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A Report on Adult Education and Training in Canada

Learning a Living



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A Report on Adult Education and Training in Canada

Learning a Living

This report presents an exhaustive analysis of the results of the 1998 Adult Education and Training Survey. It also provides insight into adult education and training trends in Canada by bringing together results from previous surveys.

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HIGHLIGHTS

The new economy demands increasing skills ... but adult workers in Canada may not be keeping up with increasing skill demands.

- Close to 28% of Canadians participated in adult education and training activities in 1997. A large majority (75%) of participants took a course or program for job-related purposes.
- Rates of participation in adult education and training have not grown through the 1990s.
- There were substantive differences in the rate of participation across Canada in 1997. Overall rates varied from a low of 19% in Newfoundland to a high of 32% in British Columbia.
- Differences in participation rates across provinces have been reduced over the 1990s. However, participation rates in all provinces west of Quebec are still higher than the national average while rates in Quebec and the Eastern provinces, with the exception of Nova Scotia, are lower than the national average.
- The pattern differed somewhat for education and training that was employer-sponsored. After controlling for differences in educational attainment and demographic and labour market structures, the odds of receiving employer-sponsored education or training was about 2.5 times higher for people living in Nova Scotia and Saskatchewan than for those living in Quebec.
- An inverse relationship was observed between the participation rate and study duration. In general, provinces with a low participation rate scored high on the average duration of study.
- While participation rates remained relatively constant in the 1990s, the number of hours spent on adult education and training has steadily increased. The mean hours of continuing education per participant increased from 149 hours in 1991 to 209 hours in 1997.

Many factors were responsible for the observed variations in the level of participation rates.

- Consistent with earlier surveys, the overall participation rate in 1997 was quite similar for men (27%) and women (29%). However, women received less employer support for their education and consequently had to rely more on self-financing than men.
- Level of education is a strong predictor of participation in education and training. The odds of participating in a learning activity for those with a university degree was 7.5 times that of Canadians without a high-school diploma in 1997.
- Differences in participation rates by level of school attainment were reduced in 1997 compared to previous years. However, this was mainly the result of a reduction in participation rates of the well educated rather than an increase in the rates of those at the lower end of the education scale.
- Adults' observed participation in education and training remained fairly stable

HIGHLIGHTS

from early adulthood to the mid-fifties. A sharp decrease in total participation occurred among those 55 years and older. As expected, the youngest age group, which includes the 17 to 24 years old not attending school on a full-time, showed the highest time investment in education with an average of 451 hours compared to 49 hours for those aged 55 to 64.

- While 29% of the employed participated in job-related learning activities, only 20% of the unemployed did. These rates did not vary much during the decade.
- The odds of receiving employer-sponsored education or training for workers in medium and large firms were twice that of workers in small firms. This relationship has remained relatively constant over time.
- Employers' willingness to invest in training also varied by industry. In 1997, the odds of workers in utilities, public administration and finance of receiving employer-sponsored education were three to four times higher than those of workers in construction. A similar pattern of participation by industry existed throughout the decade.
- Employers were generally more inclined to sponsor white-collar workers than other workers. For instance, in 1997, the odds of professionals and managers of participating in employer-sponsored education were 2.6 times higher than those for blue-collar workers. However, because of a reduction in the incidence of training among white-collar workers, this gap has been reduced somewhat during the 1990s.

The supply of education and training is quite diversified. Among the suppliers, education institutions and employers played a crucial role in human resources development in Canada.

- Public education institutions offered three-quarters of all programs and one-quarter of all courses taken in 1997. Employers organised one in every five courses and close to a third of job-related courses.
- Most often, employers provided support in more than one form. They paid for fees and tuition for 55% of employees registered in a program and 85% of those who took a course. They also paid for materials and provided paid time-off and premises to a large proportion of trainees.
- Classroom instruction was still the dominant delivery method (86%) used by all course suppliers. New learning technologies such as the Internet were used sparsely by learners.

Adult participants generally perceived their studies or training to have been useful.

- Adults who studied for job-related reasons report to have applied the skills or knowledge acquired through training to their work to a higher degree than those who participated for reasons of personal development applied similarly acquired skills to their personal life.
- Over 50% of the courses and programs taken for personal purposes were also found useful at work.
- There were no major differences between providers in reported usefulness of studies.

HIGHLIGHTS

In addition to a lack of motivation for study, barriers to participation are numerous.

- Lack of time due to a busy work schedule was seen as the most important barrier to the pursuit of education and training by close to 60% of those who wanted to take a course or training but did not.
- Relatively more women than men reported family responsibilities (26% vs. 15%) and childcare (17% vs. 4%) as an impediment to education.
- High costs and lack of financial resources were reported as a major barrier by 40% of those who wanted to take a course but did not.

Informal training is not measured in the AETS.

- Before drawing concrete conclusions on overall participation rates in adult education and training in Canada, it must be acknowledged that findings from other surveys indicate that informal training is also an important component of lifelong learning.
- Not only does the focus on formal training in the AETS underestimate the overall participation rate but other surveys have also shown that participation in informal training is more evenly distributed across the population than formal training.

Key knowledge gaps also remain in the areas of outcomes of training and barriers to participation in training.

- Though the AETS sheds light on the pattern of adult learning in Canada, there is much we don't know. Knowledge gaps about adult learning outcomes, barriers to and motivators for adult skills development, and the role and structure of informal learning in the overall learning context limit the ability of policy makers, educators, firms and individuals to make informed learning decisions.

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Setting the Report in Context

T. Scott Murray and Allen Zeesman

“The future of work will consist of learning a living” *Marshall McLuhan*

As we enter the new millennium, many believe that adult learning will play a crucial role in determining individual and collective economic and social success. There is a general view among economic commentators and policy makers that advanced countries could secure a comparative advantage and continue to improve their standards of living by moving more into the production of high-value-added goods and services whose production is more knowledge-intensive. Human capital investment is seen as an essential ingredient in the growth recipe of advanced economies.

In Canada, where a large proportion of public and private resources are already dedicated to initial education, and where the incidence of adult education and training is average by international standards, adult workers are often singled out as a key area for expanding human capital investment—to support economic growth and increased living standards. Another concern is that adjustment toward a more knowledge-based economy may leave less-skilled workers on the sidelines. There is evidence that the least-educated and least-skilled individuals in Canada cannot earn a decent living through work and are leaving—or are at risk of leaving—the labour market and becoming socially marginalized (Riddell and Sweetman 1997; Boothby and Gingras 1998). From both an economic and a social perspective, then, adult learning is a critical element in strategies that promote growth and development.

Traditionally, Canada and other OECD countries have relied primarily on people leaving schools and universities to meet the economy’s need for an increased supply of generic skills, such as everyday literacy and numeracy, and for occupation-specific workplace skills. Canada has devoted substantial financial resources to increasing the supply of workers who are educated beyond the high-school level, to the point where it is currently one of the countries devoting the most to initial, formal education measured as a percentage of the gross domestic product (OECD 1998). As a result Canada has the highest level of postsecondary completion in the OECD, and a comparatively high level of literacy skills in the adult population (OECD 1998; see also Figure 1.1 in Chapter 1).

The new economy demands increasing skills...

...but some groups of adult workers in Canada may not be keeping up.

The Canadian labour force is already comparatively well educated...

INTRODUCTION: Setting the Report in Context

...but to renew the skill base and acquire new competencies, Canada will have to rely on adult education and training more than in the past.

The benefits of lifelong learning extend well beyond the immediate economic payoff; they also support civil skills, social cohesion and quality of life.

Policy makers need to understand the factors that influence training decisions of individuals and firms.

The issue of skill supply and demand has been studied for decades (Employment and Immigration Canada 1983; Dodge, D. 1981). What is new is the speed and complexity of technology and workplace skill shifts, demanding higher levels of competence from youth and adults alike.¹ Moreover, in addition to a general increase in the demand for skills, the labour force is growing at a slower pace than in previous decades, with smaller youth cohorts.² The Canadian economy cannot rely as much as in previous decades on initial education to address the skill needs of the short and the medium terms. In this context, a greater share of the skills adjustment of the Canadian work force will have to be achieved through training those adults who are already in the workplace.

Economic imperatives are, of course, not the only reason for fostering a learning culture in Canada. Learning throughout life goes further than updating one's knowledge to improve productivity and individual earning power—it is also an important component of individual inclusion and active citizenship (Helliwell, ed. (forthcoming); OECD 1998).³ Many aspects of individual success depend on one's ability and readiness to learn throughout life. At the aggregate level, there is reason to believe that opportunity to learn has a positive impact on social cohesion, equity and overall quality of life. By addressing the learning needs of those at risk of economic and social marginalization, the structure and quality of Canada's adult learning system, coupled with the degree to which Canadian adults access formal learning opportunities, will influence the extent to which Canada is able to meet a broad range of economic, social and cultural goals.

Yet adults in Canada do not currently engage in formal training as much as do people in some other advanced countries. From the discussion in later chapters of this report, it is also clear that adult learning in Canada remains heavily weighted toward those who are already well educated. These facts alone, however, are not sufficient to conclude that adults in Canada under-invest in human capital. It is possible that other types of human capital investment—such as initial education or informal learning—complement investments in formal adult learning. It is also possible that the optimal level of investment in formal training varies across countries and among individuals. To be able to determine whether Canada's investment in human capital is sufficient, we need to know more about the outcomes of training—the costs and benefits to individuals, firms and society; the reasons for which individuals and firms engage in skills development or not; and the role of informal learning. Without a better understanding of these issues, it is difficult to assess individual or societal optimums in the area of adult learning or as warranted, to foster broader participation in adult skills development.⁴ These issues are discussed more broadly in the Conclusion of this report.

1. For a detailed examination of associated issues, the reader is referred to Rubenson and Schuetze, eds. (2000).
2. This is not the case in many of Canada's emerging trading partners. Having relatively young populations, countries such as Mexico, Brazil and Malaysia can add rapidly to their stock of human capital by increasing the quantity and quality of skill produced by the initial education system.
3. The role of human capital investment in social inclusion and related issues was discussed in some detail at a jointly sponsored OECD/HRDC international symposium, "The Contribution of Human and Social Capital to Sustained Economic Growth and Well-being," held in March 2000 in Québec. Papers presented at the symposium will be available shortly, under the tentative title, Proceedings of the International Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being (Helliwell, ed.).
4. For further information, the reader is referred to Baran et al., (2000).

Goals of the Report

The extent to which Canadians engage in a culture of adult learning is expected to have an impact on our social and economic success in decades to come. Learning occurs throughout life in a variety of contexts, both formal and informal. The purpose of this report is to describe the extent to which Canadians engage in various formal and organised adult education and training activities, and how participation differs both over time and across provinces. To do this, the report presents historical data from the Adult Education and Training Survey (AETS). These data sets shed light on trends in formal adult education and gauge the nation's preparedness for the burgeoning knowledge society.

This report provides a statistical portrait and analysis of demand and supply of formal adult education and training in Canada.

