the fundamental principles that access to postsecondary education should not depend on an individual's financial situation, the provinces have implemented student financial assistance programs and continue to improve their students' loan and bursary programs. The federal government has also introduced initiatives to make education more affordable, for example through the Millennium Scholarships announced in the 1998 Speech from the Throne. Officials responsible for these programs are today faced with certain questions: determining whether the criteria for assessing needs and the terms and limitations regarding granting of loans

and scholarships have kept up with the rapid increases in postsecondary education costs in recent years.

6.1 Spending by type of education

Spending on education in Canada in 1998–1999 is estimated at \$60.5 billion, barely \$2,000 per person. Ten years earlier, in 1988–1989, spending was \$53.7 billion (in 1998–1999 constant dollars), or a median gain of 1.3 per cent per annum, and followed the population growth rate.

While current per capita spending (\$1,996 in 1998–1999) is about the same as ten years ago, considerable changes and significant trends occurred during this period (Appendix 8 — Table 3.22). Per capita spending between 1988–1989 and 1994–1995 rose by 7 per cent to \$2,147. Annual decreases since 1994–1995 have reduced per capita spending by 7 per cent, back to \$1,996 in 1998–1999. Spending in that year was lower, according to estimates, by \$1.9 billion (3 per cent), down from the peak of \$62.3 billion it reached in 1994–1995.

Spending on vocational training in the trades rose by 43 per cent between 1988–1989 and 1998–1999. In the same period, spending on college-level education rose by 13 per cent, which corresponded to the demographic growth rate. Spending on elementary and secondary education and university education increased by 10 per cent, which was lower than the demographic growth rate.

Spending on elementary and secondary education, which rose until 1994–1995, slipped since that time by 2 per cent. Spending on college education and vocational training in the trades increased until 1995–1996, then declined. In university education, spending rose between 1988–1989 and 1991–1992, stabilized for four years, then declined in the last three years.

Trends that are apparent Canada-wide were reflected at the provincial level.

Spending includes both public and private expenditures. Public spending includes spending by provincial and territorial government departments or ministries responsible for education and training, along with federal spending related to education and training.

In 1995, Canada devoted 7.0 per cent of its GDP to education, that is, it spent the most of all the G–7 countries on education (Appendix 9 — Figure 3.27). The average that OECD member countries devoted to education was 5.6 per cent of their GDP. (By comparison, the United States spends 6.7 per cent of GDP on education.) (Appendix 10 — Table 3.24)

Appendix 10 (Table 3.24), Appendix 11 (Figure 3.26) and Appendix 9 (Figure 3.27) illustrate public and private spending on education in 1995 in Canada, its provinces and territories, and the G–7 countries, expressed as a percentage of GDP, as well as the average for all OECD member countries.

Overall spending on education expressed as a percentage of GDP ranged from 11.3 per cent and 16.6 per cent in the Yukon and Northwest Territories respectively to 5.4 per cent in Alberta. Higher figures in the territories reflect the equally higher costs of education arising

out of factors such as geography and the sparse population. Low spending in Alberta expressed as a percentage of GDP is more a function of the higher GDP in that province. In Newfoundland and Labrador and Prince Edward Island, education spending expressed as a percentage of GDP was higher than the Canadian average, a reflection of the lower GDP in those provinces. In both provinces, per student spending on education was lower than the Canadian average.

Spending on postsecondary education ranged from 3.9 per cent of GDP in Newfoundland and Labrador to 1.9 per cent in Alberta; spending in all provinces was higher than the average of 1.3 per cent for OECD member countries.

6.2 Public spending on education

Public spending for education can be divided into two main components: direct expenditures on educational services, and public subsidies to the private sector. Some examples of these are government study and development scholarships, and subsidized loans and waivers or forgiving of loans.

Direct expenditures are by far the biggest category, representing 11.9 per cent of total public spending in Canada, as compared to 1.7 per cent for public subsidies. Although Canada's direct public spending was about equal to the average of 11.8 per cent for the OECD member countries, public subsidies to education in Canada were approximately double the 0.9 per cent average of the OECD member countries. Public subsidies by governments in other G-7 countries were lower than the average in the OECD member countries, i.e., 0.5 per cent or less.

In 1995, nearly two-thirds of public spending on education in Canada was devoted to elementary and secondary education, representing 8.4 per cent of public spending. This percentage was slightly lower than the average of 8.7 per cent in the OECD member countries. There were noticeable deviations among provinces and territories in education spending as a percentage of GDP, explainable in part by differences in per capita GDP.

In 1995, 13.6 per cent of public spending in Canada was devoted to education. Canada ranked second in this regard among the G-7 countries.

Spending on postsecondary education represented 4.8 per cent of public spending in Canada, well above the average of 2.7 per cent for the OECD member countries and higher than in the other G-7 countries.

Since the end of the 1980s, postsecondary education has been increasingly funded by private sector expenditures and less by public spending for university education.

Between 1982-1983 and 1998-1999, government contributions as a percentage of universities' operating revenues dropped from 74 per cent to 55 per cent. During the same period, tuition fees generally doubled, rising from 8 per cent to 17 per cent of operating revenues of the educational institutions in question.

Average tuition fees for undergraduate arts programs at university more than doubled Canada-wide; they were \$3,199 in 1998–1999, compared to about \$1,500 in 1988–1989.

Appendix 12 (Table 3.26) illustrates the distribution of public and private funding sources for educational institutions before (initial amounts) and after (final amounts) transfers from public sources in 1995, for Canada, the provinces and territories, and the G–7 countries.

Appendix 13 (Figure 3.30) and Appendix 14 (Table 3.27) illustrate average tuition fees for undergraduate arts programs in 1998–1999, and the percentage increase over ten years previously.

6.3 Education-related spending by resource category

Current spending on elementary and secondary education in 1995 represented 96 per cent of total spending. Staff salaries were by far the largest part of current expenditures. Salaries for educators and other staff in Canada represented 81 per cent of current expenditures on education, about the same as the average for the OECD member countries.

In postsecondary education, the percentage of current spending devoted to staff salaries was a little lower, attaining an average of slightly over two-thirds of spending (69 per cent) in all OECD member countries. The gap between G–7 countries was fairly pronounced, varying from 45 per cent in the United Kingdom to 76 per cent in Germany. Salaries in Canada represented 72 per cent of current spending, slightly higher than the average for the OECD member countries. The proportion of current spending devoted to educators' salaries (39 per cent) was lower in Canada, however, than the average of the OECD member countries (44 per cent). More was spent on non-teaching staff in Canada (33 per cent compared to 22 per cent on average in the OECD member countries).

At elementary and secondary level, the percentage of current spending devoted to staff salaries approaches the Canada-wide average of 81 per cent in all provinces, except Manitoba, Saskatchewan, the Yukon and the Northwest Territories. In the territories, the breakdown between salaries and other current expenditures was more equal, reflecting different cost structures by reason of geographic differences having an effect on things such as school size, transportation, public utilities, etc. Hence, proportionally less was spent on the educating function and more on the non-salary function. The same factors, to a lesser extent, had an influence on cost structures in Manitoba and Saskatchewan.

Tuition fees for university education varied considerably from one university to another, and the rate at which tuition fees have been rising has fluctuated in the last ten years.

Appendix 15 (Table 3.28) and Appendix 16 (Table 3.29) illustrate education-related spending by resource category and level of education for both public and private institutions.

In 1995, education systems in Canada devoted 65 per cent of their current expenditures to educators' salaries at elementary and secondary levels, and 39 per cent at postsecondary level.

Teaching staff salaries ranged from 74 per cent of current expenditures in Newfoundland and Labrador to 38 per cent and 49 per cent in the Northwest Territories and the Yukon, respectively. Salaries for non-teaching staff varied from 19 per cent of current expenditures in British Columbia to 10 per cent in both Yukon and Newfoundland and Labrador.

Staff salaries in postsecondary education were generally close to the Canada-wide average of 72 per cent, ranging from 80 per cent of current expenditures in Prince Edward Island to 60 per cent in the Northwest Territories. Educators' salaries also approached the Canada-wide average of 39 per cent; the proportion was little higher in Prince Edward Island and Newfoundland and Labrador, i.e., 52 per cent and 46 per cent respectively.

6.4 Student Indebtedness

Increases in the cost of postsecondary education during the 1990s left in their wake a broadening of the public debate and concerns over the rise in student indebtedness and their ability to repay. Student indebtedness is a component of the private sector contributions toward education funding. Consequently, the debate about student debt is a part of the larger debate on public vs. private contributions to fund postsecondary education.

While the percentage of students resorting to government student loan programs to help them finance their postsecondary studies has remained relatively stable (approximately 50 per cent of graduates in 1986, 1990, and 1995), the amounts of money they owe upon graduating with their degree and for two years afterward increased during the period in question.

Holders of postsecondary studies degrees earned at college and university level in 1995 who took out student loans absorbed an average debt of about \$11,000 at the time they earned their degree; this amount was 39 per cent more than for 1990 graduates and 59 per cent more than for 1986 graduates. Two years after earning a postsecondary degree in 1995, graduates owed an average of \$8,300, an increase of 66 per cent over 1990 degree holders and 111 per cent over 1986 degree holders. These data, however, reflect the situation before the time of provincial and federal initiatives to reduce tuition fees.

The high levels of indebtedness at the time of obtaining a degree reflect in part increases in tuition fees and other costs, at a time (the 1990s) when family income (in constant dollars) did not vary much. Changes in student financial assistance policies regarding loans and scholarships probably also had an effect on indebtedness (Plager, 1999).

Holders of degrees earned in 1995 repaid their student loans over a longer period of time than did holders of degrees earned in previous years.

The provinces experienced a sizable gap in the percentage of degree-holders who borrowed to finance their education. The percentage exceeded the Canada-wide average in the Atlantic provinces and Alberta among holders of degrees earned in one of the three years under study, and in Quebec in the case of degrees earned in one of the latter two years. The percentage of degree-holders who borrowed was generally lower than the Canada-wide average in Ontario, Manitoba, and British Columbia, and the same as the Canada-wide average in Saskatchewan.

Indebtedness at the time of obtaining a degree and for two years afterward increased in every province between 1986 and 1995. Postsecondary degree holders in Quebec declared the lowest average debt (\$9,575) at the time of obtaining their degree in the case of the 1995 cohort. The same group, however, recorded the second highest rate of increase in average debt at the time of obtaining their degree for the 1986 and 1995 cohorts, which goes together with the sizable percentage increase of tuition fees in Quebec. To remedy this situation, the Government of Quebec recently announced (June 2001) measures to enhance the loan and bursary program and thus to reduce students' debt loads.

Saskatchewan recorded the largest increase in average debt for the 1986 and 1995 cohorts at the time they obtained their degree and for two years afterward, because of the expansion of an assistance program and the transition from a provincial scholarship program to a provincial loan program.

In all provinces, postsecondary holders of degrees earned in 1995 repaid their debt over a longer period than did members of the 1986 and 1990 cohorts. Two years after obtaining their degree, holders of postsecondary degrees earned in 1995 in the Atlantic provinces and Quebec had reduced their debt by 15 per cent to 21 per cent. In Ontario and the western Canada provinces, holders of degrees earned in 1995 had reduced their debt by 27 per cent to 33 per cent, which may be attributable to different economic conditions faced by students and degree-holders in different parts of Canada.

7.0 INFORMATION AND COMMUNICATION TECHNOLOGIES IN SCHOOLS

All provincial and territorial government departments of education have established plans for using the new information and communication technologies (ICT) to help students gain the skills they need to participate fully in our increasingly complex knowledge society. Also, as part of a broader plan called "Canada Connected," the federal government has created programs to promote the development and use of information technologies in education, including SchoolNet and the Computers in the Schools programs.

The growing quantity of computer hardware and ICT software in school systems in Canada, together with the debate on the best way to use this material, has brought about a need to examine the question in more depth. As part of an effort to produce essential data, Canada participates, along with a total of 27 countries, in the second Study on Information Technology in Education (SITE).

In a rapidly changing field like the use of ICTs in schools, SITE will provide reference data of great value against which it will be possible to measure the progress that will ultimately be made. The study will make education systems aware of different implementation stages of their plans. Differences among provinces must be seen in this context.

Considering the particular status of First Nations, the First Nations Education Council (Québec) recently carried out studies (Computer Survey in the First Nations Education Council Member of Communities, February 1998 and Computer Study Global Report, May 2000) aiming at bringing to light the computer park situation in the member communities and specifying their needs in the area of computer equipment. The results from these studies show that the First Nations have

extremely urgent needs regarding ICTs, particularly in terms of equipment, training, and cable/network infrastructures.

7.1 Student-computer ratio

The student-computer ratio is an indirect measure of access to computers or the availability of computers for elementary and secondary level students. Only computers used for educational purposes are included in the ratio.

Generally speaking, students at senior secondary level had more computers in 1999. When the study was completed in January–February 1999, there was one computer for every nine students at elementary level, compared to one for every eight at junior secondary level and one for every seven at senior secondary level. The study (*Computer Study, May 2000*) recently carried out by the First Nations Education Council (Québec) confirms that, despite an improvement to the student/computer ratio, the schools managed by the First Nations have a student/computer ratio of 1/18, which is well below the ratio in other provinces.

The general trend toward making more computers available to senior secondary students is continuing in every province, although the actual ratios vary a little. Compared to the Canada-wide average, ratios at all educational levels were higher in Nova Scotia and Quebec, and lower in Manitoba and Alberta. In Prince Edward Island, there was a desire to make computers available to students at higher levels, as the province had a lower ratio than the ratio for Canada. At lower educational levels in the province, a smaller number of computers were available in P.E.I.; the province had a higher ratio than the ratio for Canada.

7.2 Internet connection

In the first two months of 1999, Canadian schools by and large had access to the Internet for educational purposes. Eighty-eight per cent of elementary students and 97 per cent of secondary students (junior and senior) attended a school with access to the Internet.

In September 1999, almost 100 per cent of secondary schools (junior and senior) were connected to the Internet. The rate of Internet connection was uniformly high in all provinces. However, the studies carried out by the First Nations Education Council (1998, 2000) indicate that taking into account the poor capacity of their telecommunications structures and their lack of powerful enough computers, in the First Nations Education Council member communities' schools, the rate of Internet use in the First Nations schools is well below the national average. Internet connections in the First Nations schools is behind.

7.3 Student activities on the Internet

Approximately one-third of elementary and junior secondary students and half of senior secondary students use e-mail for various learning purposes. They commonly use e-mail to communicate with their peers in other schools or countries and with teachers. Students also use e-mail or electronic bulletin boards to participate in group projects in their school or with other schools.

In addition, 76 per cent of elementary, 80 per cent of junior secondary, and 87 per cent of senior secondary students have taken information from Web sites in connection with their

academic activities. A little over one-third of all students posted information to the Internet. The percentage of students who designed or updated a Web site varied between 9 per cent of elementary school students to 53 per cent of senior secondary school students.

Use of the Internet varies from province to province. For example, the percentage of students using e-mail as part of a school project and sending e-mail to their peers and teachers varies from approximately two-thirds in Prince Edward Island to one-third in New Brunswick. Although an invariably high proportion of students in all provinces take information from the Web, the proportion of others who use the Internet to build or maintain Web sites and post information varies a great deal among provinces.

7.4 Obstacles to fuller use of information and communication technologies

With regard to computer hardware and software, an insufficient number of computers and insufficient variety of software are judged to be major obstacles in the schools, affecting the majority of students. Obstacles to learning cited include: insufficient time for educators to prepare lessons on the computer, difficulty in integrating computers into the classroom, problems in finding sufficient space in the timetable for the computer, and lack of time in educators' daily schedule to explore the Web. Obstacles to educators' training include lack of skills or knowledge in the use of computers for teaching purposes and insufficient training opportunities offered.

The number of computers is more often seen as a major obstacle in secondary schools (junior and senior) than in elementary schools, even though student-computer ratios in the former are lower than in the latter. What is perceived as the need for senior secondary students to have more computers probably lies in the fact that the use of technology at that level requires that students use them in practice more directly.

The difficulty of providing sufficient room in the timetable for computer use for different courses is also a sizable problem in secondary schools, where it was cited as a major obstacle in schools representing more than 60 per cent of students. This concern is less marked in elementary schools, where course organization is not as highly structured.

In the majority of provinces, school principals representing more than 60 per cent of enrolment state that the insufficient number of computers is a major problem. Quebec is the exception: this problem is cited less frequently (in approximately 50 per cent of cases), even though the student-computer ratio is one of the highest in Canada. At the opposite extreme, Nova Scotia, the province with the highest student-computer ratio, is also the one where the insufficient number of computers is frequently cited as a major obstacle.

Invariably cited as a major obstacle in all provinces is insufficient preparation time for teachers. The frequency with which other teaching-related factors are seen as major obstacles varies more from one province to another. Difficulty in making space in the timetable for the computer is less of a problem at all educational levels in Quebec. Less frequently cited as a major obstacle is insufficient time available to teachers to explore opportunities to use the Internet and the Web, at all educational levels in Quebec and Manitoba and at clearly defined educational levels elsewhere in Canada.

Generally speaking, insufficient training opportunities for teachers is cited as a major obstacle in schools representing over 50 per cent of enrolment, in all provinces except Quebec and Manitoba. In those two provinces, insufficient training opportunities were not as frequently cited as a major obstacle at any educational level except senior secondary, where it was cited as a major obstacle in only one-third of cases. Similarly, in senior secondary schools in Prince Edward Island, insufficient training opportunities were cited as an obstacle in only about one-third of cases.

Cited in the majority of provinces as a major obstacle was the lack of skills or knowledge on the part of educators in the use of computers for teaching purposes in schools representing over 50 per cent of enrolment, except in junior secondary schools in Nova Scotia and senior secondary schools in Manitoba. In those two provinces, this coincides with the fact that insufficient training opportunities are cited less frequently as an obstacle.

Obstacles include insufficient number of computers, lack of preparation time for teachers, teachers' lack of ICT skills, and insufficient training opportunities.

School principals of over 60 per cent of students cite the insufficient number of computers as an obstacle.

Principals of the majority of students cited as an obstacle insufficient training opportunities for teachers, except in Quebec and Manitoba.

The Education Network of Ontario is an independent, non-profit, Ministry-supported organization established to support school-based educator professionalism through electronic networking. Internet access, on-line conferences, and sponsorship of technology-related initiatives support Ontario Education professionals with curriculum development and media literacy.

Ontario teachers have received further incentive to use information and communications technology through the introduction of a province-wide report card and a curriculum unit planner, both supported by electronic networking technology.

The study conducted by the First Nations Education Council showed that the First Nations of Quebec, as elsewhere in Canada, are facing major obstacles to their use of ICTs, despite their clear desire to do so. In the case of Quebec, these obstacles have more to do with the insufficient amount of computer equipment and an inadequate telecommunications infrastructure. The lack of teacher training and professional development programs is another important factor preventing First Nations schools from making greater use of ICTs.

7.5 Provincial initiatives

All provinces and territories recognize the importance of information and communication technologies, not only as a learning subject in the curriculum, but also as an ideal way to deliver educational services.

In Newfoundland and Labrador, a Centre for Distance Learning has been established and is responsible for the development and delivery of Web-based programs for students and teachers in the K–12 system. The Centre will also facilitate the coordination of all distance education activities at the secondary and postsecondary levels.

Nova Scotia, for example, has created a huge network linking public schools, municipal libraries, colleges, museums and the Department of Education’s administrative offices.