Ability to learn is a defining characteristic of humankind that begins at birth and continues throughout life.⁵ Much of what is learned is informal in that it is based upon our experiences in daily life. In advanced industrial societies, however, much learning has become institutionalized—children learn in schools and adults learn in a variety of formal settings, from universities and study centres to libraries and the workplace. The aim of the AETS is to provide a comprehensive portrait of formal, organised adult learning—learning that occurs in a structured, often institutional setting. The survey requires respondents to recall all episodes of formal education and training that took place in the calendar year preceding the interview. Thus the data offer information on the total volume of formal learning, on the structures of formal adult education and training, and on the characteristics of learners. Analysed over time, the data allow one to detect trends in the volume, distribution and equity of demand and supply. The AETS data permit one to evaluate the importance of the demand for formal adult education and training, assess its growth, and develop indicators. The survey also provides partial answers to questions related to distribution of training opportunities across social groups.

While the AETS provides the most comprehensive source of data on formal adult education and training in Canada, it does have its limitations for analysis. There remain a number of key gaps in our understanding of skills development among Canada's adults. Better knowledge of learning outcomes, of the barriers and motivations to adult skills development, and of the role of informal learning in the overall learning effort is critical to future analysis and policy development in the area. These knowledge gaps—which are discussed in more detail in Conclusion of this report—limit the capacity of policy makers, of educators, of firms and of individuals alike to fully assess the adequacy of learning decisions. The information in this report provides a good starting point. Further research, data collection and analysis are required to draw a more complete picture.

Further data and analysis are needed.

Definitions of Adult Education and Training

Understanding what this report purports to measure is critical to understanding its findings. The definition of adult education and training used for this report is a modified version of the definition developed by UNESCO in the International Standard Classification of Education (ISCED-76). According to this source, adult education is organised, structured programs of education adapted to the needs of persons 15 and older who are not in the regular school or university systems. This definition, then, excludes students who are still involved in their first or initial cycle of education. The boundaries of this target population as defined by UNESCO have been adapted to better reflect the Canadian context. In most provinces and territories school is compulsory until age 16. For the purposes of this report, then, the adult population includes those aged 17 and over.

All Canadians aged 17 and over are included in the target population...

5. *Current evidence suggests that the ability to learn remains unimpaired late into life. See Smith and Marsiske (1997).*

INTRODUCTION: Setting the Report in Context

...except full-time students enrolled in regular, initial education programs.

In order to focus on learners not attending regular school or university, the population used in this report *excludes* all regular, full-time students, except the following: full-time students subsidized by employers; full-time students over 19 enrolled in elementary or secondary programs; and full-time students over 24 enrolled in postsecondary programs. All other students in the age range of 17 to 24 are excluded.

The survey targets organised adult education; experiential and self-directed learning at work and at home are covered only for respondents who are enrolled in a formal course or program.

The 1998 AETS collected information on credit and non-credit courses, offered full-time or part-time, at public or private institutions, at the workplace, at a variety of other locations or through electronic media. Respondents could include only formal courses or programs taken for career or job-related reasons or for personal interest reasons (e.g., a part-time program in computer programming or a recreational course in aerobics). Formal education activities have an identifiable structured plan and clear objectives geared to the development of the learner's skill and competence. The student follows a program planned and directed by a teacher or trainer and receives some kind of formal recognition upon completion. Informal education and training activities—such as a demonstration of how to do a task, impromptu learning or instruction in the workplace, and any other unstructured learning activities—were not covered by this survey.

The time series make it possible to describe major trends.

Survey Administration and Methodology

From 1984 to 1998, Statistics Canada has conducted a series of ad hoc adult education and training surveys administered as supplements to the monthly Labour Force Survey (LFS). Data were collected from households by experienced telephone interviewers, with the previous calendar year as the reference period. Based upon a representative sample of Canadian households, the LFS provides a rich array of demographic and socio-economic variables that can be associated with the basic information on the incidence, frequency, duration and institutional locus of adult education and training participation.

For the first time, data from successive surveys have been brought together for analytical purposes, thus providing insight into adult education and training trends in Canada. In reviewing this data the user needs to be aware that the surveys evolved over time, changing in terms of both content and methodology. In many ways these changes reflect a growth in understanding of the phenomenon being examined, the use of improved measurement technology and techniques, and recognition of a need for more detailed information. These changes also reflect changes made to the LFS, from which the AETS samples have been drawn. A number of key changes and their likely impacts on data quality and comparability are outlined in Annex B.

Making comparisons over time is difficult, but well worth the effort. This publication is the first report on trends in Canadian adult education and training.

A particular point to be noted relates to the survey reference period. January was the survey collection month for all but the 1986 and 1990 surveys.⁶ All except the 1986 survey have the previous calendar year as the reference period.⁷ Thus some of the variation in observed participation rates may reflect measurement error associated with differential recall bias rather than real change. Estimates for 1985, based upon the 1986 survey that employed a two-year reference period, would be affected most by such a bias.

6. *The field collection dates were as follows: January 1984; February 1986; November 1990; January 1992; January 1994; and January 1998 (March in Quebec). The delay in collection in Quebec in 1998 was caused by the January ice storm.*

7. *The 1986 survey reference period was January 1984 to December 1985.*

Organization of the Report

The Introduction briefly sets the report in context. It also mentions the survey goals, describes the data sources utilized and reviews the conceptual framework and definitions of adult education and training employed in the study. Furthermore, it outlines the future goals of analysis for policy development in adult education and training.

Chapter 1 explores dimensions of the demand and supply of adult education and training in Canada with a view to identifying mismatches and market failures that may exist. Attention is paid to analysing systemic barriers to participation, particularly for low-skilled adults. Canada's provinces and regions differ greatly in industrial and occupational structure and in the educational attainment profile of their respective labour forces, implying significant differences in the supply and demand for skill. This chapter therefore seeks to describe differences in the size and structure of the adult education and training systems across provinces and regions.

Chapter 2 uses data from the most recent AETS as well as previous collections. It provides an historical perspective on how the market for adult education and training in Canada has evolved over the past decade. To the extent the data allow, both the incidence and the volume of participation are traced over time and across provinces and regions of Canada. Methodological issues arising from the analysis of trends are also addressed.

The Conclusion briefly sums up the main findings and conclusions of this report, and outlines future research directions. The evidence presented in this report suggest that Canada still has some way to go if adult education and training are to be accessible and available to all—a goal to which all OECD Education ministers are strongly committed (OECD 1996). Important elements of addressing this objective must include both expanding our understanding of adult learning in Canada through the analysis of existing AETS data, and revising and updating the current AETS to better address identified adult learning knowledge gaps.

Three Annexes conclude the report: Annex A provides a glossary of terms; Annex B describes how the Adult Education and Training Surveys were conducted; and Annex C presents, for each graph included in the main body of the report, the underlying data values plus, where applicable, the standard errors associated with those values.

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Demand and Supply of Adult Education and Training

Kjell Rubenson

1.1 Introduction

The gradual rise in levels of educational attainment in Canada does not alter the fact that a large number of Canadians find themselves at the tail end of the skills distribution. Whereas more highly skilled workers share the wealth being generated in the knowledge economy, they still face frequent job changes and high turnover. This indicates the need for continuing access to education and training. But many others remain tied to stagnant jobs with low pay, poor benefits and few opportunities for acquiring new skills or qualifications. Because skills and educational qualifications are powerful factors in determining access to the wealth created by the knowledge economy, formal schooling and adult education and training can be considered necessary elements in any strategy for improving the lives of disadvantaged populations.

In this chapter, the patterns of participation in education and training as well as demand and supply characteristics of Canadian adult education and training are examined. Following a brief presentation of evidence on the educational attainment of Canadians, data from the Adult Education and Training Survey (AETS) are used to analyse demand and supply characteristics as well as national and provincial patterns of participation in adult education and training. Distinctions are made between job-related and personal interest-related education and training. Special attention is devoted to self-reported barriers to participation and the perceived usefulness of various forms of adult education and training.

1.2 Educational Attainment of Canadians

Adult education and training are major factors in lifelong learning. Their contribution has to be considered in the context of national human capital investment and the educational attainment of Canadians.

Canada devotes a substantial share of its total financial resources to education and training. Taking both public and private expenditures into account, Canada invested 7.3% of its gross domestic product (GDP) in educational institutions in 1995. This is much more than the OECD country mean of 5.9% of GDP (OECD 1998, p.81). At 8.5%, Denmark is the only country in the OECD that surpasses

Adult education and training can be seen as complements to social insurance provisions, especially for disadvantaged populations.

The extent to which adult education and training are reaching such populations is an important issue.

Human capital theory provides a framework for the analysis reported here.

Canada is at the top of the league in terms of investment in formal education.

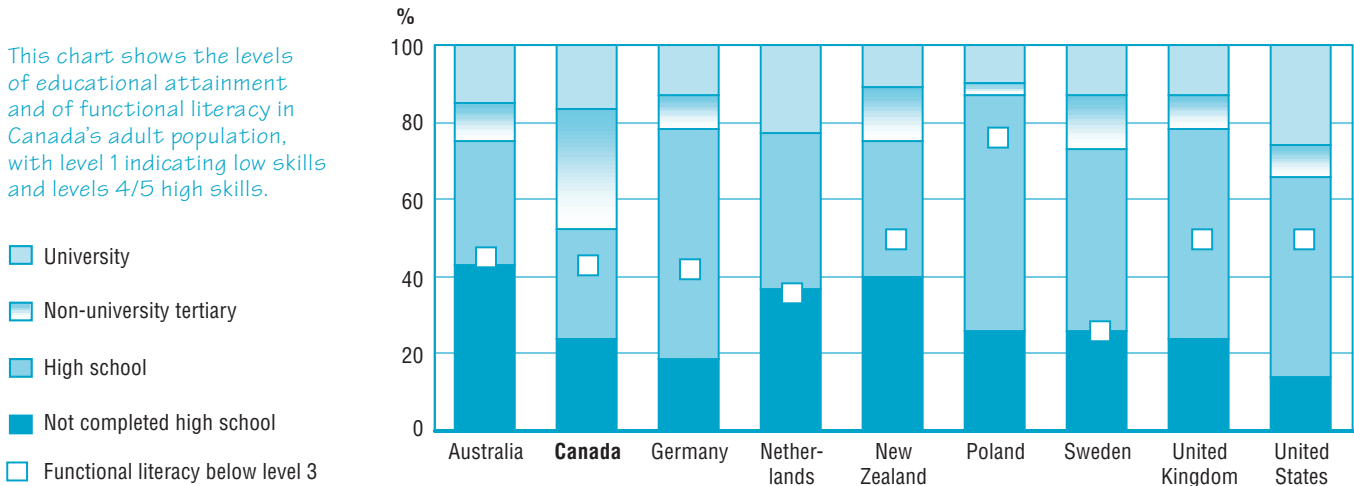
Canada in total education spending for all levels of education combined. In 1995, Canada led the OECD countries with an education participation rate of 16.3% among 17 to 34-year-olds (this age group includes the majority of those in post-secondary education).

While educational attainment is high as a result ...

Figure 1.1 presents evidence on the level of educational attainment and performance in functional literacy in the Canadian population. In 1996, 48% of those 25 to 64 years of age had completed a program of tertiary education. This is a substantially higher proportion than in any other comparable country.¹ The United States had the second highest rate, at 34%, compared with the OECD mean of 23%. The high level in Canada stems mainly from the proportion of adults who completed non-university tertiary education (31%).

FIGURE 1.1
Level of education and functional literacy in selected OECD countries, 1996

Percentage distribution of the population 25 to 64 years of age, by the highest completed level of education (1996) and level of functional literacy proficiency (1994-95)



Sources: OECD 1998; OECD, HRDC and Statistics Canada 1997.

... the fact remains that one in five Canadians find themselves at the lowest level of literacy proficiency.

The evidence suggests that Canada's population is relatively well educated compared to other countries. A somewhat different picture emerges, however, if the population distribution of functional literacy is used as a measure of ability of individuals. The International Adult Literacy Survey (IALS) results show that many Canadians are able to perform well only at easy tasks. As shown in Figure 1.1, 43% of people aged 25 to 64 score below level 3 on success in processing everyday documents (documentary literacy), a level deemed by experts as desirable for succeeding in the knowledge society (OECD and Statistics Canada 1995). The situation is most difficult for the 18% that performed at the most basic level. The data in Figure 1.1 suggest this is not a specifically Canadian problem but something that all countries have to struggle with. Neither is this a concern only for older adults. It is estimated that 39% of Canadians aged 26 to 35 operate at levels 1 or 2, as do 36% of those aged 36 to 45, and 54% of those aged 46 to 55.

1. Comparisons of education levels are difficult to make because countries may differ in the way they apply the International Standard Classification of Education (ISCED) to their national systems. For this reason, inferences based on international comparisons should be made with caution.

Crucial to developing a strategy aimed at realizing 'lifelong learning for all' is knowing the impact that the distribution of educational attainment and functional literacy and the demand and supply of adult education and training have on each other (OECD 1996). The AETS data can provide some insight into the extent to which the idea of engaging in lifelong learning has taken root among Canadians. The data reveal how motivation to participate in structured forms of learning is distributed across different segments of the population. Who are the participants and who is being left out? The data also provide information on the unfulfilled learning needs of those Canadians who had considered participating but for one reason or another did not.

Do those who apparently need adult education the most take advantage of the opportunities offered?

1.3 Patterns of Participation in Adult Education and Training

Respondents to the AETS were asked: *At any time during 1997, did you receive any training or education including courses, private lessons, correspondence courses (written or electronic), workshops, apprenticeship training, arts, crafts, recreation courses or any other training or education?* Respondents were also asked to make a distinction between participation for job or career-related purposes and participation for personal interest. Another distinction was between employer-supported and non employer-supported education and training.²

This is the key question in the AETS.

1.3.1 Rate of participation

Figure 1.2 presents overall results by study orientation and employer support for education and training. Four findings stand out. First, with 28%³ of Canadians participating in 1997, it is clear that adult education is a major sector⁴ within education deserving close policy attention. Second, this figure, although impressive, suggests that Canada still has some way to go before it becomes a more inclusive learning society. Third, the results generally support the idea that Canadians invest in education as a means of staying competitive on the job market. Confirming the current predominance of instrumental views on adult education, no less than three in four participants declared that they took at least one course or program for job-related purposes. In contrast, only one in three mentioned participating for personal development or leisure pursuits. Finally, the findings underscore the central role employers play in the education and training of Canadian adults.

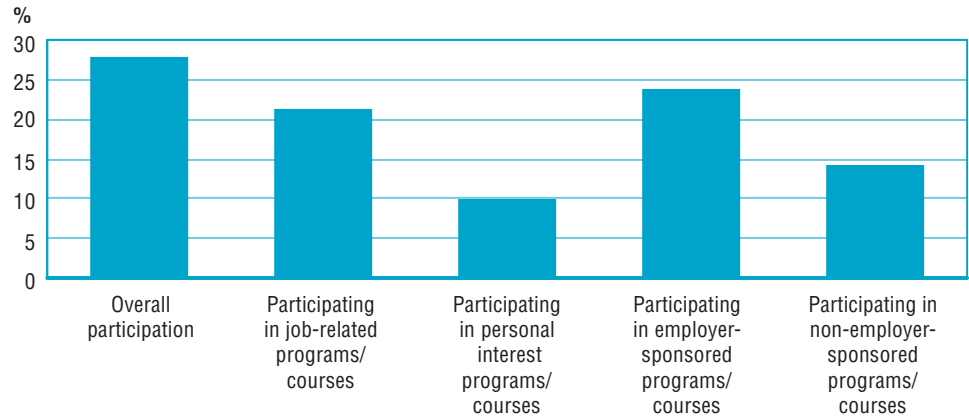
The Canadian adult education activities are predominantly job-related.

2. Although broad, the question only refers to participation in structured, organised forms of adult education and training. As noted in the Introduction, though informal learning at home, at work or in the community are important aspects of lifelong learning, they are excluded here.
3. This figure refers to the adult population, as defined in the Introduction. If all full-time students completing their initial education were included, the the participation rate would increase to 31%.
4. The number of adult students, as defined in the survey, is five times as high as the number of full-time students classified as youth. The total number of hours these adults spent studying equals the total number of hours spent by youth.

FIGURE 1.2
Participation in adult education and training in Canada

Percentage of adult population participating in education and training, by study orientation and employer support, Canada, 1997

Adult education and training involves a considerable segment of the Canadian population. The data show that participation for job-related reasons is much more common than enrolling for personal reasons.



Provincial differences in adult education are substantial, and surprising...

There are substantial differences in the rate and distribution of participation in adult education and training across Canada. Figure 1.3a indicates that rates vary from a low of 19% in Newfoundland to a high of 32% in British Columbia. The Atlantic provinces, with the exception of Nova Scotia, report a low incidence of participation. The same is true of Quebec, with a rate of 21%. Education and training are most prevalent in Alberta, British Columbia and Ontario. The pattern differs somewhat for employer-sponsored education. Whereas more than one in four working individuals in Nova Scotia, Ontario, Saskatchewan and Alberta report participating in a structured learning activity supported by an employer, only one in six Quebecers obtained this kind of support. With a participation rate of 18%, British Columbia stands out with respect to activities not supported by employers, whereas Newfoundland has the lowest rate at 9%.

FIGURE 1.3a
Participation in adult education and training across Canada

Percent of adult population participating in adult education and training, by province, study orientation and employer support, Canada, 1997

The overall participation rate varies from a low of 19% in Newfoundland to a high of 32% in British Columbia.

- Overall participation
- Participating in job-related activities
- Participating in personal interest activities
- Participating in employer-sponsored activities
- Participating in non employer-sponsored activities

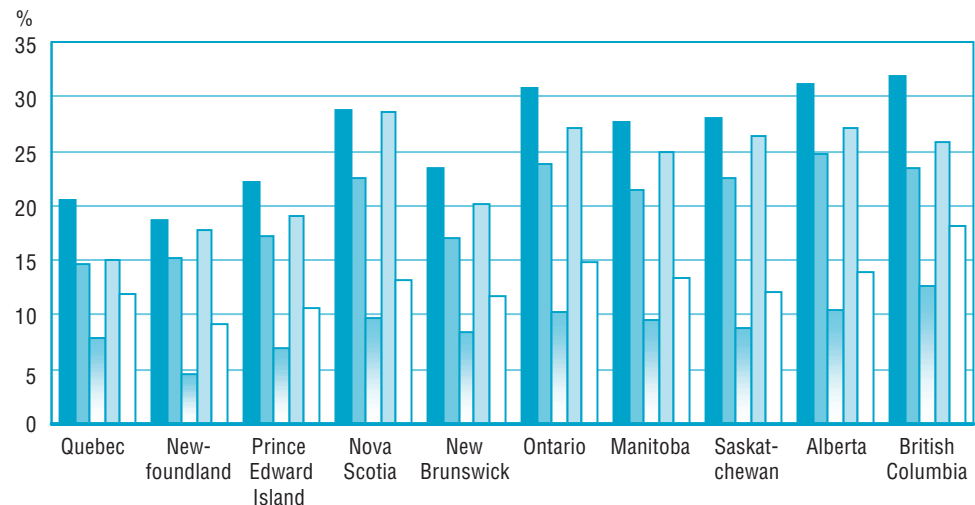
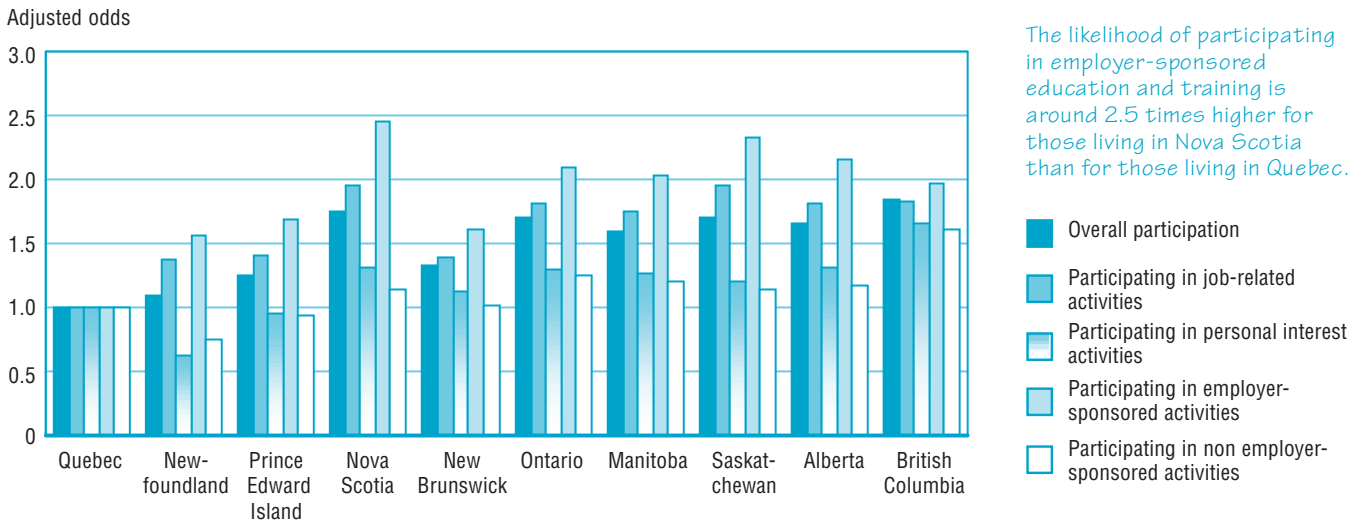


FIGURE 1.3b

Likelihood of participation, by province

Adjusted odds ratios showing the likelihood of receiving adult education and training by province, study orientation and employer support, 1997



The likelihood of participating in employer-sponsored education and training is around 2.5 times higher for those living in Nova Scotia than for those living in Quebec.