In Manitoba, the government supports the application of technology in the classroom, integration of multimedia resources into the curriculum at elementary and secondary levels, using technology to deliver professional development courses for teachers, and creation throughout the province of science and technology resource centres to make high-tech application models available to educational institutions.

By 1996, all of New Brunswick’s schools were connected to the Internet. Starting in 2001, the province is embarking on a three-year program to provide high-speed bandwidth to all its schools in order to provide increased access to on-line courses in high school, and to give all students better access to on-line research.

The Yukon Education Student Network (YESnet) is a network set up by the Department of Education to enable all Yukon students to access the Internet and the rich, diverse databases it contains, and give students an opportunity to communicate worldwide.

In Ontario, the twelve French-language school boards have set up a teleconferencing network linking all French-language secondary schools and all school board administrative offices across the province.

British Columbia has networked all public schools, postsecondary institutions and many public libraries and other institutions via the Provincial Learning Network (PLNet). All institutions have broad bandwidth connections and equity of access to the internet via PLNet. PLNet infrastructure supports a wide variety of educational and administrative initiatives across the province.

At postsecondary level, a number of networks and information and on-line training programs allow Canadian or foreign students to access a wide variety of courses and programs. Examples of these include Athabasca University in Alberta, the Open Learning and Information Network in Newfoundland and Labrador, and the Open Learning Agency in British Columbia. The 60 English-language district school boards also are linked to the Internet and to individual schools. The new provincial curriculum anticipates use of information technology as a curriculum element for all subjects at all levels.

8.0 EDUCATORS

“The importance of teachers’ role as agents of change, to promote understanding and tolerance, has never been so obvious as it is now.” (Delors, 1996)

Total teaching staff, which includes 268,000 full-time educators in elementary and secondary schools and over 60,000 faculty members of colleges and universities, constitutes the largest particular category of individuals exercising liberal and technical professions in Canada.

The demographic composition of the educator group is rather different from that of the whole working population in terms of age and gender. Collectively, educators are older than the rest of the working population. There are also fewer men than women teaching at elementary and secondary level, and fewer women than men teaching in postsecondary institutions.

A glance at the distribution of educators by age reveals that the large current cohorts of 40–49 and 50+ will reach retirement age in the next two decades. These older cohorts are much larger than the 30–39 cohort, reflecting recent rates of recruiting and keeping educators.

Future demand for educators should thus exceed recently observed recruitment rates in future to replace sizable older cohorts who will be retiring. (This will be particularly true when the biggest cohort, i.e., individuals currently in the 40–49 age group, goes into retirement.)

In a study of supply and demand, Tremblay (1997) arrived at the conclusion that Canada-wide, the supply of educators should be sufficient to replace those taking their retirement in the coming years. Other, more recent studies point to a sizable shortage of teachers and administrators in the next ten years.

It is perhaps in the case of universities that the problem of aging personnel is most pronounced. It is already admitted that this is one of the most important current problems faced by university administrations. The median age of full-time members of university teaching faculties in 1997–1998 was 49, compared to 46 a decade earlier. Professors recruited during the period of rapid expansion in the 1960s and the early 1970s have begun to take their retirement. They will continue to do so in greater numbers over the next ten years.

In Canada, the general increase in part-time employment in the labour market during the 1990s was accompanied by a rise in part-time employment among educators.

Trends in student and teacher numbers have an effect on the measurement of student-teacher ratios. Variation in the population (and variations in the resulting numbers), attrition rates for educators, and recruitment of new educators all influence this ratio. Educational policies of the provinces and territories may also have repercussions on the ratio.

8.1 Distribution by gender

The number of full-time educators in elementary and secondary public schools in Canada has declined, after reaching a peak of about 285,000 in 1991–1992. It is seen that a large part of this decline is reflected in a drop in the number of male educators. In 1996–1997, only 37 per cent of educators were men, compared to 43 per cent a decade earlier.

Over the last decade, the percentage of female educators increased at all educational levels. Women continue to be largely exceeded in number by men among full-time members of university faculties; in 2000–2001, they represented 20 per cent of faculty members. At the

opposite extreme, women at elementary and secondary levels in the past ten years constituted a growing majority of educators, over 60 per cent in 1996–1997 to be specific. Similarly, demographic labour force data reveal that a sizable percentage of male educators will take retirement in the next decade; if current trends continue, there will be fewer men in the younger cohorts that replace them.

While the proportion of women teachers increased at all educational levels in recent years, women are in the majority only at elementary and secondary level, where they represented 63 per cent of full-time educators in 1996–1997. In universities, women constituted 25 per cent of full-time faculty members in 1997–1998, compared to 17 per cent in 1987–1988. In 1996/1997, women represented 50 per cent of educators at the college level.

There was a drop in the number of educators in elementary and secondary public schools from 1986–1987 to 1996–1997 in Newfoundland and Labrador, Nova Scotia, Quebec, Manitoba, and Saskatchewan. The figure remained stable in New Brunswick, while in Prince Edward Island, Ontario, Alberta, and British Columbia recorded a slight increase. Yukon and the Northwest Territories experienced greater percentage increases. In 1996–1997, women represented over 55 per cent of teaching staff in public schools in Newfoundland and Labrador, Manitoba, and British Columbia, and 60 per cent or more in the other provinces and territories (Appendix 17 — Table 3.3).

At postsecondary level, trends reflect the Canada-wide situation in this regard: deviations among provinces and territories are not very pronounced. All provinces recorded an increase in the proportion of female teaching staff in universities between 1987–1988 and 1997–1998; in most provinces, women represented approximately 25 per cent of full-time faculty members in university institutions in 1997–1998, except in Saskatchewan, where their proportion was a little lower (21 per cent), and in Prince Edward Island, where the proportion was slightly higher (32 per cent).

With regard to college education, the proportion of women on the teaching staff also increased in all provinces and territories between 1986–1987 and 1996–1997; the gap between provinces and territories was more noticeable, however. In 1996–1997, the percentage of women educators exceeded the Canadian average in Ontario, Saskatchewan, British Columbia, Yukon and especially the Northwest Territories, where women represented a majority (56 per cent) of educators at college level.

8.2 Supply and demand

In recent years, the Canadian Teachers' Federation (CTF) has conducted research studies and gathered data on the supply of and demand for teaching staff at elementary and secondary levels. A number of studies were done across Canada. Although they did not all come to the same conclusions, they demonstrated the current demographic changes overturning traditional relationships of supply and demand with respect to teachers. The following pages offer an overview of this research, taken from CTF reports.

Atlantic Region

Common concerns emerge from the anecdotal evidence gathered in all the Atlantic provinces, among which are:

- Declining enrolments are not uniform from one region to another within a province, but tend to be more marked in rural areas.
- Amalgamations of many smaller schools are widespread.
- A very large proportion of the teaching population will be eligible for retirement in the next five to ten years.
- The reserve of substitute teachers is becoming thinner.
- It is increasingly difficult to attract teachers to remote regions.
- There is already an observed shortage in certain teaching specialties such as French, special education, guidance, math, and science.

Two large-scale studies have been completed in the four Atlantic provinces:

- “Teacher supply/demand in Newfoundland and Labrador : 1998–2010,” November 1998, Robert Crocker, Ph.D., Faculty of Education, Memorial University of Newfoundland.
- “Nova Scotia Public Education Teacher Demand and Supply,” research report published by the Nova Scotia Department of Education, January 2000.

The Newfoundland study was sponsored by the Faculty of Education of Memorial University jointly with the Newfoundland and Labrador Teachers’ Association. The main observations may be summarized as follows:

- Enrolment is maintaining its long-term downward trend.
- The drop in enrolment should continue and reach about 37 per cent of 1997 levels by 2010–2011.
- Although the number of teachers in the province has remained relatively stable through the 1980s despite the decline in enrolment, the drop in numbers of teaching staff has accelerated in recent years, to the point where losses are about proportional to the decline in enrolment.
- If we don’t change our policies on staff assignment, we may expect an additional drop of one-third in the teaching staff by 2010–2011.
- Rates of leaving for retirement should peak between 2001 and 2004; between now and the end of the forecast period, i.e., 2011, over two-thirds of teachers currently practicing the profession will have retired.
- Demand for teaching staff should rise and peak in 2002–2003, then show a gradual fallback and end in 2011 below its current level.
- The supply of teaching staff cannot be judged directly, because the total number of individuals looking for a teaching job is unknown.
- There is a considerable imbalance between supply and demand depending on specialty, with a surplus of supply over demand in fields such as English, social studies and religion, and a deficit in science and technology.

The Nova Scotia study examined a large number of topical issues relating to the job market in teaching in the province and issues related to supply and demand elsewhere in Canada and the United States. It also examined the anticipated demand in Nova Scotia and explored the supply outlook for teachers and the problem of attrition of substitute teachers. Here are some of the main conclusions:

- Current difficulties in recruiting qualified teachers in certain fields and substitute teachers in general speaks to a tightening of the job market in teaching, breaking with the usual market situation characterized by excess supply.
- The demand for teaching staff over the next ten years will be low to start, but will increase little by little as a greater number of people reach retirement age; it is predicted that demand will peak in 2005–2006.
- Approximately 54 per cent of current members of the teaching population will be eligible for retirement in the next ten years.
- The excess supply that has characterized the job market in teaching since the early 1970s will continue until 2003.
- The excess supply in certain subjects combined with a shortage in others will, if nothing is done, result in a job market characterized by a shortage and a surplus of teaching staff at the same time.
- The supply is essentially exhausted by attrition within the substitute teaching staff;
- Strategies will have to be developed to maintain an adequate supply of substitute teaching staff.
- The fact that Nova Scotia represents a very small portion of the Canadian and American job market in teaching makes the province possibly vulnerable to supply and demand conditions outside the province.

To follow up on the Nova Scotia report, a task force made up of individuals representing school boards, the Nova Scotia Teachers' Union (NSTU), the Department of Education and the Inter-University Council on Teacher Education was set up to examine the report and make recommendations to the Department of Education on ways of envisaging issues of supply and demand for teaching staff in the province. According to the committee, many of the conclusions in the research report are problematic. The committee feels that the supply of new entrants has been overestimated, since, to all appearances, a large number of new teachers leave the province or do not make a career of teaching. The committee also emphasized that the data showing shortages in school administrations outside Nova Scotia were not presented properly in the report and expects that increased competition will lead to difficulties of a general nature in terms of supply in Nova Scotia. As the committee puts it, the conclusion drawn in the report that excess supply of teaching staff will continue oversimplifies the situation and does not take into account factors related to the job market in teaching.

The committee made 25 recommendations in all, one of the most important of which was the creation of a standing committee on supply and demand in teaching staff, to include individuals representing the Department of Education, the NSTU, school boards and the Faculty of Education.

In brief, it would seem that demand for teaching staff in the Atlantic provinces will grow over the next ten years. One can always speculate, however, on the size of the demand, as on the ability of the supply to meet it. Moreover, the effect of recruitment in broader administrative territories on a region that has a relatively small job market and a limited source of teaching staff will not be negligible.

Western Canada Provinces

Research on the issue of supply and demand for teaching staff has been undertaken officially in British Columbia and Saskatchewan. In British Columbia, the Teacher Supply and Demand Consortium (TDSC), comprised of representatives of the Ministry of Advanced Education (MAE), the Ministry of Education (MOE), the British Columbia Teachers' Federation (BCTF), the British Columbia College of Teachers and other professional associations and postsecondary institutions, has been established to assess current and anticipated future educator (Teacher and administrator) supply and demand in order to recommend policy initiatives and program strategies to ensure that educator demand is met.

In September 1999, a report commissioned by TDSC, entitled "*Final Report of the Pilot Study of Teacher Supply and Demand Study in the Province of British Columbia*", concluded that limited demand for educators in certain districts and subject areas already exists and that this demand will be more obvious in 2003, and most acute between 2005 and 2010. The report also noted that administrative shortages will parallel teacher shortages. Several initiatives have been implemented in response to recommendations made in the report:

- MOE conducted a survey of school districts to further assess educator demand, district response to that demand, and the status of the Teacher-On-Call lists.
- A data harmonization study was undertaken, which concluded that data required to estimate teacher supply and demand is largely available; steps to harmonize the data are now being implemented.
- Further discussions are taking place regarding other policy and program initiatives needed to ensure that demand is met.

In addition, BCTF recently presented a brief to the Government of British Columbia entitled, "Teacher Supply and Demand in British Columbia: Enhancing the Quality of Education: Attracting, Recruiting and Retaining the Best Teachers". The brief was intended to encourage the government to work together with its education partners in the province to avoid a widespread shortage and to see that British Columbia children continue to receive high quality public education. Numerous recommendations were made in the report, including improving teaching conditions, support for new teachers and bonuses for professional development and support.

In Saskatchewan, numerous steps have been taken in the area of supply and demand for teaching staff in recent months notably the following:

- a round table on recruiting and retaining teaching staff in the northern part of the province
- surveys of school principals

- surveys of universities on trends in recruiting graduates

The Saskatchewan Department of Education has undertaken a study on supply of and demand for teaching staff, under the direction of the Board of Teacher Education and Certification, which brings together individuals representing universities, school board trustees, the Saskatchewan Teachers' Federation (STF), and the provincial Department of Education. The study attempted to assess the need for educators in public schools until the year 2006 and develop forecasts by large subject area, various regions and categories of teaching staff. The purpose of the study was also to assess teacher supply in Saskatchewan, as well as needs and conditions both inside and outside the province that could enter into play. Here are the study's conclusions:

- The drop in teacher numbers and ongoing departures for retirement should serve overall to balance supply and demand.
- Shortages will continue in specialty fields such as math, science, computer science, practical and applied arts, special education and French.
- Northern and some rural regions will continue to experience recruitment difficulties, especially when teaching jobs become more numerous in other provinces; the need for competitive salaries in the context of supply and demand for teaching staff remains a major concern.
- Difficulties in recruiting and retaining staff are particularly apparent with respect to beginning teachers and school administrators.

The number of Aboriginal students in Saskatchewan is on the rise, presupposing the need to integrate Aboriginal culture into the curriculum and coordinate staffing among First Nations schools and public schools. The public school system in Saskatoon has predicted that in the next ten years, 30 per cent of its students will be of Aboriginal ancestry.

Additional research is required in the following fields:

- repercussions of shortages in other parts of Canada
- ways of coping with shortages in specific subjects and regions
- an annual update of forecast data
- data on assignment of teaching staff to teach subjects that are not part of their qualifications

Ontario

For the first time in the province, the Ontario College of Teachers' database gives an overview of the whole qualified teaching profession in the province, which includes approximately 178,000 individuals in the 2000 calendar year. The College published its first report on teacher supply in the December 1998 issue of its quarterly magazine, *Professionally Speaking*. Using a forecasting method for retirement departures based on a simplified actuarial model from the Ontario Teachers' Pension Plan Board, the College estimated the number of retirements at five- and ten-year intervals. The table of College members facilitated our examination of retirement trends for qualified teachers at elementary and secondary level, women and men, by subject taught at secondary level, for the main

regions of the province, and for certified French- and English-speaking teachers, as well as for teachers with principal or assistant principal qualification.

Here are the main observations of the study:

- The generation that entered the profession during the massive recruitment period of the 1960s in Ontario is reaching retirement age in large numbers in the ten-year forecast interval; no less than 78,000 of the province's 164,500 teachers having the necessary qualification to teach in Ontario and living in the province.
- A trend of approximately one retirement out of every four teachers over the five-year interval and nearly one in two over the ten-year interval is a feature of both elementary and secondary levels in all regions of the province.
- Where there are already shortages — French, technology, some sciences and mathematics — high retirement rates will exacerbate the recruitment difficulties school boards are experiencing.
- Teachers with the necessary qualification to hold a principal's position will leave teaching in very large numbers, 64 per cent of individuals with principal's or assistant principal's qualifications will retire by 2008.

At the same time, a very concerning trend is emerging, that of a net decrease of interest in the profession. Applications to teacher training institutions in Ontario have, so to speak, collapsed in the 1990s, falling from a peak of almost 20,000 in 1990 to fewer than 8,000 in 1997 and 1998.

In 1999, the Ontario government announced a small increase of 500 places a year in teacher training institutions over a four-year period. In June 2000, following another year marked by recruitment difficulties in numerous school boards in the province, Ontario brought up to 6,000 the number of additional places in its faculties of education over a five-year period.

Ontario universities reacted quickly to the predicted shortage. Enrolments rose by approximately 1,000 students in 1999–2000 over the previous year, bringing total enrolment to 6,000 in the one-year consecutive program. Also, 1,000 students were admitted to the concomitant four- or five-year program in Ontario education faculties in 1999–2000, an increase over the 875 enrolments of the previous year.

Such highly public attention focused on the growing teacher shortage has rekindled interest in teaching in Ontario. From its lowest level of fewer than 8,000 applications to the one-year teacher training program in 1997 and 1998, the total has risen to 11,000 in 1999, then 15,500 in 2000.

In June 1988, Ontario teachers became eligible for an early retirement program of four and a half years, in light of an agreement between the provincial government and the Ontario Teachers' Federation, partners on the Ontario Teachers' Pension Plan Board. Under the terms of the agreement, the usual 90-factor retirement incentive, based on age and years of service totalling 90 and setting retirement with no financial penalty, was amended temporarily to 85. In the first year of the eligibility period, 1998, the retirement figure was over 10,200, compared to 4,500 the previous year. During the two-and-a-half-year period from June 1998

to the end of the 2000 calendar year, over 21,000 members of the teaching profession in Ontario retired, in many cases prompted by the early retirement program.

A good number of school boards in the province began vigorous recruitment efforts in 1998 and 1999 to fill all the sudden vacancies. Their efforts in this sense are continuing. Hence, many supply teachers obtained regular full-time positions and former members rejoined the profession. Moreover, an extraordinarily high number of graduates, members of the profession from other provinces, graduates of several state universities in New York located near the Ontario border, and teachers from elsewhere in the U.S. and abroad have obtained certification to teach in Ontario.

Of the over 31,000 new OCT members who joined in 1998, 1999, and 2000, a little over half — 16,613 — are current Ontario graduates. Also, 9 per cent, or 2,816, obtained their education degree in other provinces in Canada, 6 per cent (2,028) in the United States, and 5 per cent (1,635) in other countries.

Approximately one-quarter of new members of the teaching profession were drawn from a reserve, that is to say, over 4,150 “new” members are actually Ontario graduates of the five preceding years, and another 4,496 are former teachers. This reserve seems to be drying up, however; from a peak of 4,600 new teaching members from all these sources combined in 1998, the size of the group dropped to 2,700 in 1999 and only 1,000 up to now in 2000.

Analysis of the table of OCT members for the 2000 calendar year shows that despite numerous retirements in the past three years, Ontario remains on the crest of the wave of retirements, since teachers of the post-war generation are on the point of retiring. Of the 178,000 members of the profession in 2000, 27 per cent will retire between now and 2005, and a further 19 per cent will retire by 2010.

The sudden departure of a whole generation of teachers affects all regions of Ontario. And in subjects where school boards are already seeing shortages (such as physics, chemistry, mathematics and technology), teacher supply will likely continue to be inadequate to meet the demand for the rest of this decade. At the same time, the considerable number of retirements among members of the profession whose specialty is history, English or geography will exacerbate the recruitment situation in school boards across the province. In addition, the very high demand for francophone teachers to teach French Second Language courses in English-language school boards will do little to resolve the shortage of French-speaking teachers that English-language school boards are already experiencing.

Ontario school boards are also facing a critical shortage of qualified principals. One of the factors testifying to a shortage is the tendency for the Ontario College of Teachers to grant temporary permissions to school boards who are unsuccessful in finding qualified people for restricted positions. For example, during the 1997–1998 to 1999–2000 academic years, the number of unqualified assistant principals whose recruitment was approved has risen from 3 to 83 to 140. Today, the table of OCT members shows that nearly half of the 16,770 teachers in southern Ontario who have principal’s or assistant principal’s qualifications will retire by 2005 and that over three-quarters of them will do so by 2010. In short, an amazing total of 8,150 individuals will retire by 2005, meaning that the province will lose a group qualified

for principal's positions that is larger than the total population of school principals currently in practice.

Ontario is now going through the most difficult decade in its rapid transition to a new generation of teachers. The current economic prosperity combined with population growth, especially in the southern part of the province, works to exacerbate the situation. Although the need to fund additional teacher training places in the province's ten faculties of education has long been predicted, important steps have only just been taken to respond to that need.

Shortages have been reported at both elementary and secondary levels in special education, French Second Language, English Second Language, libraries, and supply teaching, and the situation is unlikely to right itself in the short term. Recruitment is taking place now in an ever more competitive climate both in Ontario and outside the province: the United States, Great Britain, and Australia are all coming here to hire teachers. And increasingly, other administrative jurisdictions are offering bonuses for signing teaching contracts, selective wage increases and car and housing allowances, among other ways of attracting teachers from other parts of Canada.

Quebec

Quebec is right in the middle of an in-depth program of education reform. Teacher training has been almost completely restructured, and since 1997 curriculum at elementary and secondary level has been overhauled from top to bottom. Quebec's demographic table resembles the situation in the 1960s, a time when Quebec lost almost 50 per cent of its students. Hence, the province anticipates that it will lose 20 per cent of its current student population between 1996 and 2008.

If the current situation does not change, it is expected that Quebec will lose 20 per cent of its teachers by 2008. Political decisions may affect the situation, however. The 1999 student-teacher ratio, for instance, was reviewed, with the resulting creation of 2,500 teaching positions at elementary level. The 1990 report of the Quebec Department of Education described the following predictions regarding teaching staff up to 2008–2009:

- Retirements of full-time teaching staff in public schools should rise from 1,925 in 1998–1999 to about 2,500 in 2000–2004 before settling gradually at 2,012 in 2008–2009.
- The demand or need to recruit full-time teachers in public schools should go from 2,408 in 1998–1999 to 3,155 in 2004–2005, then fall back to 2,195 in 2008–2009.
- Almost 80 per cent of the full-time teaching population in public schools in 1995–1996 should be replaced in the course of the forecast period of 13 years from 1996–1997 to 2008–2009.
- The reserve of qualified teaching staff in the previous nine years, but currently jobless and ready to teach, should decline from a peak of 14,000 in 1996–1997 to a little over 5,000 in 2008–2009.
- The employment rate for teachers newly certified since 1989 should increase from 50 per cent in 1990–1991 to 79 per cent by 2008–2009.

In Quebec, women represented 80 per cent of teaching staff at preschool level, 84 per cent at elementary level, and 48 per cent at secondary level. In the last few years, Quebec universities produced twice the number of graduates as the public school system needed. In 1996, the number of graduates already exceeded the number of positions offered. In 1999, the province appeared to have reached a balance between the total number of graduates and the needs in teaching staff: today, 83 per cent of those needs are being met by students of Quebec universities.

During the 1990s, an inadequacy was noted between teacher training and professional needs. Because of a shortage of qualified teachers in mathematics, for example, positions in this area had to be given to individuals who did not have the necessary training.

The province is also concerned about the insufficient numbers of supply teachers and the difficulty of finding qualified people to fill school administrator positions.

First Nations schools

Overall, the band schools have difficulty recruiting and keeping educational professionals. The reasons for this are many: geographical situation, cultural diversity, lack of housing, low salaries and poor working conditions, lack of professional support, etc. The First Nations communities thus have to deal with a high turnover rate of teachers, and are forced to hire inexperienced teachers with little or no knowledge of First Nations culture.

For several years now, the First Nations have been making arrangements with universities to offer teacher training to people from their communities. There are now 21 education programs for Aboriginal teachers in the education faculties at universities in six provinces and three territories. But the adequate training of Aboriginal teachers is not the only measure that is needed. Other measures must be considered, for example, those that will promote better working conditions, more opportunities for advancement, and professional development. All of these measures are necessary to recruit and keep teachers and specialized educational professionals in the First Nations schools.

9.0 THE EDUCATIONAL PROCESS

9.1 Curriculum components at elementary and secondary level

In each of the provinces and territories, elementary and secondary education comes under a department or ministry of education. Curriculum, standards and assessment mechanisms are developed centrally in the department or together with local school boards or commissions, generally through the cooperation of committees made up of various players in the teaching sector. There is no national curriculum or national standards in education, although nine provinces and two territories are developing a national science curriculum.

All provinces are also collaborating on setting standards in science under the School Achievement Indicators Program (SAIP). Curriculum execution varies from one jurisdiction to another and there are differences in terms of the degree of control exercised over what students learn, the time they devote to learning, and the extent to which differences in

students' ability are taken into account. With the science curriculum, departments of education are seeking to achieve what is generally defined as the four main goals of teaching: educating the mind, career readiness, moral and civic development, and personal growth (Fleming, 1993, p. 22).

In several provinces, there are separate school boards or commissions and government-funded separate schools. These are sometimes referred to as denominational schools. In most cases, they are Roman Catholic schools that offer a degree of instruction in that religion. Students must normally be of the same faith as the school in order to be eligible to attend. These schools are to be distinguished from public or non-denominational schools.

In response to parents' demands, Alberta became the first province to allow charter schools, which generally offer a specialized curriculum. Ontario recently announced its intention to enhance parents' choice of school that their children could attend within the public system, and in June 2001 is considering the possibility of tax credits for the parents of children attending private schools.

A wide variety of vocational or general training programs is offered at secondary level, usually in the same school. There is a general tendency in Canada to abandon the separation between vocational secondary schools and general education or university preparatory secondary institutions. Vocational training courses are normally offered in the last two years of secondary school, although certain courses preparing students for their area of specialization may be taken earlier. Short programs preparing students for various trades are also offered for those who do not wish to prolong their education beyond school-leaving age or obtain skilled vocational training. Alternating work-study programs that call upon community resources and work experience are also offered in some jurisdictions.

Compulsory subjects at secondary level, which may vary considerably from one jurisdiction to another, include study of the student's first language (French, English and in some cases Aboriginal languages), mathematics, science, arts, social studies, physical education, and religious or moral instruction (only where the province permits it). All provinces offer second-language instruction (ordinarily French for English-speakers and English for French-speakers), and most provinces offer household science, health, personal skills and social abilities, industrial training, computer science, and an introduction to technology.

A certain number of cooperative programs to develop curriculum have made their appearance in Canada; these include the Western Canadian Protocol, which plans the common development of curriculum in math and languages by the four western provinces and the three territories. The Atlantic provinces are also collaborating on the development and implementation of a common core curriculum from kindergarten to grade 12 in languages, mathematics, science and social studies (this is a project to standardize curriculum in the Atlantic provinces). At a Canada-wide level, Ontario, the Atlantic provinces, and the western provinces and territories are collaborating on the development of a common framework of goals for science education from kindergarten to grade 12.

9.2 Teaching and learning process

A debate has been initiated in Canada in the last two decades with regard to teaching: a debate that opposes progressive, child-centred teaching and traditional, authoritative type teaching. Teaching in Canada is in large measure child-centred. It would be fair to say that we have turned back to some extent from our child-centred approach toward favouring an adequate, solid treatment of core subjects and abilities, a treatment that must not necessarily ignore standards and that is not always based on the use of experimental learning methods.

It may also be noted — and rightly so — that the traditional model has regained ground in recent years: the provinces have tended to return to core subjects, limit the number of optional subjects, and perform large-scale testing in specific areas at certain educational levels (Berg, 1995; CRLO, 1995).

We can see an example of this change in the Year 2000: A Framework for Learning initiative set up in British Columbia in 1989, an initiative that has translated into comprehensive but gradual changes in curriculum, school organization, testing, and presenting results to parents (British Columbia Ministry of Education, 1989). By 1993, British Columbia had already made a number of changes to the initiative as a result of concerns expressed by parents and educators: 1) anecdotal report cards were replaced by written, structured report cards, and schools were obliged to apply a scale for assessing students' progress based on letter grades; 2) learning indicators were reviewed and improved as required; 3) the Department reaffirmed the importance of core learning, in particular the importance of learning to read, write, and do arithmetic.

Similar reforms have taken place in all provinces and territories.

In Quebec, for example, the Estates General on Education were a starting point for a major curriculum reform in which the number of teaching hours for French and mathematics was increased, and that focuses on the development of intellectual, personal and social skills, work and communication skills. Curriculum reform also aims to provide students with opportunities to discover areas of life experience, such as the environment, consumer issues, social skills or the media. The new elementary curriculum framework is organized around two-year cycles, thus enabling parents to better follow their children's overall development.

In the fall of 1996, the Ontario Ministry of Education undertook a large-scale overhaul of the curriculum at elementary and secondary levels. Learning outcomes and achievement indicators were developed for each subject in the curriculum, and beginning in 1998, new framework program was published. The reform included a more rigorous curriculum, guidance and career training programs, a new provincial reading and writing test, and a community involvement program. In 1999, a new framework of program and diploma requirements was published.

The Atlantic provinces collaborated in developing a common exit profile of Atlantic Canada students. The profile brings together essential components on which the curriculum in each

province is based, components that indicate the expectations students must meet by the end of their secondary studies.

During the 1990s extensive curriculum reform was undertaken in Alberta. This reform included the introduction of new programs in:

- Career and Technology studies, which better prepare the students for the world of work.
- Mathematics, which is now application and principle based. Pure and applied mathematics are available at the high school level.
- Science, where the focus is on understanding the nature of science, the relationship between science and technology, and its relationship to the decision making process.
- Physical Education, which fosters an active life style and healthy living.

9.3 Organization of teaching time and academic year

The school year for elementary and secondary schools in Canada extends from the first week of September to mid-June or the last week of June, yielding roughly 185 to 200 teaching days. As a general rule, elementary schools must provide at least five hours a day of classroom time, and secondary schools at least five and a half hours. The NWT *Education Act* provides for the following hours of instruction per school year, and courses are divided either over a school year or over two semesters equal in length: kindergarten — not more than 570 hours, grades one to six — no less than 997 hours, and grades seven to twelve — no less than 1045 hours. In many communities, the school year runs August to May. In the Yukon, the school year includes 950 hours of instruction, of which 15 are set aside for non-teaching activities. In British Columbia, minimum teaching time is 1,045 hours per school year, and there are various formulas for distributing teaching time (two semesters, three or four trimesters, ten months) are used; the most common are distribution over ten months or two semesters.

At secondary level, curriculum has been the subject of changes in an attempt to recognize new needs brought about by the emergence of new technologies, the importance of information and communication, employability skills, globalization, and cultural plurality. The changes generally took the form of changes in requirements for obtaining a diploma, designating compulsory courses, and prescribing the outcomes to be achieved in courses and programs.

9.4 Special education

Public schools are putting programs in place for Canadian students with special needs. In some cases, separate programs are in place to meet those needs (auxiliary enrichment program); in other cases, students are integrated into regular classes and, as far as possible, follow the regular program (integration).

The special education clientele is made up of students whose assessment revealed one of the following limitations or disabilities: learning or adaptation difficulties; a language disability, an intellectual disability, one or more serious physical disabilities (motor, visual, auditory). Many of those characteristics are innate, but some manifest themselves in children who

experienced warfare or were victims of physical or sexual violence. Finally, in a number of provinces, special education may also be directed toward gifted students.

In the 1970s and 1980s, several jurisdictions in Canada adopted legislation to ensure that exceptional children had access to the appropriate education programs and services. These laws rested on an important regulatory framework. The question of finding out what is best for a child — integration or enrichment program, risks of labelling students, etc. — is still the subject of considerable controversy. The problem of academic integration in Canada has led teachers' federations to demand better professional training for most teachers in regular classes, many of whom are having to deal with this enormous challenge. Integration has also resulted in an increase in the number of teacher's aides, who lend a hand to classroom teachers who have students with special needs. Specialized support services through which students may be assessed and placed, and an intervention plan tailored to their needs, include still too scarce resources such as psychologists, translators, psychometrists, speech language pathologists, and counsellors.

Several provincial and territorial administrations have instituted studies and reforms in recent years with regard to education of children with special needs.

Newfoundland and Labrador supports integrated service delivery to children with special needs through The Model for Coordination of Services to Children and Youth, an interdepartmental approach that involves the departments of Health and Community Services, Education, Justice, and Human Resources and Employment. Within the Department of Education, program planning for students with special needs is guided by a framework *Pathways to Programming and Graduation*, which describes how the provincial curriculum may be adapted or modified to meet the individual needs of children.

Ontario has adopted a new regulation, increased funding for special education, and has begun a full review of standards for programs directed toward such students. Among other efforts is an important research study on learning disabilities by the Learning Disabilities Association of Ontario for the Ministry of Education, proposing a more complete and accurate definition of the term. The province has also set up a task force on learning assistance programs, which is managing ten pilot projects in eight postsecondary institutions to identify and develop services, programs and adaptations students with learning disabilities need in order to be successful in their studies and make the transition from school to work.

British Columbia has just completed a review of Special Education and is currently developing and implementing a work plan in response to the recommendations of that review.

In all jurisdictions, cooperative efforts are being made where departments of education are collaborating with other government departments in creating integrated community support and prevention services for children and families.

The First Nations have been studying the situation of special education in their schools for several years. A study carried out by the FNEC in Quebec showed that 52 per cent of the secondary school students in its member communities had special needs. This study was

conducted because of the alarming situation caused by the lack of policy to support the funding of special education services in the schools administered by band councils. In 1997, the federal government freed funding for the implementation of a pilot project in 21 First Nations Education Council member communities to demonstrate the possible benefits of special education services for First Nations students. The final report for the pilot project was submitted in January 2001. It clearly showed that special education services have a highly positive impact on the education of special needs children. The First Nations Education Council is still hoping to see the implementation of a national policy for special education funding in the First Nations.

10.0 TESTING STUDENT ACHIEVEMENT

The Council of Ministers of Education, Canada has taken the initiative of approaching the issue of testing student achievement by introducing its School Achievement Indicators Program (SAIP). A sample of students 13 and 16 years old taken in 1993 across the country (with the exception of Saskatchewan, which chose to concentrate its efforts on its own assessment and indicators program) was assessed in mathematics. A reading and writing test was administered in 1994 to a random sample of students aged 13 and 16 from all provinces and territories, again with the exception of Saskatchewan. The results and analysis of the assessments were made public, and tests in science were administered in 1996.

British Columbia assesses Reading, Writing and Numeracy skills at grade 4, 7, and 10 and conducts final examinations for all students in Mathematics, Sciences, and French and English Language Arts as well as second languages at grade 12.

The Alberta Department of Education has been administering assessments in its schools periodically since 1981. The Alberta Department recently stepped up its work of assessing students against provincial standards and objectives, and now administers achievement tests to students in grades 3, 6 and 9, as well as diploma examinations at the end of grade 12.

Quebec has developed education indicators for elementary and secondary levels, and publishes a yearly report of matriculation examination results for every school board and school. In 1994, Saskatchewan published its first report on its education indicators program, showing results of the initial tests in mathematics and language arts administered to grade 5, 8 and 11 students.

In 1995, the Ontario government established the Education Quality and Accountability Office, an independent agency at arm's length from the Ministry of Education. The EQAO is responsible for raising the level of accountability and emphasizing quality of education in Ontario, by conducting assessments and surveys based on objective, reliable, relevant data, as well as by informing the public in a timely manner of the information gathered and making recommendations to improve the system.

Beginning in October 2001, the EQAO will administer a language skills test to all grade 10 students, which will serve as a compulsory criterion for obtaining a secondary studies diploma.

Almost all provinces and territories now have programs to assess student performance on a large scale. The western and Atlantic provinces are collaborating respectively on preparing common assessments based on the new curricula.

11.0 EQUITY

It is important for the whole education system to be concerned about the extent to which it serves the entire student population. Inequalities in levels of education influence the ability of individuals to compete for jobs, participate in the debate on issues that affect them, and be fully functioning, effective members of society. Our education systems strive to support students who are faced with additional hardships by creating programs tailored to special needs, as well as English and French Second Language programs, then making it better known and understood that the cultural and linguistic features of education systems may have an influence on students.

11.1 Aboriginal educational levels

Aboriginal peoples have traditionally faced roadblocks in education systems that are predominantly non-Aboriginal. Language represents one hardship: the first language of many Aboriginals is not the language (English or French) in which they are expected to study. Other hardships relate to cultural differences or negative stereotypes. Since relatively few Aboriginals pursued postsecondary studies in the past, particularly at university level, students have fewer role models to follow to encourage them to continue their education. Moreover, numerous Aboriginal communities are geographically remote, so that attracting and keeping qualified teachers in their schools proves to be difficult.

Governments have attempted to remove some of the systemic obstacles. For example, students in the eastern part of the Northwest Territories (now called Nunavut) receive instruction in their native language in the early years, then switch to instruction in English starting in grade 4. Aboriginal students are entitled to financial assistance to cover the cost of their postsecondary studies. The provinces and territories have also launched programs with the specific purpose of assisting Aboriginal students.

Aboriginal students are more likely to drop out of school than are non-Aboriginal students. In 1996, 42 per cent of the Aboriginal population of working age did not hold a secondary school diploma, compared to 22 per cent of the non-Aboriginal population. The Aboriginal population aged 25 to 29 showed a higher rate of having a secondary school diploma than the Aboriginal population of working age as a whole (Appendix 18 — Figure 4.10 and Appendix 19 — Figure 4.11).

The Aboriginal population is also less likely to hold a postsecondary education diploma: 35 per cent of people in this group had a postsecondary education diploma, compared to 52 per cent of the non-Aboriginal population.

The percentage of the Aboriginal population of working age who held a vocational training diploma in the trades or college-level studies was between 23 per cent and 42 per cent. The percentage was higher for the Aboriginal population than for the non-Aboriginal population

in Newfoundland and Labrador, New Brunswick, and the Yukon. Percentages were similar for the two population groups in the rest of the provinces and territories.

In 1996, between 3 per cent and 10 per cent of the Aboriginal population of working age held a university degree; the lowest proportion was in the Northwest Territories, and the highest in Nova Scotia and New Brunswick. By contrast, between 13 per cent and 29 per cent of the non-Aboriginal population were university graduates.

The educational level of the Aboriginal population is clearly lower than the level of the non-Aboriginal population. Their level improved between 1986 and 1996, however.

The rate of university graduation among the Aboriginal population is considerably lower than the observed rate in the non-Aboriginal population in every province and territory.

British Columbia has been conducting careful analysis of Aboriginal student achievement in the K–12 system in order to identify successful measures and address the significant discrepancies in graduation rates. Early results show some promising improvement in some schools and districts.

In September 1998, the B.C. Ministry released *How Are We* reports to the school districts, as well as to First Nations communities, which chronicled the state of Aboriginal education in the province. The goal of these reports is to improve understanding of the performance of the school system in educating Aboriginal students; and to provide a context for district performance and improvement.

As the data is collected over time, and comprehensive evaluations of Aboriginal programs are completed, trends will be more accurately identified — like what are both the successful and ineffective practices in First Nations education. Since its release, there has been much discussion about the state of Aboriginal education, and all sectors of the education system in British Columbia have undertaken a commitment to improving education in this province for First Nations learners. The statistics seem to be improving, particularly since the targeting of Aboriginal education funds. Additional information is available at: www.bced.gov.bc.ca/abed.