- Overall participation
- Participating in job-related activities
- Participating in personal interest activities
- Participating in employer-sponsored activities
- Participating in non employer-sponsored activities

Note: The odds ratios are adjusted for age, sex, educational level and labour force status. They show the chances of participation of people living in the various provinces relative to those living in Quebec (for whom the likelihood is set at 1).

Using Odds Ratios

The analysis was performed using a logistic regression model. It compares respondents who belong to one group (e.g. university graduates who participated in adult education and training) with a specific reference group (e.g. adults who did not complete their high school). Differences are expressed by an odds ratio which, in this example, is the ratio of the probability of university graduates of participating to the probability of participating of adults who did not complete their high school. An odds ratio of 1 represents equal odds of respondents receiving and not receiving adult education and training. Coefficients with values below 1 indicate less chance of receiving education, whereas coefficients greater than 1 represent an increased chance. Adjusted odds ratios are controlled for difference in age, sex or any selected characteristics of the respondents (Hosmer and Lemeshow 1989). For the purpose of the analysis presented in Figure 1.3, Quebec is used as reference because it shows the lowest rate of participation in employer-sponsored education and training. Then the likelihood (odds ratio) of someone in Quebec participating in adult education or training is set at 1.

Provincial differences can also be studied using the odds ratios shown in Figure 1.3b. In these calculations, Quebec is used as a reference category and differences in educational attainment and demographic and labour market structures are accounted for. With these factors under control, the odds of receiving employer-sponsored education or training is about 2.5 times higher for people living in Nova Scotia and Saskatchewan than for those in Quebec. People from Alberta, Ontario and British Columbia the odds of receiving employer-supported training were twice as they were for people in Quebec. As can be seen in Figure 1.3b, the differences are smaller for non employer-sponsored education. Thus, the odds of participating in education or training not supported by the employer for someone in British Columbia is 1.6 times higher than for a person in Quebec. Although statistically significant, the differences in enrolment between Quebec, Alberta and Ontario are quite small.

... Other things being equal, Nova Scotians are still 2.5 times more likely to receive employer-sponsored education or training than Quebecers.

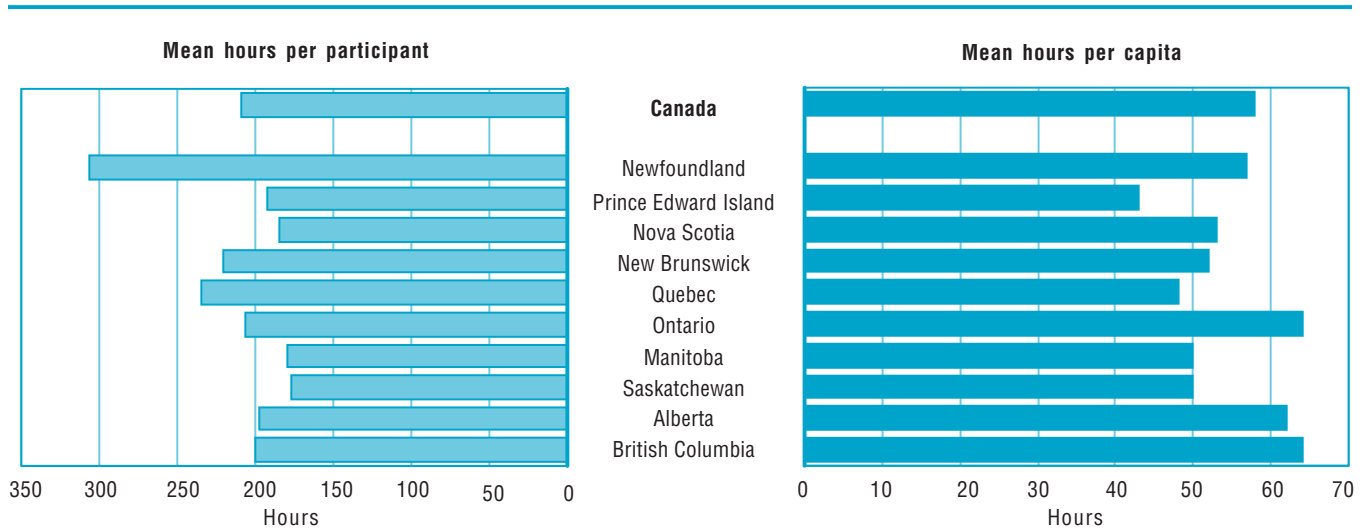
1.3.2 Study duration

Participation rates do not provide a complete picture of the training effort...

The participation rate is a crude measure of the training/learning effort because it does not take study duration into account. As stressed by Houtkoop and Oosterbeek (1997, p. 22), the impact of education and training is largely determined by the duration of the participation. Figure 1.4 shows the average number of hours spent on adult education or training activities.⁵

FIGURE 1.4
Duration of studies, by province

Annual mean hours of study per participant and per capita, by province, 1997



While Newfoundland and Quebec have relatively low participation rates, their average length of training seems to be substantially longer than in other provinces.

... because of the differences between provinces in study duration.

Interestingly, Newfoundland has a relatively low participation rate, but it scores high on study duration: 307 hours per participant per year compared with a Canadian average of 209. This could probably be explained by the fact that a substantial number of participants enrolled in labour market training programs that in comparison to most courses are of longer duration. Quebec, with an average of 234 hours, is also higher than the national average. In contrast, provinces with high participation rates, such as Alberta and British Columbia, find themselves slightly below the country average when it comes to study duration. This can be explained by differences in the balance between courses that are of relative short duration and programs that tend to be of a longer duration across provinces.

Ontario has the highest total adult education effort per capita.

Following the OECD (1998), we have tried to develop a more comprehensive indicator of the total effort that provinces invest in adult education and training.⁶ As reported in Annex C, Table 1.4, study duration per capita ranges from 64 hours per adult in Ontario and British Columbia to 43 in Prince Edward Island. Alberta also shows a high training effort with 62 hours per capita.

5. It is important to note that the total amount of time spent on these activities varies dramatically, from a one-day workshop to several months of full-time study.
6. This indicator is based on the adult population. Number of hours per capita is derived by calculating the total sum of hours spent in adult education and training divided by the total number of adults in the population. Learning activities for which no study duration was reported were assigned an average duration based on similar activities in the province concerned.

1.4 Demand Characteristics

A better understanding of adults' readiness to learn can be gained by examining how the demand for learning results in actual participation. Five demand characteristics are examined in the section below: sex, educational attainment, age, employment status and job characteristics.

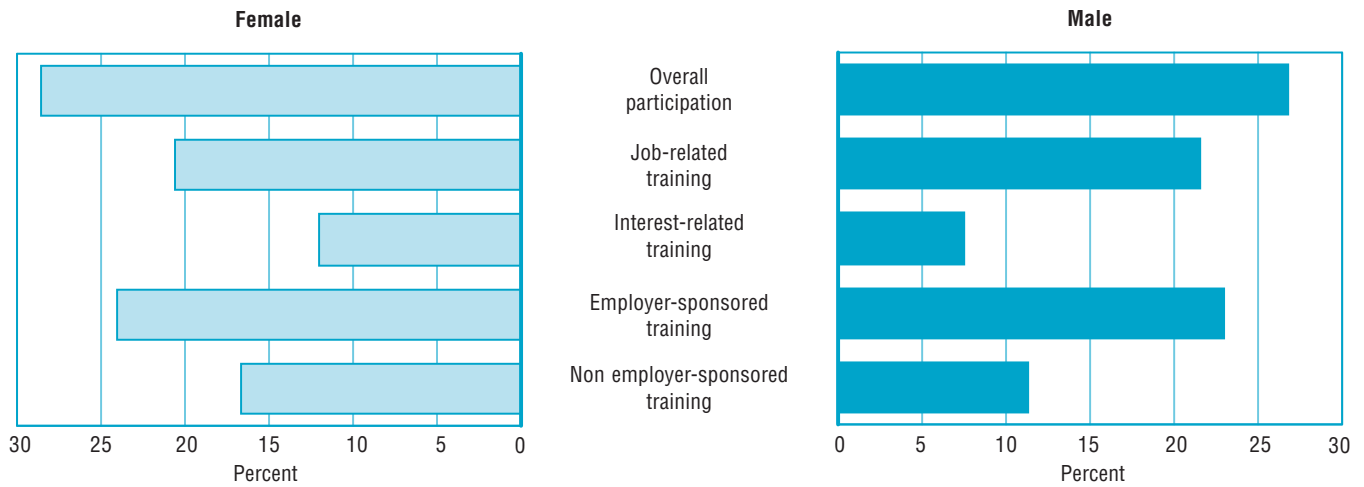
1.4.1 Sex

As shown in Figure 1.5, the overall participation rate is quite similar for men and women, although the latter have a slightly higher participation rate. This is consistent with the international comparative results reported in Bélanger and Tuijnman (1997). However, this overall rate masks certain serious problems women face in the adult education market. For example, women do not receive the same level of employer support towards their education and training as men do, and have to rely more on themselves for training. A lower labour market participation rate, as well as a higher rate of part-time employment helps to explain the situation. When these factors are accounted for there is no discernible sex difference.

Men and women participate as often in education and training, but for somewhat different reasons.

FIGURE 1.5
Participation, by sex

Percentage of the adult population participating in adult education and training, by sex and study orientation, Canada, 1997



1.4.2 Educational attainment

The findings of the AETS strongly support previous inferences that adult demand for learning can be explained by 'the long arm of the family.' As documented in *Literacy Skills for the Knowledge Society* (OECD, HRDC and Statistics Canada 1997), there exists a strong link between an individual's level of functional literacy and the literate culture of the family of origin. Second, while roots are established during childhood, readiness for learning is further fostered by the education system. The same social and cultural forces that support the relationship between early literacy and family background also influence the distribution of educational attainment in the population.

The influence of family literacy levels is visible not only in success at school...

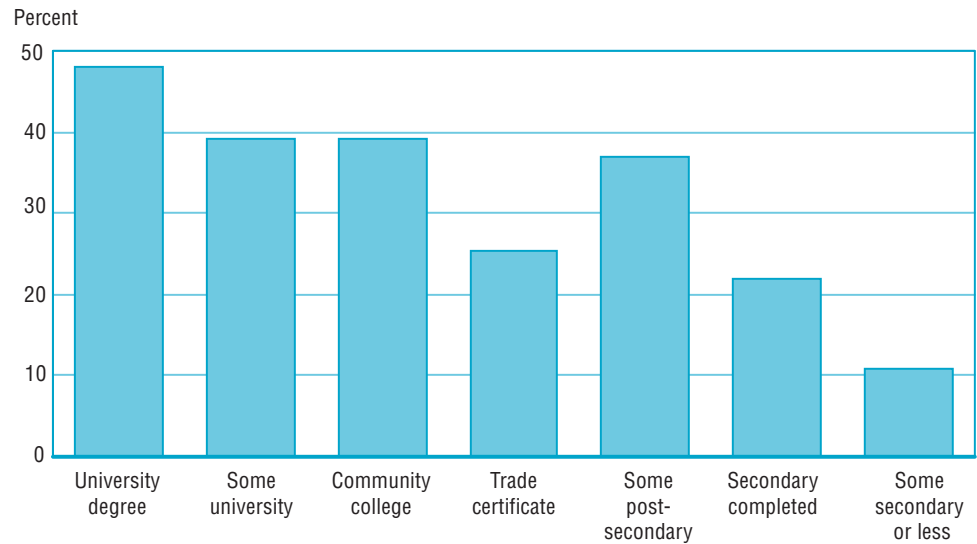
but also subsequently in education and training decisions taken in adulthood ...