11.2 Educational levels of language groups

Francophone and anglophone minorities in Canada appear for the most part to have reached an educational level equal to or higher than the level of the language majority in their respective provinces and territories. Francophone minorities and anglophone majorities show similar rates of obtaining postsecondary education diplomas (within 5 points of each other). With regard to university studies, the percentage of francophone graduates is much higher in Prince Edward Island, Saskatchewan, British Columbia, Yukon, and the Northwest Territories.

In Quebec, the anglophone group has the lowest rate of non-completion of secondary level studies and the highest percentage of university graduates among the three language groups.

Some individuals whose first language is neither English nor French (labelled “Other” in the tables and graphs) immigrated to Canada after completing their education elsewhere. High educational levels in this group in some provinces and territories may be partly explained by immigration policies aimed at attracting highly educated individuals.

The distribution of anglophones by educational level was similar to that of the whole population in Canada aged 25 to 29, according to the 1996 census. Francophones are more likely to hold a college studies diploma, which may be partly attributable to Cégeps in Quebec. The non-official languages group is more likely to hold a university degree than are anglophones or francophones, but is also more likely to not have completed secondary level studies.

12.0 HIGHER EDUCATION

Postsecondary education in Canada is provided at universities, university colleges, colleges, institutes, agencies and also at private institutions. In British Columbia, agencies such as the Open Learning Agency use a range of educational delivery methods to increase access to education across the province. In Saskatchewan, Institutes such as the Saskatchewan Institute of Applied Sciences and Technology offer programs in various applied and technical fields. The academic year in higher education usually begins in August or September and ends in May or June, although a number of institutions are open year-round and break up their calendar into trimesters.

Once students have successfully completed their secondary studies, they may proceed to either a college or a university. Older (adult) students will sometimes be admitted to colleges in Canada even if they haven't completed their secondary education. To be eligible for university admission in Quebec, students must first obtain a *diplôme d'études collégiales*, a Cégep diploma. Cégeps (*collèges d'enseignement général et professionnel*) are accessible with no tuition fees and provide instruction at intermediate level between secondary school (which ends at grade 11) and university. Cégeps offer two kinds of program: a general two-year program leading to university, and a three-year vocational and technical training program that prepares students for the job market. In Ontario, students must currently complete six Ontario pre-university courses successfully to be eligible for university. In all other provinces and territories in Canada, students complete their secondary studies with grade 12, at which point they can choose between college and university.

Most university-level institutions in Canada, particularly in the major cities, offer a wide range of programs, including arts and science, as well as education in professional fields such as law, engineering, and medicine. Other universities are more specialized and have developed areas of excellence (the Ontario College of Art and Design, for example, which is authorized to award only diplomas, not degrees, but is treated as a university for funding purposes). There are three levels of university studies: bachelor's, master's and doctorate, or Ph.D. Aside from programs leading to a degree, a number of universities offer programs recognized by a diploma or certificate at undergraduate or graduate level (CESC, 1996b). There are also specialized institutions such as the Open University, a division of the Open Learning Agency in British Columbia, Athabasca University in Alberta, and Télé-université in Quebec, which deliver

university programs in varied formats to students at a time and place that meets their educational needs.

Universities ordinarily offer undergraduate programs (bachelor's level) and graduate programs (master's and Ph.D.). Studies leading to a bachelor's degree take three or four years, depending on the program and province. In some provinces, universities award general bachelor's degrees after three years, after which one more year is required to obtain an honours degree. Master's degrees require a further one or two years of study after the honours degree. In some cases, students must write a thesis or do a professional practicum. Doctoral degrees are usually obtained after three years of additional studies after the master's. Most students take much longer than that to complete their doctoral studies, the average being four to five years. Obtaining a Ph.D. degree ordinarily requires researching, writing, presenting, and defending a thesis, and attending seminars in a given number of courses.

The language of instruction in degree-granting institutions (except in Quebec) is mainly English, although in a number of cases, courses are offered in French or in both languages. Some English-language universities authorize French-speaking students to write their assignments and take their exams in French. This situation occurs mainly in Quebec, but sometimes in New Brunswick, Nova Scotia, Ontario, Manitoba, Saskatchewan, and Alberta as well. There are four French-language and three English-language universities in Quebec. The largest of the French-language universities, the Université du Québec, has 11 constituent parts and approximately 80,000 full-time and part-time students across the province. The Université de Moncton, in New Brunswick, has three campuses and is the largest French-language university in North America outside Quebec. In Nova Scotia, the Université Sainte-Anne is a French-language institution; in Manitoba, the Collège universitaire de Saint-Boniface is as well, and in Ontario the University of Ottawa, Laurentian University, and Glendon College (York University) all offer large French-language programs. The Collège universitaire de Hearst is a French-language institution in Ontario.

Most of the 200 colleges in Canada were created during the 1960s and 1970s, in response to the practical needs of secondary-school graduates not going on to university. They offer a whole range of programs to allow students to develop applied abilities in the fields of business, arts, technology, social services, and certain health sciences, programs recognized by diplomas or certificates awarded after two or three years of study. Many colleges specialize by field of study. The Alberta College of Art, for example, specializes in visual arts and offers four-year programs in painting, reproduction engraving, sculpture, textiles, ceramics, and other visual arts media.

Canada has a certain number of French-language colleges or community campuses, including the École technique et professionnelle at the Collège universitaire de Saint-Boniface in Manitoba, four French-language colleges in Ontario, and the Collège de l'Acadie network in the Atlantic region.

Canada has numerous private religious and non-religious postsecondary colleges and some of these institutions are degree-granting. Universities are relatively autonomous institutions, administered by boards; created under provincial legislation, these institutions are invested with responsibility for all university-related matters and given considerable latitude as concerns financial management and programs offered. Most universities have a two-tiered (bicameral)

management structure that includes an executive (Board of Regents or Board of Governors) that looks after issues of funding and policies and a Senate that looks after program and admission requirements, degree-related requirements, and academic planning. The Senate's recommendations must ultimately receive approval from the Board of Regents. Government intervention is ordinarily limited to areas of funding, tuition fee structures, and the introduction of new programs. In some provinces, an intermediary agency acts in an advisory role on these matters; this is the case for the Ontario Council on University Affairs, the Postsecondary Advisory Council in Saskatchewan, the Maritime Provinces Higher Education Commission, and Quebec's *Conseil supérieur de l'Éducation*. In Newfoundland and Labrador, the Council on Higher Education acts as an advisory body to government on province-wide policy and planning issues facing the postsecondary sector. Certain intermediary organizations have decision-making power in core funding; this is the case for the Council on Post-Secondary Education (COPSE) in Manitoba, which combines responsibilities for universities and colleges, and the Nova Scotia Council on Higher Education (CMEC, 1995a). Manitoba is currently creating a Post-Secondary Education Council, which will bring together university- and college-related attributions and replace the University Grants Commission. In British Columbia, private postsecondary institutions are required to register with the Private Post-Secondary Education Commission (PPSEC) to ensure standards of educational competence and integrity. PPSEC was formed in 1992 in British Columbia under provincial legislation to develop and administer a mandatory registration system and voluntary accreditation program for private postsecondary institutions in the province. In British Columbia, legislation governing two new universities in the province (Royal Roads University and Technical University of British Columbia), provides for an Academic Council instead of a University Senate vested with legislative authority over academic matters. The Academic Councils exercise substantive authority over academic decisions as delegated by the president of each institution.

A *federated* institution — college or university — is responsible for its own administration and has degree-granting power. An *affiliated* institution enjoys administrative independence but has no degree-granting power (approximately 70 of the 90 university-level institutions in Canada grant degrees; some do so only in a small number of fields, such as theology). A *constituent* institution is subject to the authority of the parent university from the point of view of both administration and degree-granting power.

Colleges are, as a general rule, more closely regulated than are universities, because they represent important instruments of government policy. Most colleges have a Board of Governors appointed by the provincial government or a municipality. Sometimes, members of the Board of Governors are elected. It is frequently the case that the government is represented on the board. As a general rule, governments exercise their influence over admission policies, curriculum, institutional planning and working conditions. Members of the community, businesses, and unions also contribute by being represented on the board, or as members of one of the board's advisory committees.

The Ontario Council of Regents for Colleges of Applied Arts and Technology advises the Minister of Training, Colleges and Universities on issues that arise in the network of 25 colleges of applied arts and technology in Ontario. The *Conseil des collèges du Québec* fulfills a similar role in Quebec.

There are no national institutional accreditation bodies in Canada to assess universities or programs. At the provincial level, charters are granted to postsecondary education institutions under provincial legislation. Membership in the Association of Universities and Colleges of Canada or the Association of Canadian Community Colleges is generally a sign that an institution has met certain standards of acceptability. External peer examination of colleges and universities is done through the Association of Universities and Colleges of Canada. Provincial or regional bodies may also supervise quality control, as does, for example, the Ontario Council on University Affairs and the Maritime Provinces Higher Education Commission. In many cases, regulatory agencies or professional associations assess educational programs at undergraduate and graduate level. Lastly, all institutions perform some sort of self-assessment as part of an internal examination.

In Alberta, a system of funding postsecondary education based on performance, using factors such as graduates' satisfaction with their education, success in finding jobs, transferability between institutions, program costs, teaching workload, and quantity and quality of research, was introduced in 1997 (CMEC, 1995b).

In Ontario, a system of key performance indicators was instituted in the province's colleges to measure satisfaction levels of students and employers. In April 2001, the Ontario government established the Postsecondary Education Quality Assessment Board to assess proposals for new degree programs to be offered by colleges and new institutions wishing to grant degrees in Ontario, and to advise the Minister of Training, Colleges and Universities in this area.

Certain postsecondary education institutions, ordinarily colleges, offer training under contracts with the private sector, allowing for a direct link between curriculum and market needs. The Aurora College in the Northwest Territories, for example, considerably increased the number of contracts with employers. The Saskatchewan Institute of Applied Sciences and Technology offers alternating work-study programs in business and engineering technology that enable students to gain valuable work experience (CMEC, 1995a). Graduates from the programs appear to be about 10 per cent more likely to be hired before completing their studies or within a month of obtaining their diploma (Statistics Canada, 1995a). In Quebec, the Université de Sherbrooke, in collaboration with the business community, offers custom training programs.

The Pan-Canadian Protocol on Transferability of University Credits was aimed at having all degree-granting institutions in Canada approve, adopt, and implement by September 1, 1995, a pan-Canadian protocol that would allow students to transfer credits for any first- and second-year university courses (including the final year of study leading to a *diplôme d'études collégiales* (DÉC) in Quebec and for university-level courses offered by community colleges and university colleges in Alberta and British Columbia).

13.0 PRIVATE EDUCATION

Private elementary or secondary schools are an alternative to government-funded schools in Canada. All private schools operate outside the regular public school system and may be administered by a private individual, an association or a society (Statistics Canada, 1994c). Approximately half the private schools in Canada are religious. They are allowed to operate in any province or territory, provided they meet general standards prescribed by the authorities for

elementary and secondary schools. Although in most cases, private schools offer a curriculum that is in line with that of their department or ministry of education and meet its requirements with respect to granting diplomas, they are independent of the public system and may espouse the human values of the communities they represent. Some private schools, such as Montessori schools, are distinguished by special pedagogical approaches. Some favour students' special talents, such as arts or hockey schools. Others respond to the needs of exceptional students, working with gifted students or those with behavioural problems, for example. Private schools, as a general rule, are smaller than public schools (almost 75 per cent of them have enrolments of fewer than 200 students), but their student/teacher ratios are fairly similar.

Private school enrolment in Canada in 1995–1996 totalled 286,312 students, compared to 5,159,424 for public schools. It should be emphasized that private school registrations rose by 4.2 per cent between 1994–1995 and 1995–1996, according to estimates by the Canadian Teachers' Federation, while the number of public school registrations rose by only 1.8 per cent). During this period, Nova Scotia and Alberta recorded year to year gains in private school registrations. British Columbia figures show a levelling off or slight decline in private school registrations. There has been a gradual increase since 1971 in the number of private school registrations in Canada (with the exception of a break in 1985, attributable to the extension of full public funding to grades 11, 12, and 13 of Roman Catholic secondary schools in Ontario). Public school registrations fell dramatically between 1971 and 1985, and then went back up again somewhat (the effect of full funding for Catholic schools in Ontario, and also the arrival of the post-baby-boom generation, that is, children of baby boomers reaching school age). Private school registrations now represent 5.2 per cent of total enrolment, compared to 2.5 per cent in 1971.

It should be emphasized that certain opportunities recently offered by public schools contributed to slowing the growth of private schools by giving parents an alternative within the public system. In Alberta, for example, the public school board in the city of Edmonton recently approved full funding for a Christian fundamentalist school (Laghi, 1996). In 1991, Saskatchewan introduced an Independent Schools Act. The new legal regime establishes a balance between the educational interests of children enrolled in independent schools, their parents' interests, and the public interest. It takes into account the rights, freedoms, and legal principles that form part of our democratic society. In Saskatchewan, enrolment in independent schools has remained unchanged, fluctuating between 3,143 in 1991 and 3,004 in 1996.

Another typical private schooling option seems to be gaining in popularity: tutoring (Fleming, 1993), offered by private individuals or agencies specializing in individual or small group instruction. Ordinarily, public and private school students use this kind of service after regular school hours. In any case, it is fair to say that tutoring services are less affordable for students from modest socio-economic backgrounds.

In the last ten years, a growing number of parents have gone further along the road of private education by assuming personal responsibility for their children's education through home schooling. The number of students being home-schooled in Canada is estimated at from 20,000 to 25,000 (Hatton, 1993). In Alberta, home-schooling numbers have increased from 1,300 students in 1990 to 6,000 in 1995 (Laghi, 1996). In 1993, Saskatchewan introduced an act governing home-schooling. School divisions were given the responsibility of registering students

receiving home-schooling, for which they would receive provincial funding. The number of students registered as being home-schooled has increased noticeably, from 730 in 1993 to 1,113 in 1996. Provinces and territories allow home-schooling, but ensure that parents are accountable by a registration process and by guidelines and policies to enable students' progress to be followed. Parents ordinarily receive financial assistance from the province to help with the costs related to home-schooling. In one sense, then, home-schooling is a form of local, private education funded from the public purse.

From a more general viewpoint, privatization of education may take a very subtle form or happen bit by bit. The Canadian Teachers' Federation has presented a mixed public/private model articulated around two dimensions: producer and purchaser (CTF, 1995b). The model maintains that government or the private sector may play the role of producer or purchaser of educational services. Hence, school construction and school transportation are often undertaken by private contractors whose services are purchased by school boards; food service monopolies in schools represent both private production and private purchasing; tuition fees charged for public education at postsecondary level constitute partially private purchasing of services produced by the public sector; indeed, even elementary and secondary public schools derive a portion of their revenues (approximately 2.6 per cent in 1994–1995) from non-governmental sources. Accordingly, the production and purchase of educational services in Canada often includes both public and private components.

Canada has numerous private colleges at postsecondary level, mainly religious-based, some of which are degree-granting. Many private colleges in Quebec receive public assistance (Kitchen and Auld, 1995). The Alberta government permits extraprovincial colleges such as Union College of Nebraska to grant degrees; two extraprovincial institutions operate at undergraduate level and seven at graduate level. The British Columbia community college system enables students to complete two years of academic course work toward a bachelor's degree. Students who complete a prescribed set of first- and second-year university transfer courses are eligible to receive an associate degree from a college in British Columbia. Students who wish to pursue further studies can complete the third and fourth years of a degree program at a university college or university and receive a bachelor's degree.

Ontario has adopted legislative measures to allow the establishment of private universities and the delivery of university programs by the private sector. A Postsecondary Education Quality Assessment Board has been set up to advise the Minister in this area.

14.0 EDUCATION RESEARCH

A study by the Canadian Education Association in 1995 listed 213 "units" doing research on education in Canada. These units are of different kinds: universities, community colleges, federal government departments, provincial/territorial departments or ministries, school boards or commissions, national organizations, and provincial/territorial organizations, among others. Their fields of research are highly varied, but generally centred on curriculum, funding issues, policy, administration, women's studies and the status of women, language, psychology, history, sociology, and philosophy.

As an example, several research units listed in the CEA study are together at the University of British Columbia, where there are, in all, 250 university professors, 1,300 students and graduate students, and numerous support staff of the Faculty of Education, Department of Curriculum Studies, Department of Language and Literacy Education, Centre for the Study of Curriculum and Instruction, Psychoeducational Research and Training Centre, Centre for the Study of Teacher Education, and the Centre for Policy Studies in Higher Education and Training.

In the federal government, education research is being done at Health Canada, the Department of Justice, Heritage Canada, the Department of Culture and Tourism, Human Resources Development Canada, and Statistics Canada. In addition, Industry Canada provides a grant of \$90 million to the Social Sciences and Humanities Research Council (SSHRC), which in turn administers grants and scholarships mainly toward academic research, which in some cases focuses on education.

Some of the larger school boards or commissions in Canada are devoting a great deal of time and energy to education research and the completion of pilot studies.

Research in education is also part of the mandate of a number of national organizations. The AUCC in Ottawa employs seven researchers who examine changes in the world of education, university funding, student assistance, and management issues. Among other national organizations doing research are the CFT, the ACCC, the CEA, the Roeher Institute, and the ACELF.

Provincial and territorial organizations, such as associations of directors of education, teachers' federations and associations, and school board trustees' associations, are also a part of education research.

Lastly, certain organizations are engaged directly or indirectly in education research in Canada, among them the Fraser Institute, Canada West Foundation, Assembly of First Nations, Canadian Council on Social Development, Conference Board of Canada, Addiction Research Foundation of Ontario, C.D. Howe Institute, Public Policy Research Institute, Canadian Tax Foundation, International Development Research Centre, and the Walter and Duncan Gordon Foundation.

The results of education research in Canada are disseminated through various channels. The principal ones among these are the Canadian Education Association (CEA), ONTERIS (Ontario Education Resources Information System), and ÉDUQ (Éducation Québec).

The Canadian Education Statistics Council (CESC), a partnership between Statistics Canada and CMEC, initiated the Pan-Canadian Education Research Agenda (PCERA) in 1997 to bring interprovincial/territorial research issues that are important to ministers of education and training to the attention of the research community in Canada, and to promote open discussion of these issues with different partners in education. Through commissioning research and holding symposia, PCERA promotes and advances policy-relevant research, and encourages communication among stakeholders in education.

CESC has sponsored three rounds of research and three symposia, each of which welcomed over eighty participants from various educational stakeholder groups, including policy-makers,

researchers, practitioners, and representatives from educational organizations and funding agencies.

At the first PCERA Symposium in February 1999, seven priority themes were developed:

- the link between school and work
- learning outcomes
- teacher education
- diversity and equity
- special needs programming
- citizenship and social cohesion
- technology

The topic for research featured in the second PCERA Symposium, held in April 2000, was “Children and Youth at Risk.” In addition to serving as a forum for various stakeholders in education, the symposium sought to expand our understanding of the at-risk concept, share and disseminate current research findings, and promote new research in this area. Ten research papers were commissioned from experts on various aspects of children and youth at risk, including school-linked services, student loans, students with exceptional needs, and culturally diverse groups. A summary of the proceedings including a synthesis document, written by Robert Crocker of Memorial University, is documented in *Children and Youth at Risk: The Symposium Report* published in May 2001).