The influence of family background is also visible in the strong relationship between initial educational attainment and participation in adult education. Figure 1.6a shows total participation by initial educational attainment. The rates vary from a low of 11% among those who did not complete high school to a high of 48% among Canadians with a university degree. Four distinct categories of participation seem to be closely related to levels of initial education. At the bottom are those who have not completed high school. High-school graduates and people with trade certificates fall into the second level, with a rate of 12 to 15 percentage points higher. About the same increase in the rate of participation can be observed between the former category and those with a community college background. At the top with a markedly higher rate come the university graduates.

FIGURE 1.6a
Participation predicted by educational attainment

Percent of adult population participating in adult education and training, by level of educational attainment, Canada, 1997

Adult education is primarily for those who are already well educated. The figure shows variation in participation rates for adults with different levels of education.



... so that someone with a university degree is 7.5 times more likely to receive further education—when other contributing variables are held constant.

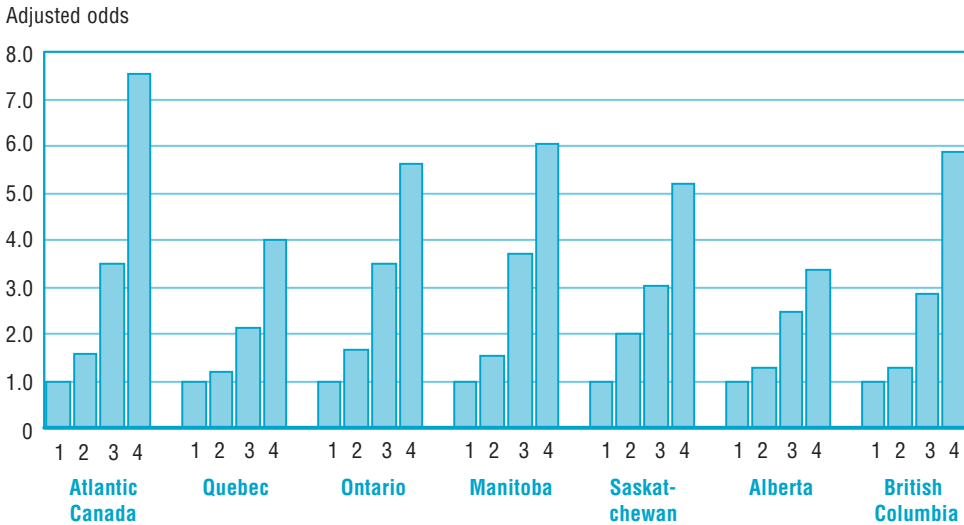
It is appropriate to examine this relationship using unadjusted odds ratios, thus controlling only for differences in educational attainment. The odds of participating for a Canadian with a university degree is 7.5 times that of a Canadian who didn't complete high school. The comparable odds are 2.3 for those with a high school diploma and 5.3 for community college graduates (see Table 1.6a in Annex C). As differences in education are related to other factors that have an impact on participation—such as age and labour force participation—an adjusted odds ratio is also presented. When these additional factors are taken into account, the odds ratio drops to 5.1.

The general 'law of inequality'—which suggests that the higher the educational attainment the more likely a person is to participate in adult education—holds up to scrutiny in all regions of Canada. However, the data in Figure 1.6b suggest that some provinces appear more successful than others in attracting participants with low levels of school attainment. Because of small sample sizes, the Atlantic provinces are grouped together.

FIGURE 1.6b

Likelihood of participation, by province and educational attainment

Adjusted odds showing the likelihood of adults receiving adult education and training, by province and level of educational attainment, 1997



Atlantic Canadians with a university education are more than seven times more likely (adjusted odds ratio) to participate in adult education and training than those who did not complete high school education

1. Some secondary or less
2. Secondary completed
3. Postsecondary non university
4. University degree

In Atlantic provinces, the odds of participating in adult education and training for those with a university education are 13 times higher (unadjusted odds ratio) than for those who had not completed high school. In Alberta, the odds ratio is equal to 5—by far the lowest difference in likelihood of participation by education level in the country. Manitoba and Saskatchewan show relatively large differences in participation by education level, while Quebec, Ontario and British Columbia experience smaller differences—but substantially more than in Alberta. When factors like demographic and labour market structures are taken into account, the differences in inequality across Canadian provinces is reduced. This is particularly true for Quebec whose adjusted odds ratio for university graduates (4.0) is close to that of Alberta (3.4). The high level of participation and somewhat lower level of inequality in Alberta might be a result of the province’s long history of community-oriented programs of adult education. The reason for the Quebec figure might be that Quebec has a strong tradition of social movement involvement in adult education. A closer examination of the training effort by province also shows that the most educated people participated more but also spent more time on learning activities (see Table 1.6c in Annex C).

Even for people with the same level of education, the likelihood of participating in adult education varies across provinces.

1.4.3 Age

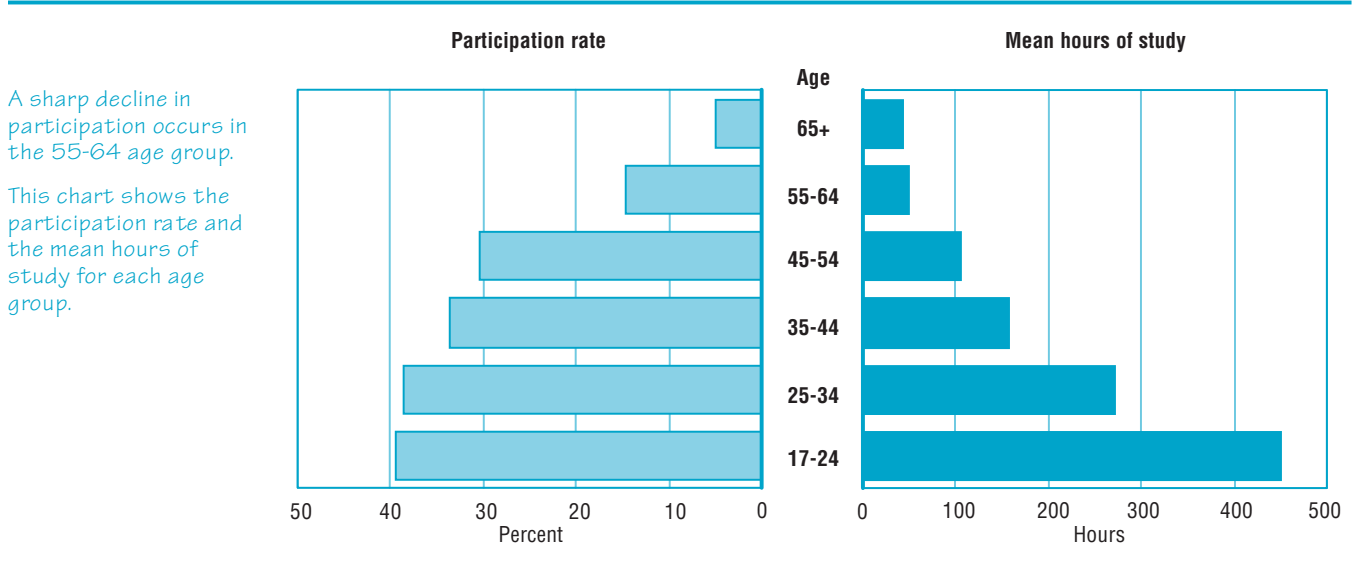
After educational attainment, age is generally the best predictor of participation in adult education (Bélanger and Valdiviselo 1997). Thus, as shown in Figure 1.7, it is not surprising to find that both the incidence of education or training and duration vary by age. Adults’ readiness to take part in education remains fairly stable from early adulthood to the mid-fifties. A sharp decrease in participation occurs among those 55 years and older. Only 5% of Canadians over 64 years of age participate in a structured learning activity compared with 40% in younger age groups.

Age is a major factor in Canadian adult education...

FIGURE 1.7

Incidence and intensity of training, by age

Percent of adult population participating in adult education and training and mean hours of study by 10-year age intervals, Canada, 1997



A sharp decline in participation occurs in the 55-64 age group.

This chart shows the participation rate and the mean hours of study for each age group.

...with adults over 55 receiving little employer support for training.

Study duration begins to decline after the mid-thirties.

But even among those over 55, job-related adult education remains predominant.

Middle-aged unemployed are hard to reach with training interventions...

The percentage of people receiving employer-sponsored education or training is almost identical (around 25%) for all ages up to those aged 55 or over. Participation in mainly self-sponsored education begins to drop off at 35 years.

A more detailed picture emerges from an analysis of study intensity. Figure 1.7 also reports the average hours of total participation by age. As can be expected, the youngest age group, those aged 17 to 24, shows the highest time investment in education at 451 hours. Intensity, although much lower, is still considerable among those aged 25 to 34, and continues to decline gradually in the 45 to 54 age group. After age 55, intensity seems to stabilize at around 45 hours per person. The pattern is quite similar for employer-sponsored and non-employer-sponsored learning activities. (See Table 1.7b in Annex C)

The age distribution reflects the fact that even within a framework of lifelong learning, the major investment in education will continue to take place in the early stages of life. This makes sense economically, because of the longer time period during which individual and social benefits are expected to accrue. Still, the results suggest that education and training for older people is less developed than the changing demographic structure appears to call for. Structured learning activities, as well as informal learning, can play an important role in preparing older adults to participate fully in society. It is of interest to note that even those 55 to 64 years old train primarily for job-related reasons.