For the third symposium in May 2001, the CESC sponsored research on “Teacher Education/Educator Training.” This is a high priority issue for ministries/departments of education and training and is a research area of importance as it converges with a large number of educational issues and is a major rallying point for research, theory, and practice. More specifically, this topic is currently receiving policy attention — in Canada and internationally — with respect to teacher/educator supply and demand, and related issues such as retention of teachers/educators, re-skilling of teachers, and teacher certification requirements. The research presented on these issues provides relevant and urgently needed information to policy-makers in the area of education and labour-market analysis.

The Pan-Canadian Education Indicators Program (PCEIP) is an ongoing initiative of the Canadian Education Statistics Council (CESC), a partnership between Statistics Canada and CMEC, to provide a set of statistical measures on education systems in Canada. Policy-makers, practitioners, and the general public can use these indicators to develop an understanding of the performance of education systems in Canada and to inform decisions about priorities and directions.

The latest report, *Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program 1999*, provides data and analysis describing selected key areas of the education systems in all ten provinces, Yukon, and the Northwest Territories. This report is the first based on a framework and set of indicators developed in 1997–1998 through consultations with ministries and departments of education and training.

The earlier PCEIP report, *Education Indicators in Canada 1996*, was based on an initial indicator set and framework. The PCEIP indicator set is intended to reflect both the scope of education systems in Canada and the concepts of lifelong learning and accountability. The set contains 33 indicators organized in three broad themes: Context, Features and Characteristics of the Systems, and Outputs and Outcomes.

The 1999 report provides data for approximately half of the indicators in the PCEIP indicator set, those for which reliable and comparable data exist. The remaining indicators are under development, in preparation for future rounds of reporting.

15.0 INTERNATIONAL ACTIVITIES

There is commitment to continuing and expanding exchange opportunities between Canada and other countries. The British Columbia Asia Pacific Awards and International Grants Program, administered by the British Columbia Centre for International Education (BCCIE), supports study and travel for British Columbia's students and faculty to countries in the Pacific Rim in a variety of subject areas. Between 1990 and 2000, approximately 522 students and faculty studied in these countries. In 1990, in cooperation with the public postsecondary institutions in British Columbia, the Government of British Columbia supported the development of BCCIE — the first such organization in Canada. BCCIE is dedicated to fostering a comprehensive response to internationalization in British Columbia's public postsecondary system by enhancing educational, cultural, and economic links with the international community.

Alberta promotes intercultural understanding in various teacher-student exchange programs and twinning with schools in foreign countries. In July 2001, the Alberta Government approved an International Strategy to enhance the internationalization of the education system in that province.

The Saskatchewan Department of Education and the Ministry of Public Education in the Ukraine agreed in 1990 to exchange programs and organize exchanges of secondary school and university students and teachers.

In the past few years, the Ontario Student Exchange Foundation, aimed at secondary schools, and the Fondation ontarienne des échanges d'éducatrices et d'éducateurs stepped up their activities. Also in Ontario, Sheridan College began making professional placements in 1996 in Japan, with the help of the Asia Pacific Foundation of Canada; the program is addressed to science and technology graduates, who prepare for the program by taking courses in Japanese language and culture.

In Quebec, the Ministry of Education in 1999 launched the Programme pour l'internationalisation de l'éducation québécoise, one of whose aspects includes exchange programs for secondary and postsecondary students focused on language learning as well as practicums outside Quebec for second- and third-language teachers. Most of Quebec's colleges and universities have international cooperation offices that offer many services to students from other countries — especially francophone countries — as part of the large-scale cooperation within the Agence universitaire de la Francophonie and the Agence intergouvernementale de la Francophonie.

Nova Scotia's Council on Higher Education facilitates student exchanges with the New England states. New Brunswick has a joint venture initiative with China whereby Chinese students can enrol in courses from a New Brunswick university or community college. At the high school level, students can take a high school program integrating Chinese and New Brunswick curriculum and, if successful, complete the requirements for both Chinese and New Brunswick high-school graduation diplomas.

In Newfoundland and Labrador, the College of the North Atlantic in partnership with the Canadian Bureau of International Education (CBIE) recently obtained the largest educational contract ever awarded to establish a technical college in the State of Qatar.

Provinces and territories, often working through CMEC, participate in a variety of international projects and activities sponsored by APEC, the Commonwealth, La Francophonie, OAS, OECD, SEAMEO, and UNESCO.

The Canadian International Development Agency (CIDA) is the principal federal agency involved in funding a range of international development programs and projects (with education as one of its priorities) in Canada and abroad.

The Association of Universities and Colleges of Canada (AUCC) is very active in exchange and collaboration projects internationally. The Canadian Teachers' Federation (CTF) is an active participant in international development aid partnerships and activities. The Canadian Bureau for International Education (CBIE) devotes itself exclusively to international education and provides information and research services, training programs, scholarship management, and information for foreign students.

For eight years, the eight nations of the Circumpolar North have been working on the concept of developing a university dedicated to circumpolar issues. The intention is to create an international university whereby northern students from all over the world can earn a Bachelor of Circumpolar Studies by registering with one of the member universities or colleges. The federal Department of Foreign Affairs and International Trade has committed funding to support the ongoing development of the University of the Arctic.

16.0 FUTURE CHALLENGES

The end of the 20th century was a period of fast-moving, profound change in the world of education and training in Canada.

In the new century, these numerous changes will take on their full significance and will present many new challenges and new opportunities. In recent years, provincial and territorial education and training authorities have made some substantial changes in direction to turn education and training systems into effective, flexible, high-performance mechanisms to prepare the Canadian population to face the future.

The next few years will likely be devoted to consolidating these changes and seeking quality and balance in the nature and content of education and training programs, and how they are applied, administered, and funded.

Consolidating medium- and long-term changes

It will take several more years to complete the changes launched in recent decades and the year 2000. These changes, most of which are systemic, have not always been welcomed by key players and the general population. Education administrations may thus expect a degree of resistance, or at the very least delays in implementing the changes.

Some of the planned changes will have to be altered or watered down, depending on circumstances, developments in the economy, the public's perception, and cooperation from key players, among other factors.

For example, reductions in the number of school boards, commissions, and districts have created very large entities that bring together a number of communities spread out over a very large territory. Needs are many, and the expectations of students, parents, taxpayers, and society at large are generally high, placing enormous pressure on local administrations to provide efficient, profitable, and equitable delivery of high-quality education and training programs and services. At the same time, local administrations in many jurisdictions have been stripped of decision making power over programs and of the ability to raise taxes locally to enable them to meet local needs. Will local jurisdictions have the necessary room to manoeuvre in order to do the job?

While retaining the centralization of funding and curriculum development begun in recent years, provincial and territorial governments will continue to strengthen the role and authority of school boards, in the hope that this new structure will bring clients (students, parents, communities) and suppliers of educational services (school boards/commissions/districts and schools) closer together, with the aim of improving accountability and relevance in educational institutions.

The medium- and long-term impact of the changes imposed on funding to education and training and the adoption of new curricula cannot be measured on a very short-term basis. Will centralized, targeted funding make it possible to meet diverse needs while ensuring more responsible management of public money?

Will the desired standards and outcomes set out in new curricula help students to be more successful in local, provincial and territorial, pan-Canadian and international testing? Has curriculum content been well chosen and does it provide for acquisition of basic skills, employability skills, and citizenship skills, in addition to personal development?

These questions will continue to be of concern to communities and education and training officials, and will require management of a monitoring and data-gathering system by provincial and territorial governments.

The search for quality and balance

To respond to the expectations created by rising educational levels in the population, globalization of the world's economies, cultural pluralism, and the intrusion of technology and media, provincial/territorial education/training ministries and departments have to develop and maintain administrative, teaching, and testing systems that provide the best preparation for Canadian youth to face contemporary and future challenges.

To meet the demands of Canadian society and taxpayers' expectations in their respective jurisdictions amid the whims of a fluctuating economy, provincial and territorial governments will seek to achieve this high quality by balancing their actions in response to the needs of their citizens and in face of diverse, often conflicting, factors.

For example, the provinces and territories are being called upon, and will continue to be called upon to balance:

- the needs of local communities on the one hand and Canadian or provincial/territorial society's expectations or student mobility on the other.
- the need to support educational institutions already established in communities on the one hand and population and student mobility on the other.
- the need to impose common standards and mechanisms of accountability on the one hand and recognition of the diversity of needs and communities on the other.
- the need to impose common standards and mechanisms of accountability on the one hand and recognition of professional responsibility and academic freedom on the other.
- the need to impose common standards and mechanisms of accountability on the one hand and, on the other, the need to recognize and take into account the particular needs of certain segments of the community such as exceptional children and adolescents, Aboriginal populations, immigrant populations, and children living in poverty.
- the need to strengthen basic skills and employability skills in the curriculum on the one hand and the need to promote personal development and training for citizenship in the world on the other.
- the need to promote maximum, effective use of information and communication technologies on the one hand and the need to recognize and value cultural diversity on the other.
- the need to provide excellent labour force training in every province and territory on the one hand and the need to encourage businesses, often national or multinational, to assume a greater share of responsibility for this training on the other.
- the need to ensure optimum early childhood development and youth education on the one hand and the need to facilitate adult participation in education on the other.
- the need to control public spending on the one hand and the need to invest strategically in education and training of the Canadian population to guarantee productivity and competitiveness on the other.

Moreover, education authorities in Canada must face the special challenge of investment in the infrastructure required by a growing, mobile population that will continue to educate and train itself on a lifelong basis. This situation will also oblige administrations to work creatively and strategically to ensure the recruitment and development of a qualified teaching staff, motivated to

continue to build on the transformations undertaken up to now and to fully achieve the desired results.

Lastly, it is in the inclusive, pragmatic, cooperative, and effective implementation of the changes now under way and in the synergy resulting from the simultaneous common search for accountability, quality, and balance that education and training authorities in Canada may look forward to a future filled with challenges, to be sure, but also a future bearing possibilities and opportunities for all those who wish to take a leadership role in that future.

It is through the exercise of political, educational, administrative, and shared community leadership that education and training authorities in Canada will continue to consolidate the changes undertaken to build a society where all members who so wish will be educated and cultivated and who, while attaining their own goals for personal and professional development, will participate in the full socio-economic flourishing of the provinces, the territories, and Canada as a whole.

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New Brunswick

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<http://www.gov.nb.ca/dol-mdt>

Quebec

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<http://www.meq.gouv.qc.ca/>

Ontario

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Minsitry of Training, Colleges, and Universities
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Manitoba

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Saskatchewan

Department of Education
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<http://www.sasked.gov.sk.ca/>

Alberta

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British Columbia

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Yukon

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<http://www.gov.yk.ca/depts/education/>

Canadian Teachers' Federation

<http://www.ctf-feo.ca>

Council of Ministers of Education, Canada (CMEC)

<http://www.cmec.ca>

Education@Canada

<http://www.educationcanada.cmec.ca/>

APPENDIX 1

LEVELS WITHIN ELEMENTARY-SECONDARY SCHOOLS, BY JURISDICTION

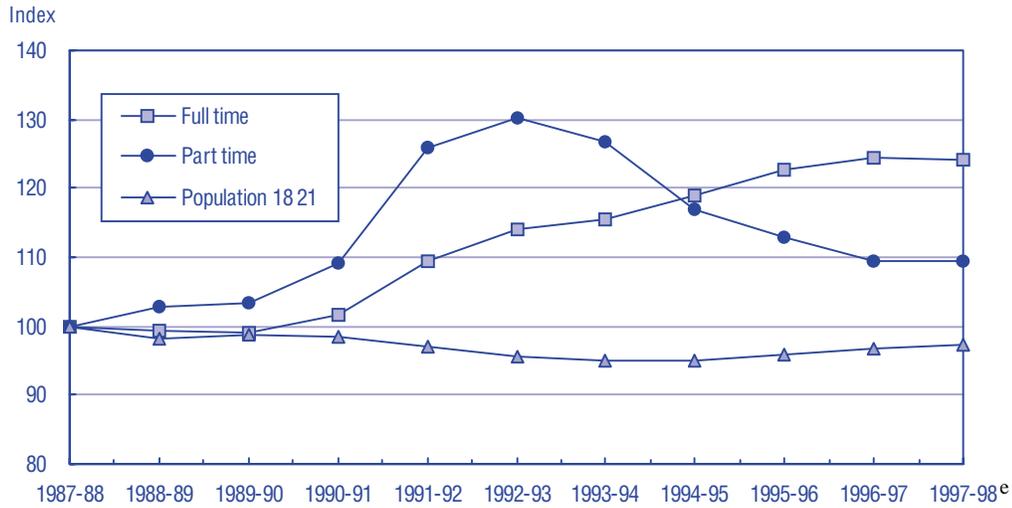
Newfoundland and Labrador	P	1	2	3	4	5	6	7	8	9	10	11	12		
Prince Edward Island		1	2	3	4	5	6	7	8	9	10	11	12		
Nova Scotia	P	1	2	3	4	5	6	7	8	9	10	11	12		
New Brunswick – English	P	1	2	3	4	5	6	7	8	9	10	11	12		
New Brunswick – French	P	1	2	3	4	5	6	7	8	9	10	11	12		
Quebec – General	P	P	1	2	3	4	5	6	7	8	9	10	11		
Quebec – Vocational											10	11	12	13	
Ontario	P	P	1	2	3	4	5	6	7	8	9	10	11	12*	
Manitoba	P	1	2	3	4	5	6	7	8	9	10	11	12		
Saskatchewan	P	P	P	1	2	3	4	5	6	7	8	9	10	11	12
Alberta	P	1	2	3	4	5	6	7	8	9	10	11	12		
British Columbia	P	1	2	3	4	5	6	7	8	9	10	11	12		
Yukon	P	1	2	3	4	5	6	7	8	9	10	11	12		
Northwest Territories	P	1	2	3	4	5	6	7	8	9	10	11	12		
Nunavut	P	1	2	3	4	5	6	7	8	9	10	11	12		

P	Pre-grade 1
	Elementary/Primary
	Junior high/Middle
	Senior high
	Secondary

* includes Ontario Academic Course (OAC).

APPENDIX 2

FIGURE 3.11 COLLEGE ENROLMENT¹ INDEX² BY REGISTRATION STATUS, AND INDEX OF THE POPULATION AGED 18-21, CANADA, 1987-88 TO 1997-98^e



e Preliminary data for full-time and previous year's data for part-time.

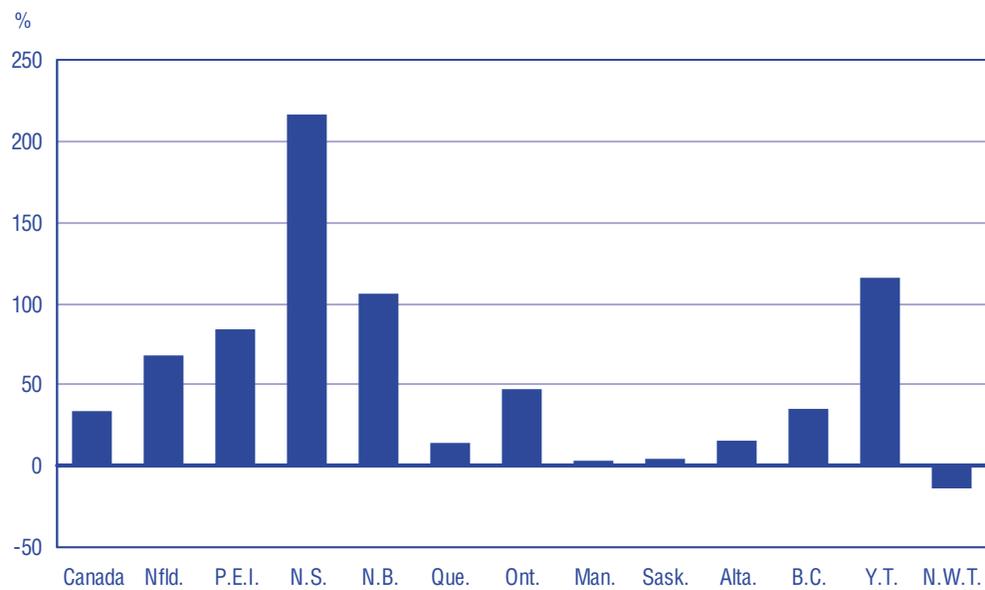
1 Includes career-technical, university transfer and university college.

2 Indices equal 100 in 1987-88.

Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 3

FIGURE 3.12 PERCENTAGE CHANGE IN FULL-TIME COLLEGE CAREER TECHNICAL ENROLMENT, CANADA AND JURISDICTIONS, 1987-88 TO 1997-98^e

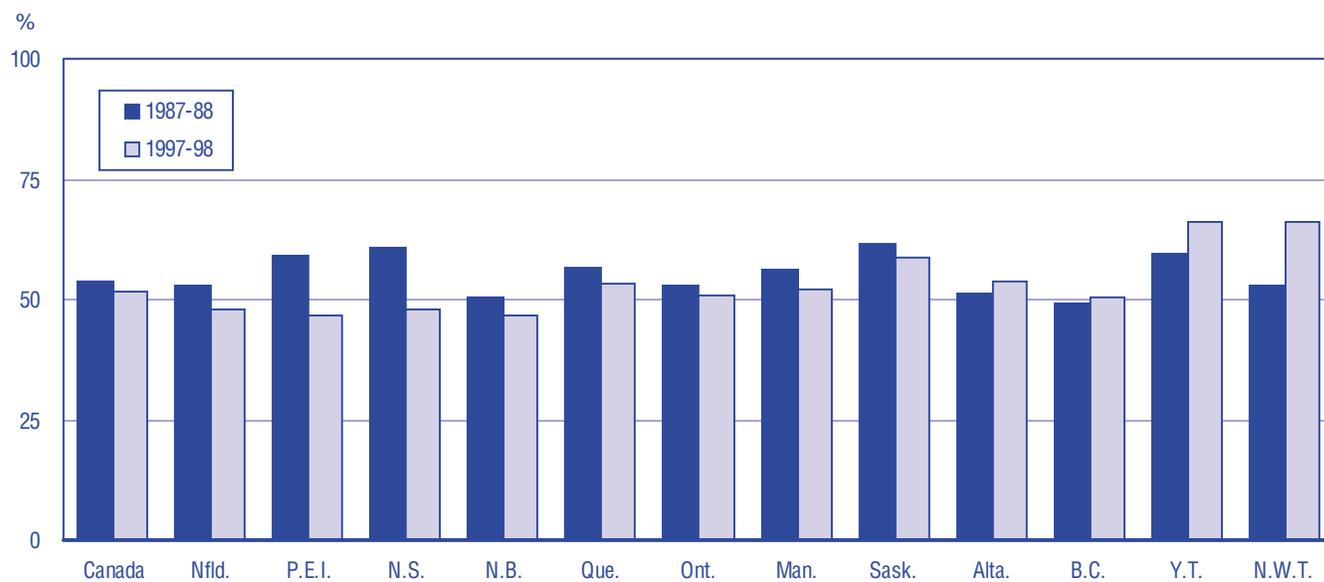


^e Preliminary data

Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 4

FIGURE 3.14 PERCENTAGE OF WOMEN AMONG FULL-TIME COLLEGE CAREER TECHNICAL ENROLMENTS, CANADA AND JURISDICTIONS, 1987-88 AND 1997-98^e



e Preliminary data.

Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 5

TABLE 3.17 COLLEGE ENROLMENT BY REGISTRATION STATUS¹ AND GENDER, CANADA AND JURISDICTIONS, 1987-88 AND 1997-98²

	Both sexes		Males		Females	
	1987-88	1997-98	1987-88	1997-98	1987-88	1997-98
Total full-time						
Canada	319,548	396,667	149,404	185,671	170,144	210,996
Newfoundland and Labrador	3,003	5,030	1,409	2,621	1,594	2,409
Prince Edward Island	907	1,663	371	885	536	778
Nova Scotia	2,435	7,696	957	3,995	1,478	3,701
New Brunswick	2,383	4,889	1,181	2,606	1,202	2,283
Quebec	159,940	162,270	73,170	72,493	86,770	89,777
Ontario	95,029	139,792	44,949	68,638	50,080	71,154
Manitoba	3,839	3,923	1,696	1,892	2,143	2,031
Saskatchewan	3,030	3,131	1,164	1,294	1,866	1,837
Alberta	24,000	32,501	11,806	14,494	12,194	18,007
British Columbia	24,634	35,319	12,553	16,596	12,081	18,723
Yukon	126	249	44	86	82	163
Northwest Territories	222	204	104	71	118	133
Full-time career technical						
Canada	218,160	290,931	100,690	140,628	117,470	150,303
Newfoundland and Labrador	3,003	5,030	1,409	2,621	1,594	2,409
Prince Edward Island	907	1,663	371	885	536	778
Nova Scotia	2,435	7,696	957	3,995	1,478	3,701
New Brunswick	2,383	4,889	1,181	2,606	1,202	2,283
Quebec	72,598	82,092	31,641	38,337	40,957	43,755
Ontario	95,029	139,792	44,949	68,638	50,080	71,154
Manitoba	3,748	3,857	1,645	1,848	2,103	2,009
Saskatchewan	3,030	3,131	1,164	1,294	1,866	1,837
Alberta	21,400	24,573	10,474	11,402	10,926	13,171
British Columbia	13,356	17,905	6,775	8,899	6,581	9,006
Yukon	52	112	21	38	31	74
Northwest Territories	219	191	103	65	116	126
Full-time university transfer and university college						
Canada	101,388	105,736	48,714	45,043	52,674	60,693
Newfoundland and Labrador	...	...	...	...	...	...
Prince Edward Island	...	...	...	...	...	...
Nova Scotia	...	...	...	...	...	...
New Brunswick	...	...	...	...	...	...
Quebec	87,342	80,178	41,529	34,156	45,813	46,022
Ontario	...	...	...	...	...	...
Manitoba	91	66	51	44	40	22
Saskatchewan	...	...	...	...	...	...
Alberta	2,600	7,928	1,332	3,092	1,268	4,836
British Columbia	11,278	17,414	5,778	7,697	5,500	9,717
Yukon	74	137	23	48	51	89
Northwest Territories	3	13	1	6	2	7
Total part-time						
Canada	141,402	154,496	54,302	62,123	87,100	92,373
Newfoundland and Labrador	179	107	118	69	61	38
Prince Edward Island	..	144	..	83	..	61
Nova Scotia	537	287	90	38	447	249
New Brunswick	26	170	14	81	12	89
Quebec	20,476	11,009	8,121	5,178	12,355	5,831
Ontario	76,498	78,619	29,587	32,580	46,911	46,039
Manitoba	2,126	2,145	752	937	1,374	1,208
Saskatchewan	524	159	51	42	473	117
Alberta	8,056	15,402	2,680	5,605	5,376	9,797
British Columbia	32,503	45,562	12,765	17,279	19,738	28,283
Yukon	338	382	86	116	252	266
Northwest Territories	139	510	38	115	101	395

APPENDIX 5 (continued)

TABLE 3.17 COLLEGE ENROLMENT BY REGISTRATION STATUS¹ AND GENDER, CANADA AND JURISDICTIONS, 1987-88 AND 1997-98^e (continued)

	Both sexes		Males		Females	
	1987-88	1997-98	1987-88	1997-98	1987-88	1997-98
Part-time career technical						
Canada	116,958	121,738	45,257	49,391	71,701	72,347
Newfoundland and Labrador	179	107	118	69	61	38
Prince Edward Island	..	144	..	83	..	61
Nova Scotia	537	287	90	38	447	249
New Brunswick	26	170	14	81	12	89
Quebec	10,769	5,355	4,296	2,501	6,473	2,854
Ontario	76,498	78,619	29,587	32,580	46,911	46,039
Manitoba	2,125	2,138	752	932	1,373	1,206
Saskatchewan	524	159	51	42	473	117
Alberta	7,350	14,145	2,381	5,154	4,969	8,991
British Columbia	18,532	19,924	7,856	7,749	10,676	12,175
Yukon	279	227	74	62	205	165
Northwest Territories	139	463	38	100	101	363
Part-time university transfer and university college						
Canada	24,444	32,758	9,045	12,732	15,399	20,026
Newfoundland and Labrador	...	...	...	...	...	...
Prince Edward Island	...	...	...	...	...	...
Nova Scotia	...	...	...	...	...	...
New Brunswick	...	...	...	...	...	...
Quebec	9,707	5,654	3,825	2,677	5,882	2,977
Ontario	...	...	...	...	...	...
Manitoba	1	7	..	5	1	2
Saskatchewan	...	...	...	...	...	...
Alberta	706	1,257	299	451	407	806
British Columbia	13,971	25,638	4,909	9,530	9,062	16,108
Yukon	59	155	12	54	47	101
Northwest Territories	..	47	..	15	..	32

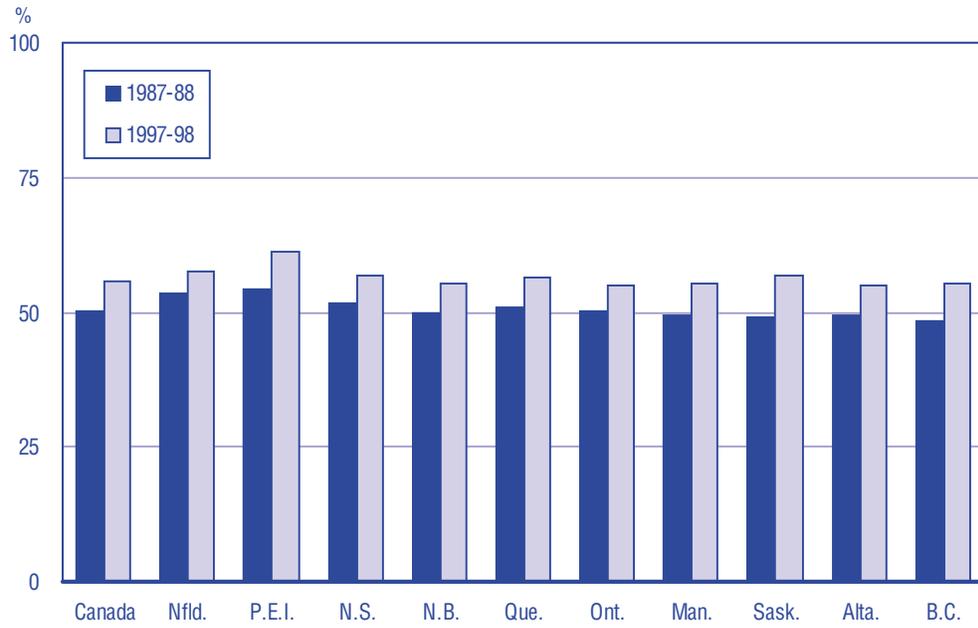
1 See Appendix 2 for 1996-97 full-time enrolment by institution.

e Data for 1997-98 are preliminary for full-time and previous year's data for part-time.

Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 6

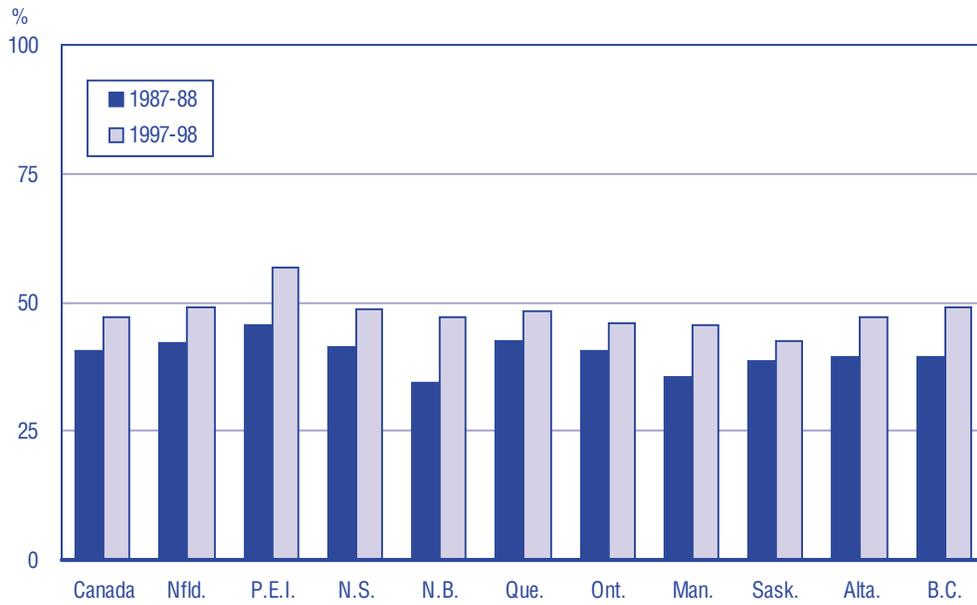
FIGURE 3.19 PERCENTAGE OF WOMEN AMONG FULL-TIME UNDERGRADUATE ENROLMENTS, CANADA AND PROVINCES, 1987-88 AND 1997-98



Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 7

FIGURE 3.20 PERCENTAGE OF WOMEN AMONG FULL-TIME GRADUATE ENROLMENTS, CANADA AND PROVINCES, 1987-88 AND 1997-98



Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 8

TABLE 3.22 EXPENDITURES ON EDUCATION AND INDEX OF EXPENDITURES BY LEVEL OF EDUCATION (CONSTANT \$ 1998 IN MILLIONS), POPULATION (IN THOUSANDS), AND PER CAPITA EXPENDITURES ON EDUCATION (IN CONSTANT \$ 1998), AND INDICES, CANADA AND JURISDICTIONS, 1988-89 TO 1998-99

Jurisdiction and fiscal year	Postsecondary												Population (000s)		Expenditure per capita (\$)	
	Total		Elementary-secondary		Trade-vocational		Community college		University		Sub-total					
	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	Count	Index	\$	Index
Canada																
1988-89	53,735	100	34,156	100	4,417	100	4,134	100	11,028	100	19,580	100	26,798	100	2,005	100
1989-90	54,339	101	34,488	101	4,330	98	4,065	98	11,455	104	19,850	101	27,286	102	1,991	99
1990-91	56,662	105	35,714	105	4,679	106	4,152	100	12,118	110	20,948	107	27,701	103	2,046	102
1991-92	58,594	109	36,874	108	5,043	114	4,268	103	12,409	113	21,719	111	28,031	105	2,090	104
1992-93	60,599	113	37,765	111	5,844	132	4,426	107	12,565	114	22,834	117	28,377	106	2,136	107
1993-94	60,867	113	37,959	111	6,007	136	4,380	106	12,521	114	22,908	117	28,703	107	2,121	106
1994-95	62,349	116	38,261	112	6,983	158	4,479	108	12,625	114	24,088	123	29,036	108	2,147	107
1995-96	61,433	114	37,963	111	6,446	146	4,723	114	12,300	112	23,470	120	29,354	110	2,093	104
1996-97 ^e	59,737	111	37,672	110	5,469	124	4,659	113	11,937	108	22,065	113	29,672	111	2,013	100
1997-98 ^e	59,922	112	37,770	111	5,799	131	4,653	113	11,700	106	22,152	113	30,011	112	1,997	100
1998-99 ^e	60,492	113	37,736	110	6,298	143	4,669	113	11,789	107	22,756	116	30,301	113	1,996	100
Nfld.																
1988-89	1,150	100	697	100	183	100	44	100	226	100	453	100	575	100	2,000	100
1989-90	1,185	103	713	102	186	102	48	110	238	105	473	104	576	100	2,056	103
1990-91	1,208	105	701	101	207	113	51	116	248	110	506	112	578	101	2,089	104
1991-92	1,186	103	683	98	213	116	41	93	249	110	503	111	580	101	2,047	102
1992-93	1,260	110	704	101	264	144	36	82	257	113	557	123	580	101	2,173	109
1993-94	1,277	111	695	100	305	167	32	74	245	108	582	129	580	101	2,202	110
1994-95	1,448	126	650	93	522	285	33	76	243	107	798	176	575	100	2,519	126
1995-96	1,413	123	607	87	515	281	42	97	249	110	806	178	568	99	2,488	124
1996-97 ^e	1,296	113	606	87	421	230	38	88	231	102	690	152	561	97	2,313	116
1997-98 ^e	1,034	90	571	82	210	115	37	85	216	96	464	102	554	96	1,866	93
1998-99 ^e	1,021	89	556	80	212	116	39	90	214	94	465	103	544	95	1,878	94
P.E.I.																
1988-89	209	100	125	100	26	100	13	100	44	100	84	100	129	100	1,615	100
1989-90	221	106	127	101	27	104	13	97	54	122	94	112	130	101	1,697	105
1990-91	223	107	130	104	32	121	13	99	48	109	93	111	131	101	1,705	106
1991-92	224	107	132	105	32	121	13	100	47	107	92	110	130	101	1,721	107
1992-93	233	112	136	109	37	141	10	78	49	112	97	116	131	101	1,782	110
1993-94	232	111	139	111	36	135	11	82	46	104	92	110	132	102	1,751	108
1994-95	230	110	135	108	40	151	9	70	47	106	96	114	134	103	1,724	107
1995-96	235	112	124	99	55	207	13	99	43	98	111	132	135	104	1,742	108
1996-97 ^e	220	105	119	95	39	147	15	108	47	108	101	120	136	105	1,616	100
1997-98 ^e	230	110	127	102	45	171	13	99	44	101	103	122	137	106	1,677	104
1998-99 ^e	235	113	133	106	45	171	13	99	44	100	102	122	137	106	1,722	107
N.S.																
1988-89	1,694	100	1,015	100	167	100	43	100	469	100	679	100	897	100	1,887	100
1989-90	1,687	100	1,007	99	159	95	45	106	475	101	680	100	904	101	1,866	99
1990-91	1,710	101	1,007	99	178	106	46	109	479	102	703	104	910	101	1,880	100
1991-92	1,674	99	970	96	175	105	42	99	487	104	704	104	915	102	1,829	97
1992-93	1,699	100	966	95	202	121	47	109	485	103	733	108	919	102	1,848	98
1993-94	1,780	105	1,026	101	211	126	46	107	498	106	754	111	924	103	1,927	102
1994-95	1,751	103	1,006	99	228	136	56	131	462	98	746	110	926	103	1,891	100
1995-96	1,701	100	961	95	228	137	50	118	461	98	740	109	928	103	1,834	97
1996-97 ^e	1,685	99	954	94	208	124	49	114	474	101	730	108	931	104	1,809	96
1997-98 ^e	1,572	93	914	90	166	99	44	104	448	95	658	97	935	104	1,681	89
1998-99 ^e	1,623	96	951	94	172	103	44	104	457	97	673	99	934	104	1,738	92
N.B.																
1988-89	1,442	100	859	100	250	100	42	100	290	100	583	100	730	100	1,975	100
1989-90	1,332	92	831	97	174	70	41	96	286	99	502	86	735	101	1,812	92
1990-91	1,389	96	840	98	167	67	90	213	292	100	550	94	740	101	1,877	95
1991-92	1,379	96	845	98	154	62	83	194	297	102	534	92	746	102	1,850	94
1992-93	1,469	102	878	102	197	79	80	187	315	108	591	101	748	102	1,963	99
1993-94	1,455	101	871	101	211	84	64	150	309	106	583	100	750	103	1,941	98
1994-95	1,475	102	868	101	219	88	61	145	326	112	606	104	751	103	1,964	99
1995-96	1,417	98	852	99	190	76	61	143	315	108	565	97	752	103	1,885	95
1996-97 ^e	1,414	98	858	100	170	68	61	144	324	112	556	95	753	103	1,878	95
1997-98 ^e	1,411	98	837	97	196	78	64	151	313	108	573	98	754	103	1,871	95
1998-99 ^e	1,401	97	846	98	188	75	61	143	306	106	555	95	753	103	1,861	94

APPENDIX 8 (continued)

TABLE 3.22 EXPENDITURES ON EDUCATION AND INDEX OF EXPENDITURES BY LEVEL OF EDUCATION (CONSTANT \$ 1998 IN MILLIONS), POPULATION (IN THOUSANDS), AND PER CAPITA EXPENDITURES ON EDUCATION (IN CONSTANT \$ 1998), AND INDICES, CANADA AND JURISDICTIONS, 1988-89 TO 1998-99 (continued)