1.4.4 Employment status

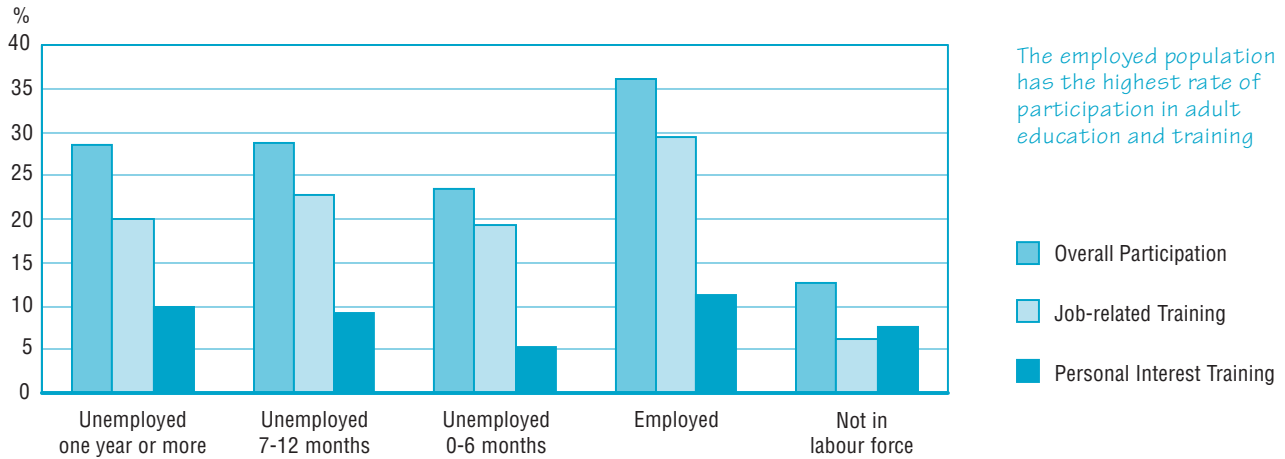
Previous research shows that the employed population has the highest rate of participation in adult education and training (Houtkoop and Oosterbeek 1997; Statistics Canada and Human Resources Development Canada 1993, 1995 and 1997). However, one in five long-term unemployed Canadians have taken job-related training. Recent federal and provincial shifts to active labour-market policies may explain this fact, but the unemployed over 45 years of age are difficult to reach. While 20% or more of the unemployed in the each of the younger age groups

participated in job-related education and training activities, only 9% of the 45-to-54 age group and 13% of the 55-to-64 age group did (see Table 1.8b in Annex C). This finding may suggest that only a minority of unemployed Canadians expect adult education and training to improve employment opportunities.

FIGURE 1.8

Participation, by labour force status

Percent of adult population participating in education and training, by labour force status and study orientation, Canada, 1997



1.4.5 Job characteristics

An employer’s readiness to invest in training is to a large extent related to job characteristics. Furthermore, work experience and career considerations foster a readiness among some but not all people to invest in their education. The findings demonstrate that adult education is closely linked to employment.

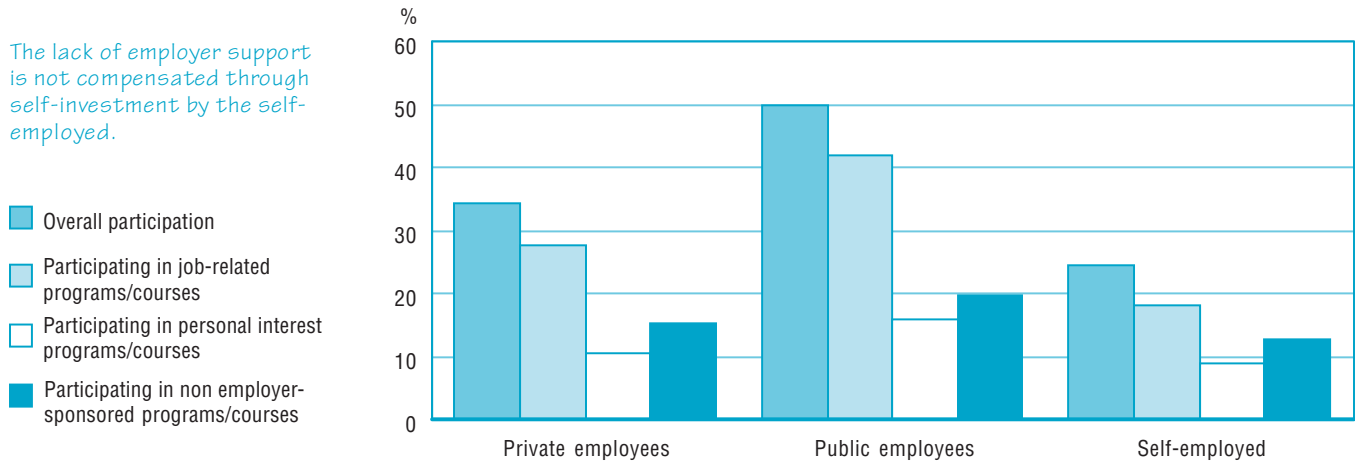
...partly because employment is a key factor in adult education and training decisions.

Recent structural changes in the Canadian economy have resulted in a significant increase in self-employment. Figure 1.9 shows that this group is underrepresented in adult education. Because the self-employed mostly work in small-scale operations, they may encounter a lack of infrastructure and support for organised education and training activities. AETS data indicate that the self-employed do not offset the lack of employer support for training by investing more themselves in formal adult education and training. However, we do not know to what extent the self-employed may offset this lack of formal training through more informal training.

The self-employed are underrepresented in adult education and training.

FIGURE 1.9
Participation, by class of main job

Percentage of employed adult population participating in adult education and training, by class of main job, study orientation and non employer-supported education and training, Canada, 1997



The data show (see Table 1.10a in Annex C), that it is an advantage to work in a medium-sized or large company where training processes are often formalized. The reverse is true for those working in small firms where a limited internal labour market and high turnover may make employers more reluctant to fund the costs of developing portable skills. However, there is evidence suggesting that firms do train workers for skills that are portable to other firms, contradicting the hypothesis that firms train for skills specific to the firm only. In the case of small firms, the large fixed costs of formal training may be a more serious deterrent to investing in training.⁷ Thus, only 16% of those working in small firms received employer-supported education or training, compared with 34% in companies with 100 employees or more. Differences in participation rates between firm sizes are much smaller in the public sector than in the private sector. Except for the very small organizations (less than 20 employees) that have smaller rates, there are practically no differences among other public organizations. In the private sector, there is a clear distinction between firms with less than 99 employees and those with more than 100. It is interesting to note that medium-sized firms (100 to 499 employees), in both the private and the public sector, provide support to the same extent as large firms.

Public-sector employees are more likely than private sector employees to have their education supported by their employers (35% versus 20%; see Table 1.10b in Annex C). In general, part-time workers have fewer benefits than full-time workers, and education and training form no exception. The participation rate in employer-sponsored adult education and training for full-time workers was 27%, compared with 20% for part-time employees. This is more of a reality for women, who more often work part-time than men (see Table 1.10c in the Statistical Annex C).

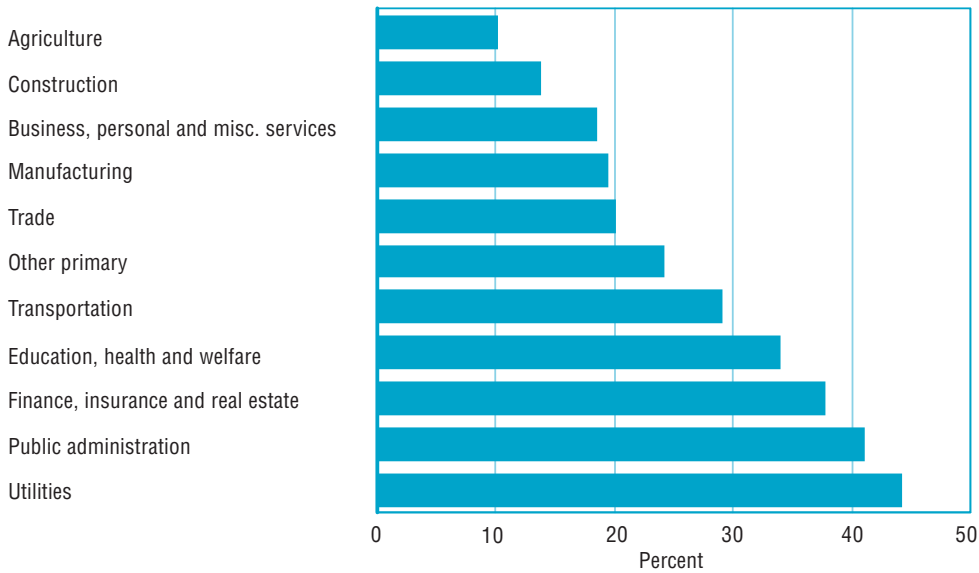
7. Small firms generally argue strongly that they train as much as large firms but through informal rather than formal training activities. This survey was not designed to capture informal training.

The highest participation rates can be found in utilities, public administration and finance. In these sectors of the economy workers are three times more likely to receive employer-supported education than those in construction. A part of the difference is explained by variation in occupational status, firm size and ownership conditions (private versus public). When these factors are controlled for, the odds of getting employer support for those employed in these three sectors are still twice as high than for those working in construction. A relatively low training demand, with a rate of employer support of under 20%, can be found in other sectors of the economy, including manufacturing, agriculture, trade and business services, and other primary industries (see Figure 1.10 and Table 1.10d in Annex C).

Participation rates co-vary with the demand for skills at work.

FIGURE 1.10
Participation, by major industrial group

Percentage of employed population participating in adult education and training, by major industrial group, Canada, 1997



Incidence of participation in employer-sponsored adult education and training is different among the major industrial groups.

Not surprisingly, in comparison with blue-collar workers, the odds of people in professional and managerial positions to benefit from employer support are about 2.5 times higher. Clerical staff receive support slightly more often than blue-collar workers (see Table 1.10e in Annex C). Factors like firm size, industry and occupation are mainly a proxy for work situations that influence training decisions. They do not say much about the nature of jobs and the training needs associated with them. Non-supervisors were only half as likely to have participated in employer-supported education and training as supervisors (see Table 1.10f in Annex C). In this context it is worth observing that in the IALS, a direct relationship was found between reported use of literacy skills at work and the extent of employer-supported education and training. The higher the demand for the use of literacy skills at work, the more likely it is that an employer will invest in workplace education and training (OECD, HRDC and Statistics Canada 1997). Further, as can be expected, the likelihood of receiving employer support varies with income (see Table 1.10g in Annex C). The higher the income, the more likely a person is to receive support for education and training from the employer.

Hence type of occupation, supervisory status and seniority level of the job affect the incidence and duration of education or training.

Can demand-side factors explain the relatively low level of participation in personal development courses and programs?

Educational institutions dominate the Canadian market for adult education and training, but employers also play a crucial role.

In summary, the demand side—those who participated in adult education and training during 1997—reveals a distinct pattern. Participation in adult education and training is mostly for job-related reasons. Women participate slightly more frequently than men, particularly in personal-interest courses. Participation rates and study duration decrease with age. Participation is linked to job characteristics. Finally, there is a strong relationship between educational attainment and demand. So why has the overall rise in educational attainment in the Canadian population not produced a broader demand for personal-interest courses? Part of the answer might be found in supply characteristics.

1.5 Supply Characteristics

Supply is described in terms of institutions, locations and media used in the transfer of content, as well as conditions influencing enrolment, such as financial support.