Jurisdiction and fiscal year	Postsecondary												Population (000s)		Expenditure per capita (\$)	
	Total		Elementary-secondary		Trade-vocational		Community college		University		Sub-total					
	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	Count	Index	\$	Index
Que.																
1988-89	13,780	100	8,690	100	623	100	1,714	100	2,752	100	5,090	100	6,840	100	2,015	100
1989-90	13,271	96	8,185	94	607	97	1,623	95	2,857	104	5,086	100	6,930	101	1,915	95
1990-91	13,918	101	8,391	97	716	115	1,737	101	3,074	112	5,527	109	7,004	102	1,987	99
1991-92	14,132	103	8,454	97	765	123	1,732	101	3,182	116	5,679	112	7,065	103	2,000	99
1992-93	14,818	108	8,752	101	976	157	1,757	103	3,332	121	6,066	119	7,113	104	2,083	103
1993-94	14,743	107	8,562	99	973	156	1,862	109	3,345	122	6,181	121	7,165	105	2,058	102
1994-95	15,478	112	8,894	102	1,076	173	2,037	119	3,471	126	6,584	129	7,207	105	2,147	107
1995-96	15,081	109	8,760	101	952	153	2,003	117	3,366	122	6,321	124	7,241	106	2,083	103
1996-97 ^e	14,336	104	8,534	98	747	120	1,932	113	3,124	113	5,802	114	7,274	106	1,971	98
1997-98 ^e	14,256	103	8,479	98	1,048	168	1,809	106	2,919	106	5,777	113	7,308	107	1,951	97
1998-99 ^e	14,664	106	8,510	98	1,499	241	1,784	104	2,871	104	6,155	121	7,335	107	1,999	99
Ont.																
1988-89	19,800	100	13,492	100	1,062	100	1,271	100	3,976	100	6,308	100	9,844	100	2,011	100
1989-90	20,413	103	14,052	104	997	94	1,242	98	4,122	104	6,361	101	10,110	103	2,019	100
1990-91	21,264	107	14,543	108	1,125	106	1,203	95	4,393	111	6,721	107	10,300	105	2,065	103
1991-92	22,629	114	15,538	115	1,296	122	1,290	102	4,504	113	7,091	112	10,428	106	2,170	108
1992-93	23,114	117	15,687	116	1,522	143	1,420	112	4,485	113	7,427	118	10,570	107	2,187	109
1993-94	23,332	118	15,928	118	1,773	167	1,237	97	4,394	111	7,404	117	10,690	109	2,183	109
1994-95	23,615	119	15,822	117	2,156	203	1,205	95	4,432	111	7,793	124	10,828	110	2,181	108
1995-96	23,190	117	15,624	116	1,923	181	1,367	108	4,276	108	7,566	120	10,965	111	2,115	105
1996-97 ^e	22,466	113	15,479	115	1,420	134	1,368	108	4,199	106	6,987	111	11,101	113	2,024	101
1997-98 ^e	22,885	116	15,521	115	1,648	155	1,462	115	4,254	107	7,363	117	11,264	114	2,032	101
1998-99 ^e	22,680	115	15,183	113	1,672	157	1,487	117	4,337	109	7,496	119	11,414	116	1,987	99
Man.																
1988-89	2,218	100	1,513	100	175	100	70	100	461	100	705	100	1,102	100	2,013	100
1989-90	2,299	104	1,569	104	186	106	70	100	474	103	730	103	1,104	100	2,083	103
1990-91	2,361	106	1,604	106	189	109	72	104	495	107	757	107	1,106	100	2,135	106
1991-92	2,348	106	1,592	105	188	108	62	89	506	110	756	107	1,110	101	2,116	105
1992-93	2,377	107	1,592	105	214	122	62	88	509	110	785	111	1,113	101	2,135	106
1993-94	2,331	105	1,584	105	201	115	56	81	490	106	747	106	1,118	101	2,084	104
1994-95	2,349	106	1,593	105	214	123	47	68	495	107	756	107	1,124	102	2,091	104
1995-96	2,378	107	1,640	108	182	104	70	101	486	105	738	105	1,130	103	2,105	105
1996-97 ^e	2,367	107	1,629	108	177	102	79	113	481	104	738	105	1,134	103	2,087	104
1997-98 ^e	2,348	106	1,614	107	186	107	79	114	469	102	734	104	1,137	103	2,065	103
1998-99 ^e	2,383	107	1,631	108	190	109	80	115	482	104	752	107	1,139	103	2,093	104
Sask.																
1988-89	2,027	100	1,312	100	216	100	52	100	447	100	715	100	1,028	100	1,972	100
1989-90	2,070	102	1,292	98	218	101	58	113	501	112	777	109	1,019	99	2,031	103
1990-91	2,088	103	1,293	99	220	102	59	114	516	115	795	111	1,007	98	2,073	105
1991-92	2,051	101	1,274	97	223	103	45	87	508	114	776	109	1,003	98	2,045	104
1992-93	2,045	101	1,291	98	234	109	49	95	471	105	754	106	1,004	98	2,037	103
1993-94	1,985	98	1,250	95	228	106	46	89	461	103	735	103	1,007	98	1,971	100
1994-95	2,016	99	1,255	96	244	113	44	86	472	106	761	106	1,010	98	1,997	101
1995-96	2,139	106	1,326	101	239	111	57	110	518	116	813	114	1,014	99	2,110	107
1996-97 ^e	2,125	105	1,320	101	246	114	57	110	503	112	805	113	1,019	99	2,085	106
1997-98 ^e	2,169	107	1,337	102	276	128	56	108	500	112	832	116	1,022	99	2,122	108
1998-99 ^e	2,217	109	1,339	102	303	141	55	107	519	116	878	123	1,024	100	2,164	110
Alta.																
1988-89	5,365	100	3,154	100	586	100	482	100	1,142	100	2,211	100	2,455	100	2,186	100
1989-90	5,437	101	3,187	101	606	103	480	100	1,164	102	2,250	102	2,496	102	2,178	100
1990-91	5,428	101	3,268	104	628	107	378	78	1,154	101	2,161	98	2,548	104	2,131	97
1991-92	5,397	101	3,328	106	624	106	327	68	1,117	98	2,069	94	2,593	106	2,082	95
1992-93	5,688	106	3,482	110	720	123	359	74	1,126	99	2,205	100	2,634	107	2,159	99
1993-94	5,745	107	3,549	113	683	116	372	77	1,141	100	2,196	99	2,671	109	2,151	98
1994-95	5,571	104	3,444	109	719	123	325	67	1,083	95	2,128	96	2,705	110	2,060	94
1995-96	5,459	102	3,369	107	690	118	339	70	1,061	93	2,090	95	2,740	112	1,992	91
1996-97 ^e	5,360	100	3,396	108	638	109	331	69	996	87	1,965	89	2,781	113	1,928	88
1997-98 ^e	5,554	104	3,512	111	633	108	375	78	1,034	91	2,042	92	2,839	116	1,957	90
1998-99 ^e	5,686	106	3,629	115	632	108	384	80	1,040	91	2,057	93	2,915	119	1,951	89

APPENDIX 8 (continued)

TABLE 3.22 EXPENDITURES ON EDUCATION AND INDEX OF EXPENDITURES BY LEVEL OF EDUCATION (CONSTANT \$ 1998 IN MILLIONS), POPULATION (IN THOUSANDS), AND PER CAPITA EXPENDITURES ON EDUCATION (IN CONSTANT \$ 1998), AND INDICES, CANADA AND JURISDICTIONS, 1988-89 TO 1998-99 (continued)

Jurisdiction and fiscal year	Postsecondary												Population (000s)		Expenditure per capita (\$)	
	Total		Elementary-secondary		Trade-vocational		Community college		University		Sub-total					
	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	\$	Index	Count	Index	\$	Index
B.C.																
1988-89	5,348	100	3,338	100	584	100	356	100	1,070	100	2,010	100	3,116	100	1,717	100
1989-90	5,634	105	3,540	106	594	102	401	113	1,098	103	2,093	104	3,199	103	1,761	103
1990-91	6,285	118	3,912	117	662	113	458	129	1,254	117	2,374	118	3,291	106	1,910	111
1991-92	6,727	126	4,075	122	741	127	570	160	1,342	125	2,652	132	3,373	108	1,994	116
1992-93	6,977	130	4,217	126	850	146	540	152	1,369	128	2,760	137	3,470	111	2,010	117
1993-94	7,049	132	4,246	127	789	135	577	162	1,437	134	2,802	139	3,572	115	1,974	115
1994-95	7,377	138	4,449	133	913	156	592	166	1,423	133	2,928	146	3,682	118	2,004	117
1995-96	7,582	142	4,633	139	892	153	667	187	1,390	130	2,949	147	3,784	121	2,004	117
1996-97 ^e	7,675	144	4,729	142	836	143	683	192	1,427	133	2,947	147	3,882	125	1,977	115
1997-98 ^e	7,688	144	4,752	142	883	151	667	187	1,386	130	2,935	146	3,962	127	1,941	113
1998-99 ^e	7,798	146	4,848	145	884	151	670	188	1,396	130	2,949	147	4,009	129	1,945	113
Y.T.																
1988-89	81	100	56	100	15	100	7	100	3	100	25	100	27	100	3,038	100
1989-90	81	101	58	103	17	109	5	73	2	75	24	95	27	102	3,000	99
1990-91	94	117	67	120	20	131	5	80	2	67	27	110	28	104	3,401	112
1991-92	100	123	74	132	16	108	6	89	3	116	26	104	29	109	3,446	113
1992-93	125	155	95	170	17	109	6	93	7	245	30	120	30	114	4,144	136
1993-94	117	145	87	155	17	113	6	91	7	252	31	123	31	115	3,829	126
1994-95	116	144	87	155	16	105	5	81	8	274	29	118	30	113	3,874	128
1995-96	100	124	75	134	15	96	7	96	4	148	25	102	31	116	3,242	107
1996-97 ^e	106	131	80	142	15	97	7	98	5	157	26	104	32	120	3,309	109
1997-98 ^e	113	139	82	146	19	124	7	103	5	163	31	123	32	121	3,491	115
1998-99 ^e	105	130	74	133	19	123	7	103	5	163	31	122	32	119	3,308	109
N.W.T.																
1988-89	218	100	156	100	26	100	33	100	3	100	62	100	56	100	3,908	100
1989-90	240	110	170	109	27	101	40	123	3	115	70	113	57	102	4,211	108
1990-91	255	117	187	120	24	90	40	123	4	133	68	109	59	106	4,328	111
1991-92	271	124	200	128	23	86	40	123	8	284	71	114	61	109	4,443	114
1992-93	354	162	266	171	21	80	40	123	26	916	87	141	62	112	5,664	145
1993-94	377	173	277	178	25	95	48	148	26	905	99	160	64	114	5,928	152
1994-95	418	192	306	197	29	112	53	160	30	1,038	112	180	65	117	6,411	164
1995-96	300	138	217	139	36	136	42	128	5	187	83	134	67	120	4,506	115
1996-97 ^e	277	127	209	134	24	93	40	123	4	128	68	110	68	121	4,097	105
1997-98 ^e	287	132	216	139	24	93	42	129	5	163	71	115	68	122	4,240	108
1998-99 ^e	283	130	211	135	25	94	43	131	5	166	72	117	67	121	4,197	107
Other¹																
1988-89	445	100	59	100	229	100	2	100	155	100	386	100	...	...	...	...
1989-90	562	126	80	134	280	123	2	112	200	129	482	125	...	...	...	...
1990-91	543	122	52	88	307	134	3	123	180	117	490	127	...	...	...	...
1991-92	518	116	47	80	305	134	3	134	163	105	471	122	...	...	...	...
1992-93	522	117	44	75	331	145	3	156	144	93	477	124	...	...	...	...
1993-94	481	108	35	59	318	139	4	187	124	80	446	116	...	...	...	...
1994-95	522	117	27	46	350	153	6	294	138	89	494	128	...	...	...	...
1995-96	440	99	26	43	281	123	2	81	132	85	415	108	...	...	...	...
1996-97 ^e	447	101	23	39	290	127	2	88	132	85	424	110	...	...	...	...
1997-98 ^e	399	90	23	38	262	114	2	75	114	73	377	98	...	...	...	...
1998-99 ^e	397	89	23	39	260	114	2	74	113	73	374	97	...	...	...	...

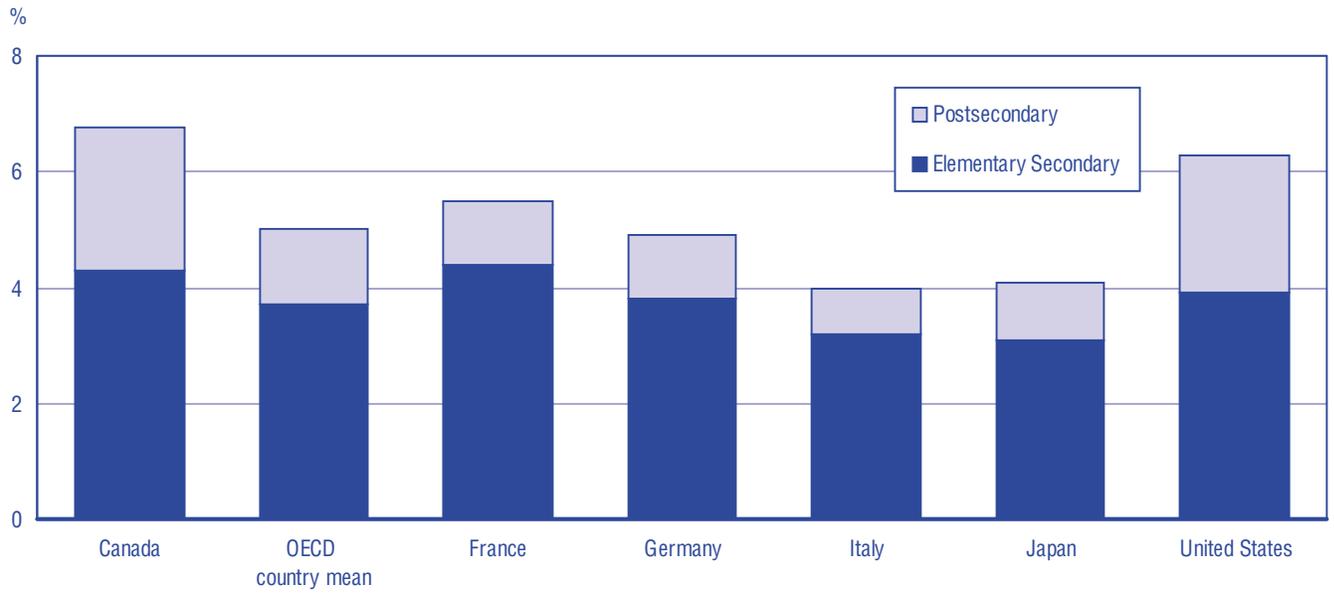
1 "Other" refers to expenditures which cannot be attributed to any one province. One example of this is spending by the federal government on overseas schools.

e For 1996-97, estimates are based on information from the Provincial Public Accounts (actual) and the Centre for Education Statistics; for 1997-98 and 1998-99, estimates are based on information from the Provincial Public Accounts (estimates) and the Centre for Education Statistics.

Source: Centre for Education Statistics, Statistics Canada; Provincial Public Accounts.

APPENDIX 9

FIGURE 3.27 EDUCATIONAL EXPENDITURE FROM PUBLIC AND PRIVATE SOURCES FOR EDUCATIONAL INSTITUTIONS AS A PERCENTAGE OF GDP BY LEVEL OF EDUCATION, CANADA AND G-7 COUNTRIES, 1995



Source: Centre for Education Statistics, Statistics Canada GDP from National Accounts, Statistics Canada; Education at a Glance: OECD Indicators, 1998, Table B1.1d.

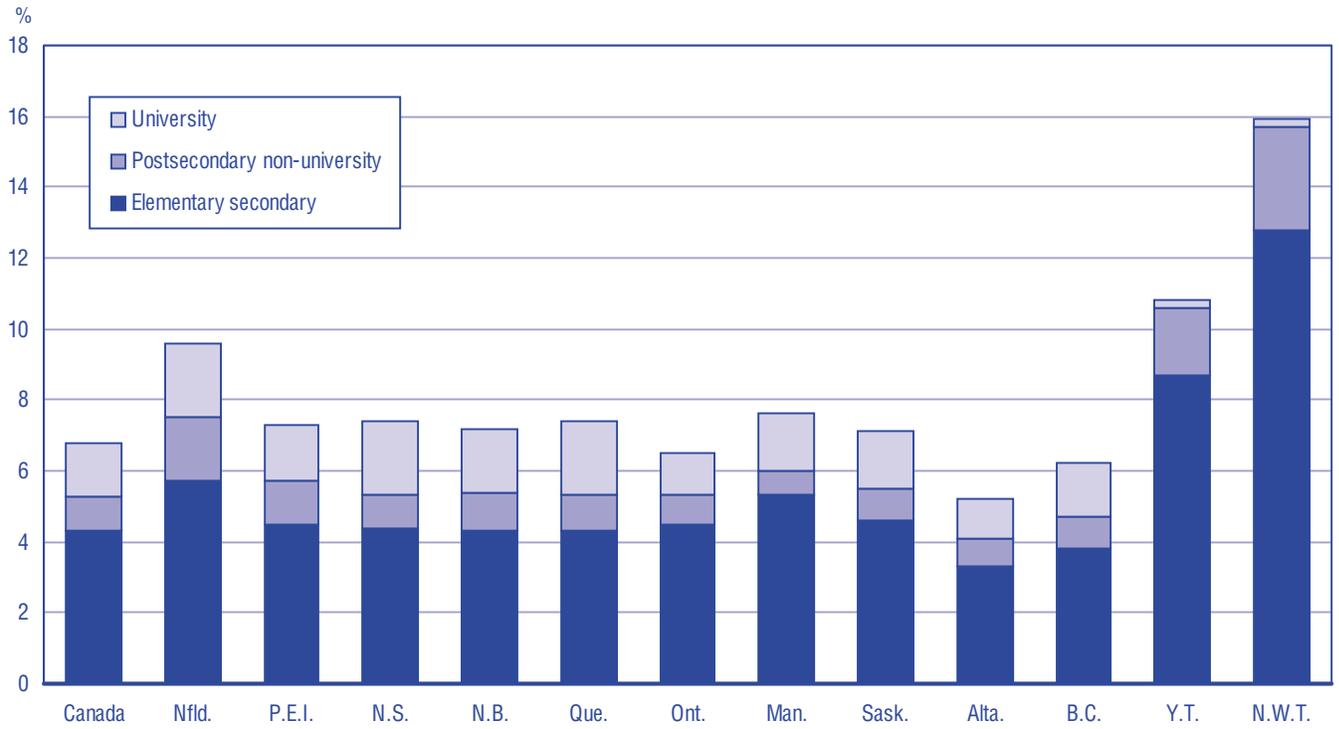
APPENDIX 10

TABLE 3.24 EDUCATIONAL EXPENDITURE FROM PUBLIC AND PRIVATE SOURCES FOR EDUCATIONAL INSTITUTIONS AS A PERCENTAGE OF GDP
BY LEVEL OF EDUCATION, CANADA, JURISDICTIONS, AND G-7 COUNTRIES, 1995

	Elementary–secondary			Postsecondary			All levels of education combined (including preprimary and undistributed)
	All	Elementary	Secondary	All	Non-university	University-level	
Canada	4.3	..	..	2.5	0.9	1.5	7.0
Newfoundland and Labrador	5.7	..	..	3.9	1.8	2.1	9.9
Prince Edward Island	4.5	..	..	2.9	1.2	1.6	7.6
Nova Scotia	4.4	..	..	3.0	0.9	2.1	7.6
New Brunswick	4.3	..	..	2.9	1.1	1.8	7.4
Quebec	4.3	..	..	3.1	1.0	2.1	7.6
Ontario	4.5	..	..	2.1	0.8	1.2	6.8
Manitoba	5.3	..	..	2.3	0.7	1.6	7.8
Saskatchewan	4.6	..	..	2.5	0.9	1.6	7.4
Alberta	3.3	..	..	1.9	0.8	1.1	5.4
British Columbia	3.8	..	..	2.5	0.9	1.5	6.5
Yukon	8.7	..	..	2.1	1.9	0.2	11.3
Northwest Territories	12.8	..	..	3.1	2.9	0.2	16.6
G -7 Countries							
Canada	4.3	..	..	2.5	0.9	1.5	7.0
France	4.4	1.2	3.2	1.1	..	..	6.3
Germany	3.8	..	..	1.1	--	1.0	5.8
Italy	3.2	1.1	2.1	0.8	--	0.8	4.7
Japan	3.1	1.3	1.7	1.0	0.1	0.9	4.7
United Kingdom	..	..	..	1.0	..	..	..
United States	3.9	1.8	2.0	2.4	0.4	2.0	6.7
OECD country mean	3.7	1.5	2.2	1.3	0.2	1.1	5.6

Source: Centre for Education Statistics, Statistics Canada; GDP from National Accounts, Statistics Canada; Education at a Glance: OECD Education Indicators, 1998, Table B1.1d.

FIGURE 3.26 EDUCATIONAL EXPENDITURE FROM PUBLIC AND PRIVATE SOURCES FOR EDUCATIONAL INSTITUTIONS AS A PERCENTAGE OF GDP BY LEVEL OF EDUCATION, CANADA AND JURISDICTIONS, 1995



Source: Centre for Education Statistics, Statistics Canada; GDP from National Accounts, Statistics Canada.