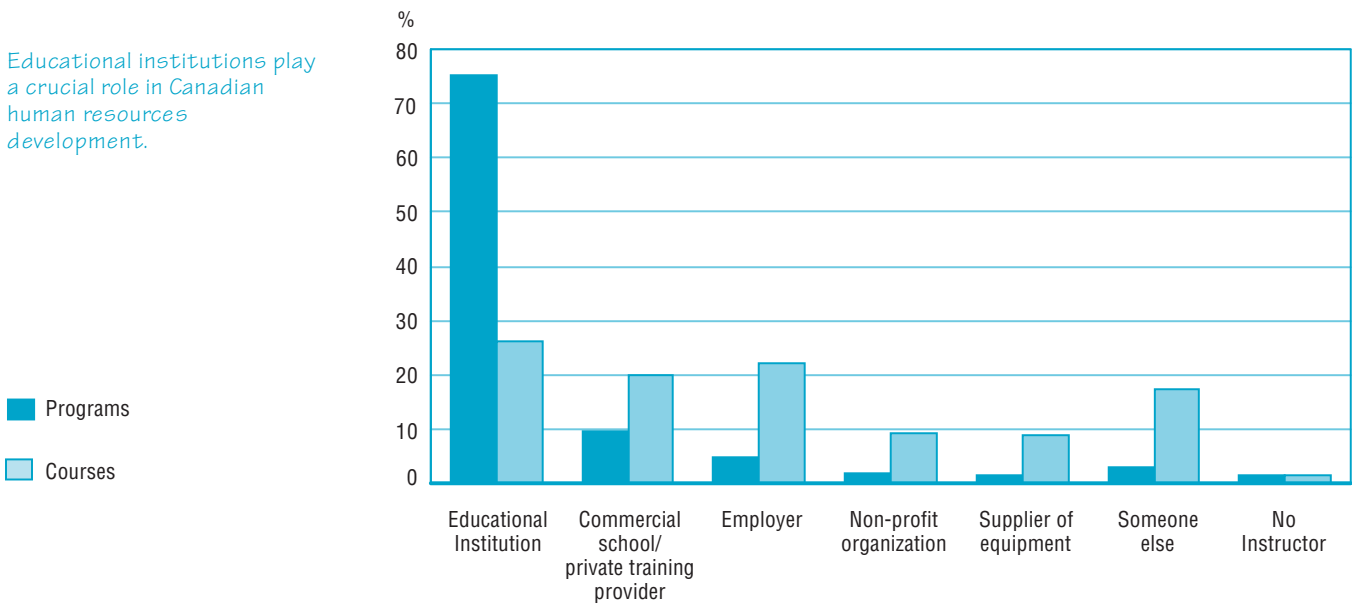
1.5.1 Suppliers of adult education and training

The suppliers of adult education and training in Canada are presented in Figure 1.11. The data reveal the crucial role institutions play in human resources development. Three-quarters of all programs⁸ and one-quarter of all courses were offered by educational institutions in 1997. But employers play a crucial role too, offering one-third of job-related courses, as well as apprenticeship programs. Commercial schools and private training providers also play an important role; they were responsible for one-fifth of courses and, interestingly, their share of personal interest courses was about the same as their share of job-related courses. Non-profit organizations were major providers of personal interest courses, offering 16% of them. Producers and suppliers of equipment offer 10% of job-related courses.

FIGURE 1.11
Suppliers of adult education and training

Percentage distribution of the suppliers of adult education programs and courses, by study orientation, Canada, 1997

Educational institutions play a crucial role in Canadian human resources development.



8. Programs accounted for 22% of all formal learning activities pursued by adults in 1997.

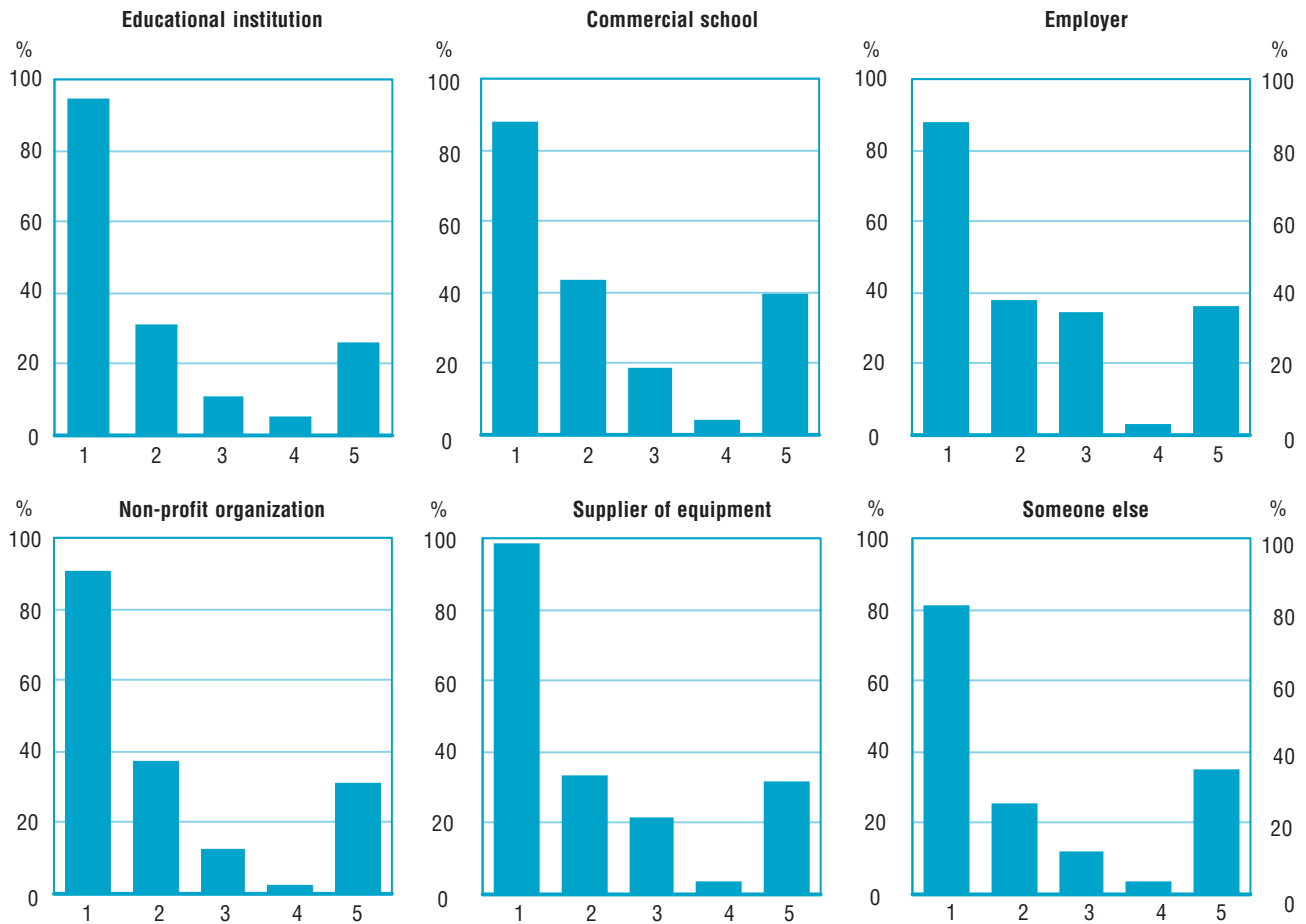
1.5.2 Medium of instruction

Figure 1.12 indicates that classroom, the traditional medium of instruction, remains dominant when it comes to adult education and training. Even when a firm provided the course, 88% of the courses retained some classroom instruction. Reading materials are still important and are used frequently, regardless of the course provider. Some 34% of the courses directly provided by employers contained an element of on-the-job training. Recent developments in instructional technology, such as educational software and particularly the Internet, are still used sparsely by learners. This is particularly true of the latter.

Classroom instruction—not multimedia or the Internet—is the main method of instruction in courses and programs

FIGURE 1.12
Medium of instruction

Percentage distribution of medium of instruction in courses, by supplier, Canada, 1997



1. Classroom instruction
2. Reading materials
3. On-the-job training
4. Correspondence
5. New learning technologies

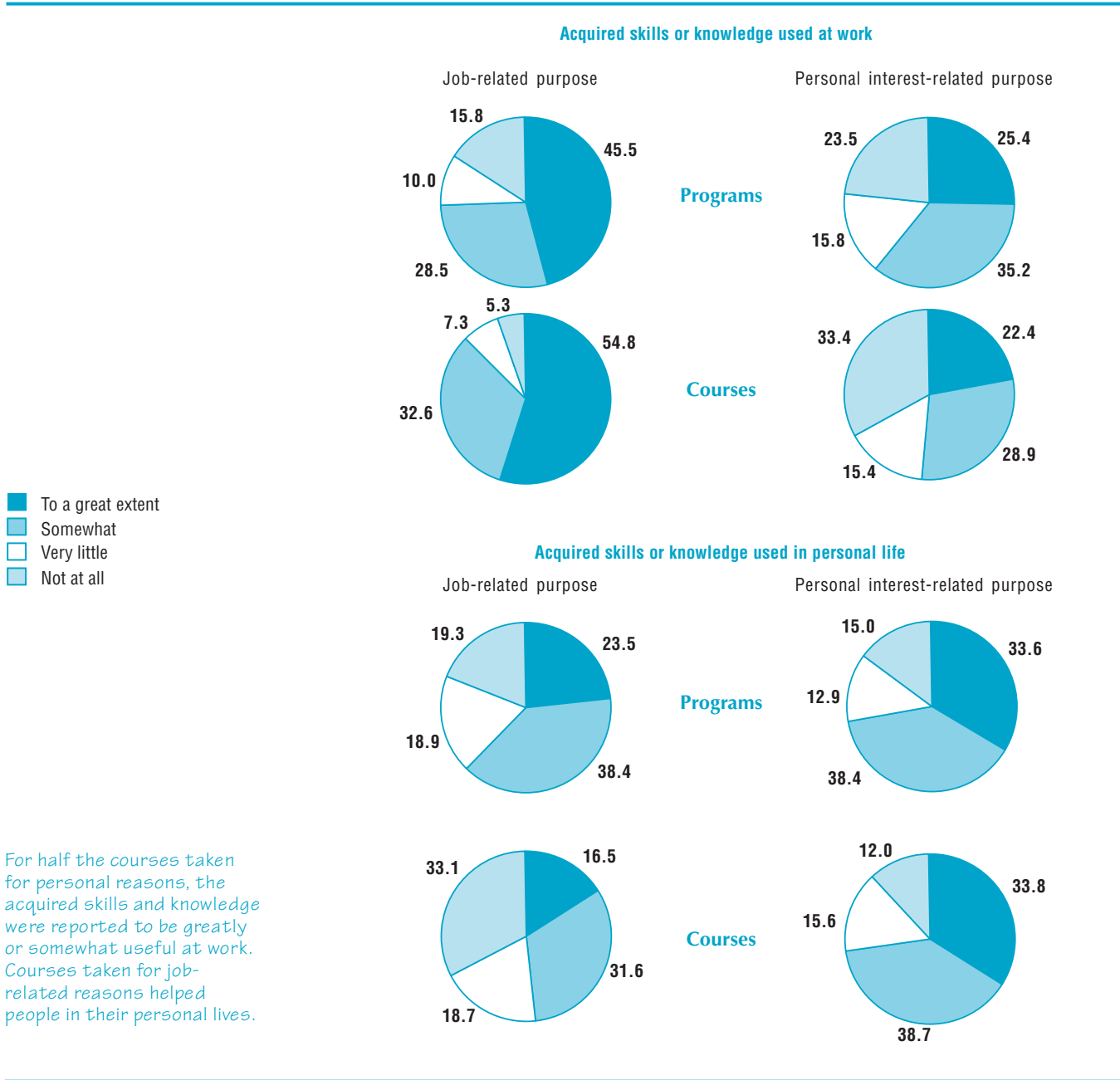
The 'traditional' medium of classroom instruction remains the dominant medium.