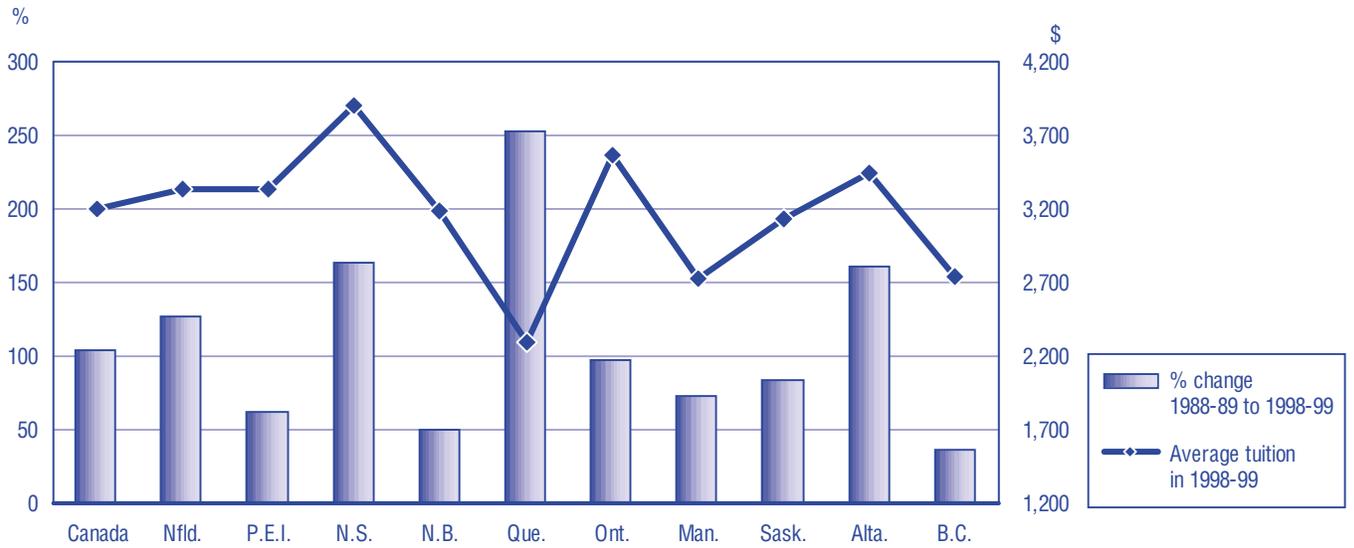
APPENDIX 12

TABLE 3.26 DISTRIBUTION OF PUBLIC AND PRIVATE SOURCES OF FUNDS FOR EDUCATIONAL INSTITUTIONS BEFORE (INITIAL FUNDS) AND AFTER (FINAL FUNDS) TRANSFERS FROM PUBLIC SOURCES, BY LEVEL OF EDUCATION, CANADA, JURISDICTIONS AND G-7 COUNTRIES, 1995

	Initial funds (the original source of funds spent on education)						Final funds (after public-to-private or private- to-public transfers have occurred)					
	Elementary- secondary		Post- secondary		All levels of education combined		Elementary- secondary		Post- secondary		All levels of education combined	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Canada	94	6	82	18	90	10	94	6	61	39	82	18
Newfoundland and Labrador	97	3	93	7	96	4	97	3	61	39	83	17
Prince Edward Island	99	1	90	10	95	5	99	1	60	40	84	16
Nova Scotia	97	3	78	22	90	10	97	3	60	40	83	17
New Brunswick	99	1	69	31	88	12	99	1	56	44	82	18
Quebec	92	8	88	12	90	10	92	8	74	26	84	16
Ontario	95	5	77	23	89	11	95	5	56	44	83	17
Manitoba	91	9	86	14	90	10	91	9	56	44	81	19
Saskatchewan	97	3	91	9	95	5	97	3	63	37	85	15
Alberta	95	5	81	19	90	10	95	5	64	36	84	16
British Columbia	91	9	78	22	86	14	91	9	56	44	78	22
Yukon	99	1	..	..	..	..	99	1	74	26	94	6
Northwest Territories	98	2	..	..	..	..	98	2	43	57	88	12
G-7 countries												
Canada	94	6	82	18	90	10	94	6	61	39	82	18
France	93	7	84	16	91	9	93	7	84	16	91	9
Germany	76	24	93	7	78	22	76	24	92	8	78	22
Italy	100	-	91	9	100	-	100	-	84	16	97	3
Japan	..	..	..	..	..	..	92	8	43	57	75	25
United Kingdom	..	..	90	10	..	..	..	..	72	28	..	..
United States	..	..	..	..	..	..	90	10	48	52	75	25
OECD country mean	93	7	87	13	91	9	91	9	75	25	86	14

Source: Centre for Education Statistics, Statistics Canada; Education at a Glance: OECD Indicators, 1998, Table B3.1.

FIGURE 3.30 AVERAGE TUITION FEES IN UNDERGRADUATE ARTS PROGRAMS AND PERCENTAGE CHANGE FROM 1988-89 TO 1998-99, CANADA AND PROVINCES



Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 14

TABLE 3.27 AVERAGE TUITION FEES IN UNDERGRADUATE ARTS PROGRAMS, CANADA AND PROVINCES, 1988-89 TO 1998-99, IN CONSTANT 1998 DOLLARS

Year	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
1988-89	1,568	1,464	2,055	1,481	2,128	649	1,809	1,579	1,705	1,322	2,008
1989-90	1,615	1,554	2,077	2,196	2,141	623	1,850	1,659	1,723	1,366	2,067
1990-91	1,741	1,563	2,113	2,252	2,187	1,049	1,905	1,705	1,813	1,479	2,056
1991-92	1,890	1,691	2,265	2,405	2,188	1,417	1,964	1,988	2,048	1,710	2,159
1992-93	2,039	1,843	2,417	2,621	2,401	1,548	2,080	2,286	2,346	1,999	2,339
1993-94	2,161	2,132	2,590	2,858	2,498	1,623	2,185	2,334	2,503	2,374	2,389
1994-95	2,361	2,265	2,731	3,097	2,485	1,804	2,402	2,421	2,619	2,671	2,565
1995-96	2,486	2,401	2,894	3,284	2,594	1,772	2,579	2,476	2,709	2,891	2,638
1996-97	2,725	2,730	2,942	3,597	2,834	1,640	3,019	2,580	2,727	3,062	2,664
1997-98	3,019	3,156	3,135	3,748	3,015	2,223	3,292	2,621	3,010	3,229	2,724
1998-99	3,199	3,330	3,331	3,903	3,193	2,292	3,564	2,723	3,128	3,447	2,736

Source: Centre for Education Statistics, Statistics Canada.

APPENDIX 15

TABLE 3.28 EDUCATIONAL EXPENDITURE ON PRE-ELEMENTARY AND ELEMENTARY–SECONDARY EDUCATION BY RESOURCE CATEGORY FOR PUBLIC AND PRIVATE INSTITUTIONS, CANADA, JURISDICTIONS AND G-7 COUNTRIES, 1995

	Percentage of total expenditure		Percentage of current expenditure				Average expenditure per student (in equivalent U.S. dollars)				
	Current	Capital	Compensation			Other current expenditure	Compensation			Current	Capital
			Educators	Other staff	All staff		Educators	Other staff	Other current expenditure		
Canada¹	96	4	65	16	81	19	3,405	4,201	1,008	5,209	192
Newfoundland and Labrador	96	4	74	10	84	16	..	..	..	..	..
Prince Edward Island	98	2	67	17	84	16	..	..	..	..	..
Nova Scotia	98	2	70	13	83	17	..	..	..	..	..
New Brunswick	99	1	68	14	82	18	..	..	..	..	..
Quebec	99	1	63	16	79	21	..	..	..	..	..
Ontario	94	6	69	15	84	16	..	..	..	..	..
Manitoba	97	3	57	16	73	27	..	..	..	..	..
Saskatchewan	99	1	64	11	75	25	..	..	..	..	..
Alberta	97	3	66	13	79	21	..	..	..	..	..
British Columbia	97	3	63	19	82	18	..	..	..	..	..
Yukon	92	8	49	10	59	41	..	..	..	..	..
Northwest Territories	85	15	38	12	50	50	..	..	..	..	..
G-7 countries											
Canada¹	96	4	65	16	81	19	3,405	4,201	1,008	5,209	192
France	91	9	..	..	79	21	..	3,617	975	4,592	449
Germany ²	92	8	..	..	76	24	..	3,262	1,057	4,319	371
Italy ²	96	4	71	18	89	11	3,501	4,380	532	4,912	187
Japan	85	15	..	..	87	13	..	3,182	479	3,661	621
United Kingdom ³	95	5	54	16	70	30	1,940	2,522	1,092	3,614	196
United States ²	91	9	57	23	80	20	3,241	4,554	1,168	5,722	559
OECD country mean	92	8	69	13	82	19	2,745	3,063	822	3,847	315

1 Canada total not as originally published by OECD due to data revisions.

2 Public institutions.

3 Public and government-dependent private institutions.

Source: Centre for Education Statistics, Statistics Canada; Education at a Glance: OECD Indicators, 1998, Table B5.1a.

APPENDIX 16

TABLE 3.29 EDUCATIONAL EXPENDITURE ON POSTSECONDARY EDUCATION BY RESOURCE CATEGORY FOR PUBLIC AND PRIVATE INSTITUTIONS, CANADA, JURISDICTIONS AND G-7 COUNTRIES, 1995

	Percentage of total expenditure		Percentage of current expenditure				Average expenditure per student (in equivalent U.S. dollars)				
	Current	Capital	Compensation			Other current expenditure	Compensation			Current	Capital
			Educators	Other staff	All staff		Educators	Other staff	Other current expenditure		
Canada	94	6	39	33	72	28	4,189	7,714	3,061	10,775	696
Newfoundland and Labrador	97	3	46	22	68	32	..	..	..	..	..
Prince Edward Island	95	5	52	28	80	20	..	..	..	..	..
Nova Scotia	98	2	43	33	76	24	..	..	..	..	..
New Brunswick	95	5	42	30	72	28	..	..	..	..	..
Quebec	91	9	39	29	68	32	..	..	..	..	..
Ontario	97	3	39	36	75	25	..	..	..	..	..
Manitoba	97	3	39	37	76	24	..	..	..	..	..
Saskatchewan	97	3	36	33	69	31	..	..	..	..	..
Alberta	95	5	39	34	73	27	..	..	..	..	..
British Columbia	86	14	41	33	74	26	..	..	..	..	..
Yukon	98	2	41	30	71	29	..	..	..	..	..
Northwest Territories	99	1	44	16	60	40	..	..	..	..	..
G-7 countries											
Canada	94	6	39	33	72	28	4,189	7,714	3,061	10,775	696
France	88	12	..	..	69	31	..	3,985	1,803	5,788	781
Germany ¹	89	11	..	..	76	24	..	5,967	1,912	7,879	1,017
Italy ¹	79	21	46	26	72	28	1,834	2,876	1,104	3,980	1,033
Japan	79	21	..	..	67	33	..	4,642	2,244	6,886	1,882
United Kingdom ²	94	6	30	15	45	55	2,020	3,033	3,738	6,770	454
United States	93	7	41	20	60	40	6,100	9,071	5,987	15,059	1,203
OECD country mean	88	12	44	22	69	31	3,636	5,058	2,308	7,365	870

1 Public institutions.

2 Public and government-dependent private institutions.

Source: Centre for Education Statistics, Statistics Canada; Education at a Glance: OECD Indicators, 1998, Table B5.1b.

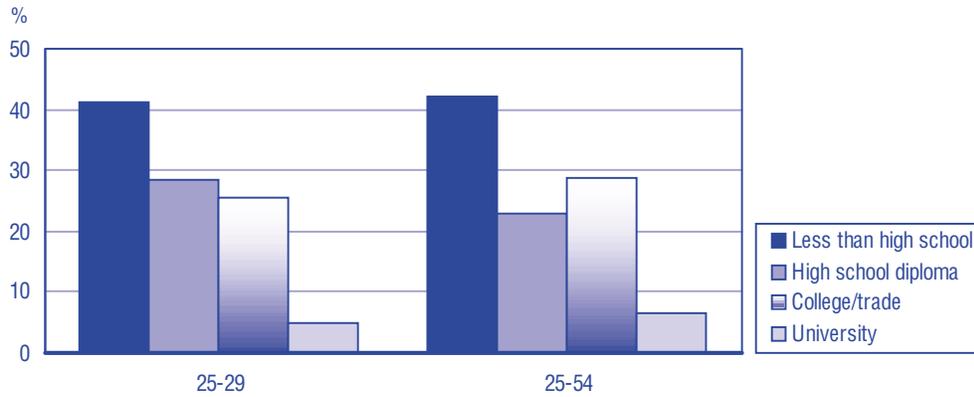
APPENDIX 17

TABLE 3.3 NUMBER OF FULL-TIME EDUCATORS IN PUBLIC ELEMENTARY-SECONDARY SCHOOLS BY GENDER, CANADA AND JURISDICTIONS, 1986-87 TO 1996-97

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
Both sexes													
1986-87	254,862	8,059	1,283	9,930	7,479	60,557	96,519	11,483	10,736	23,864	23,954	292	706
1987-88	259,331	8,019	1,310	10,015	7,658	60,110	101,434	10,847	10,688	23,643	24,588	275	744
1988-89	265,913	8,034	1,322	9,918	7,630	59,685	106,701	11,538	10,789	23,792	25,394	307	803
1989-90	272,833	7,932	1,375	10,031	7,707	59,024	111,352	11,889	10,740	24,806	26,834	319	824
1990-91	279,740	7,956	1,364	9,680	8,026	60,120	116,203	11,711	10,303	25,411	27,722	373	871
1991-92	284,843	7,741	1,352	9,776	8,104	59,794	119,824	11,465	10,529	26,044	28,747	376	1,091
1992-93	283,215	7,699	1,361	9,498	7,973	59,333	119,769	11,406	10,004	25,909	28,676	416	1,171
1993-94	276,366	7,630	1,351	9,495	7,854	58,726	114,176	11,402	10,116	25,516	28,378	428	1,294
1994-95	271,058	7,359	1,327	8,996	7,677	58,085	111,132	11,186	10,034	24,867	28,686	430	1,279
1995-96	273,748	7,233	1,334	8,724	7,583	57,510	112,640	10,883	10,064	26,961	29,149	430	1,237
1996-97	267,808	6,939	1,361	8,799	7,427	56,528	108,737	10,618	9,745	26,482	29,330	450	1,392
Males													
1986-87	109,452	3,853	571	4,208	3,052	21,876	42,686	5,474	4,908	10,218	12,165	130	311
1987-88	109,459	3,820	577	4,222	3,071	21,491 ^a	43,609	5,208	4,850	10,068	12,103	112	328
1988-89	109,878	3,808	575	4,149	3,051	21,114	44,354	5,366	4,817	9,992	12,194	120	338
1989-90	110,005	3,733	579	4,177	3,039	20,645	44,632	5,419	4,713	10,198	12,426	127	317
1990-91	110,961	3,676	572	4,048	3,173	20,908	45,361	5,272	4,635	10,285	12,563	142	326
1991-92	111,283	3,589	575	3,979	2,975	20,675	46,043	5,169	4,500	10,417	12,838	140	383
1992-93	109,961	3,508	576	3,901	2,922	20,444	45,613	5,067	4,237	10,350	12,783	150	410
1993-94	107,014	3,447	561	3,852	2,855	20,188	43,631	5,001	4,224	10,093	12,558	154	450
1994-95	103,998	3,292	543	3,602	2,786	19,854	41,941	4,844	4,132	9,855	12,539	155	455
1995-96	103,177	3,309	544	3,457	2,689	19,419	41,682	4,689	4,070	10,204	12,545	155	414
1996-97	99,544	3,124	549	3,365	2,593	18,810	39,517	4,572	3,929	9,958	12,484	166	477
Females													
1986-87	145,410	4,206	712	5,722	4,427	38,681	53,833	6,009	5,828	13,646	11,789	162	395
1987-88	149,872	4,199	733	5,793	4,587	38,619 ^a	57,825	5,639	5,838	13,575	12,485	163	416
1988-89	156,035	4,226	747	5,769	4,579	38,571	62,347	6,172	5,972	13,800	13,200	187	465
1989-90	162,828	4,199	796	5,854	4,668	38,379	66,720	6,470	6,027	14,608	14,408	192	507
1990-91	168,779	4,280	792	5,632	4,853	39,212	70,842	6,439	5,668	15,126	15,159	231	545
1991-92	173,560	4,152	777	5,797	5,129	39,119	73,781	6,296	6,029	15,627	15,909	236	708
1992-93	173,249	4,191	785	5,597	5,051	38,889	74,156	6,334	5,767	15,559	15,893	266	761
1993-94	169,351	4,183	790	5,643	4,999	38,538	70,545	6,400	5,892	15,423	15,820	274	844
1994-95	167,056	4,067	784	5,394	4,891	38,231	69,191	6,338	5,902	15,012	16,147	275	824
1995-96	170,571	3,924	790	5,267	4,894	38,091	70,958	6,194	5,994	16,757	16,604	275	823
1996-97	168,264	3,815	812	5,434	4,834	37,718	69,220	6,046	5,816	16,524	16,846	284	915

Source: Centre for Education Statistics, Statistics Canada; Statistiques de l'éducation - Enseignement primaire, secondaire, collégial et universitaire, Gouvernement du Québec, Ministère de l'Éducation (for Quebec data).

FIGURE 4.10 DISTRIBUTION OF THE ABORIGINAL POPULATION AGED 25 TO 29 AND 25 TO 54, BY HIGHEST LEVEL OF EDUCATION ATTAINED, CANADA, 1996



Notes: Aboriginal population refers to those persons who reported identifying with at least one Aboriginal group, i.e., North American Indian, Métis or Inuit (Eskimo) and/or who reported being a Treaty Indian or a Registered Indian as defined by the *Indian Act of Canada* and/or who were members of an Indian Band or First Nation.

“Less than high school” includes individuals having at least some pre-elementary, elementary or secondary education.

“High school diploma” includes high school graduates and individuals who have some postsecondary education (not completed).

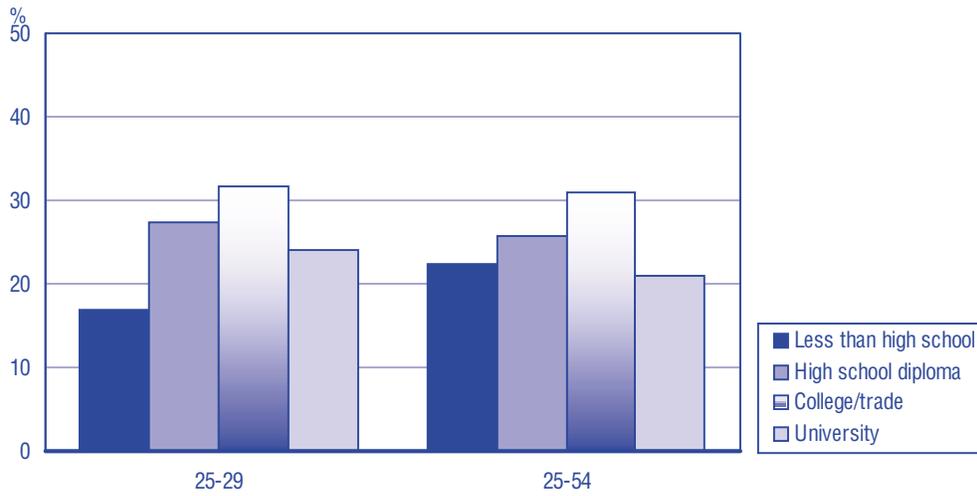
“College/trade” includes graduates of college and trade-vocational programs.

“University” includes individuals with a university degree or certificate.

Source: 1996 Census, Statistics Canada.

APPENDIX 19

FIGURE 4.11 DISTRIBUTION OF THE NON-ABORIGINAL POPULATION AGED 25 TO 29 AND 25 TO 54, BY HIGHEST LEVEL OF EDUCATION ATTAINED, CANADA, 1996



Notes: "Less than high school" includes individuals having at least some pre-elementary, elementary or secondary education.

"High school diploma" includes high school graduates and individuals who have some postsecondary education (not completed).

"College/trade" includes graduates of college and trade-vocational programs.

"University" includes individuals with a university degree or certificate.

Source: 1996 Census, Statistics Canada.