1.5.3 Perceived usefulness of adult education and training

The perceived usefulness of adult education and training was measured by two questions: *To what extent are you using the skills or knowledge acquired in this course at work?* and *To what extent are you using the skills or knowledge acquired in this course in your personal life?* The respondent could choose between four response alternatives: to a great extent; somewhat; very little; and not at all. Results presented in Figure 1.13 distinguish between job-related and personal reasons for taking courses or programs.

FIGURE 1.13
Perceived usefulness of adult education and training

Percentage distribution of skills and knowledge acquired through education and training applied at work and in personal life, by study orientation, Canada, 1997



Participants generally perceived their studies or training as useful. A few patterns emerged in the data. First, as expected, people studying for job-related reasons applied the acquired skills or knowledge at work to a higher degree than those who participated for reasons of personal development. The opposite is true for the application of skills and knowledge in personal life. More interesting is the extent to which what has been learned in one context is transferred to another context. Thus, for half the courses taken for personal reasons, the acquired skills and knowledge were reported to be greatly or somewhat useful at work as well. Similarly, though to a lesser extent, job-related courses helped people in their personal lives. The general usefulness is higher for programs than for courses. This is reasonable, given the duration of the study and the fact that many programs taken for job-related purposes are of a general nature.

Participants express a rather high level of satisfaction with the education or training they received...

There are no major differences between providers in reported usefulness of studies (see Tables 1.13c, 1.13d and 1.13e in Annex C). Those who participated for job-related reasons and received education from an employer, a producer or a supplier of equipment used their knowledge or skills at work more than those who either enrolled in an educational institution or received their education from a non-profit organization. On the other hand, when it comes to using the acquired skills in personal life, those who took courses from non-profit organizations reported the greatest usefulness. It should also be noted that there are no meaningful differences among providers about the extent to which participants' study expectations have been met.

... regardless of who provided it.

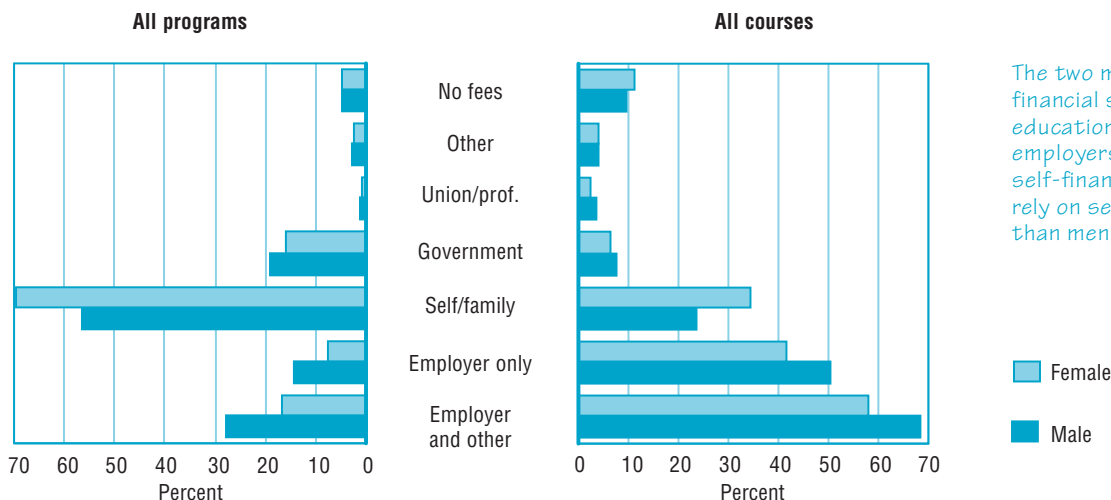
1.5.4 Financial support

Financing is a key element in realizing a lifelong learning strategy (Timmermann 1995). Figure 1.14 indicates that the two main sources of support for adult education are employers and self-financing. More than 60% of all course participants received financial support from their employers and 29% said that they or their family had contributed. Self-financing was the most common way to finance longer studies in the form of a program (63%). Women benefit less often than men from employer support for their education and training; they have to rely instead on alternative sources of funding—mainly, but not exclusively, self-financing.

Money also matters in adult education...

FIGURE 1.14
Sources of financial support for adult education and training

Percentage distribution of financial support from various sources, by sex, type of program and study orientation of participants, Canada, 1997



The two main sources of financial support for adult education and training are employers and self-financing. Women have to rely on self-financing more than men do.

Female
Male

...with employers subsidizing over 60% of all the courses taken by Canadians during a calendar year.

Only 7% of the participants in courses reported receiving financial aid from government. This reflects the fact that the survey did not ask about government funding of educational institutions. In Canada, government funding for education is overwhelmingly directed towards educational institutions rather than individuals. Consequently, only persons who received some direct support from government are able to report such support. Hence it is not surprising that 24% of the unemployed and 17% of those not in the labour force, but only 5% of the employed, reported receiving direct financial assistance from government for courses (see Table 1.14d in Annex C). The figures reflect the role of adult education and training as an instrument in governments' labour-market policy. It is also worth noting that employers seldom (4%) provide financial assistance for basic programs, such as elementary or high-school programs (see Table 1.14a in Annex C). In comparison, 37% of the participants in these kinds of programs received support from government. Looking at programs offered by universities, 21% of participants received direct financial support from the employer but only 17% of all participants in a program of study, at any level, reported financial support from government.

Employers in Saskatchewan, Alberta and Nova Scotia contribute more financially to the education and training of their workers than do employers in British Columbia and Quebec.

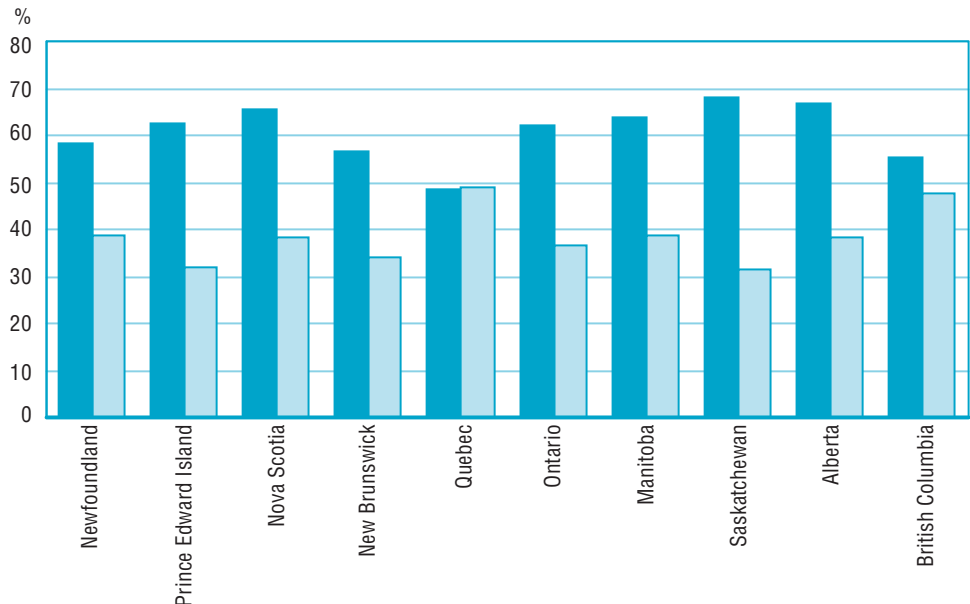
Despite marked differences in participation rates, Quebecers and British Columbians are quite similar when it comes to sources of financial support. The proportion that reported self-financing was quite high in these two provinces, while the relative rate of employer support was low, especially in Quebec. The relative proportion mentioning some kind of direct financial support from government was particularly high in New Brunswick and low in Manitoba and Alberta (see Table 1.15 in Annex C).

FIGURE 1.15
Sources of financial support for adult education and training, by province

Percentage of participants in adult education and training receiving financial support from their employer or from self or family, by province, 1997

Except for Quebec, employers financially supported more than half of all participants in adult education and training.

■ Employer
■ Self/Family



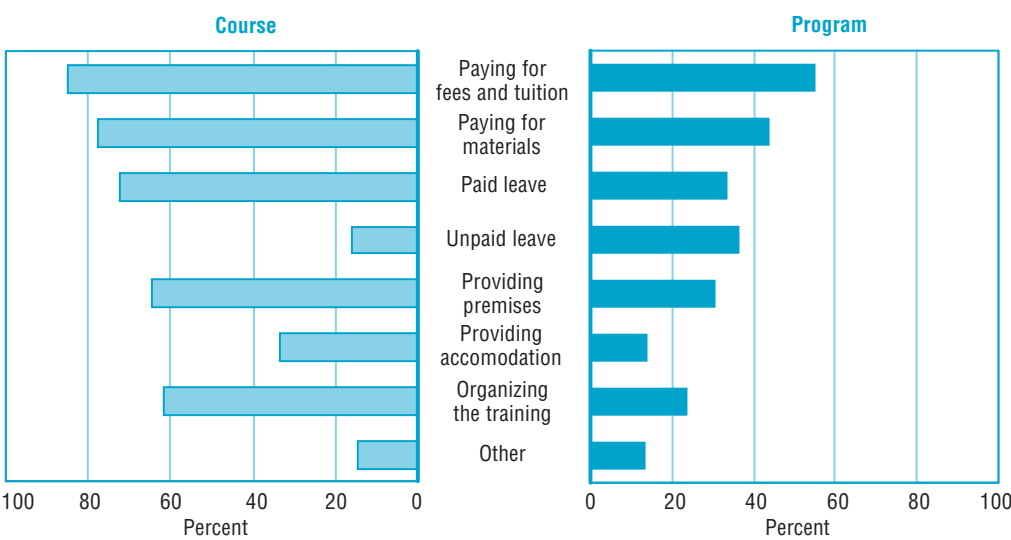
1.5.5 Nature of employer support for adult education and training

In view of the central role of Canadian employers in the provision and financing of learning opportunities, the AETS contains a special section that seeks information on the nature of their support. The nature and extent of support provided by employers is shown in Figure 1.16. The common practice is for employers to provide more than one form of benefit. Most often employers pay or subsidize fees—they did this for 81% of those who reported receiving some employer support—and provide learning materials (73%) and premises (59%). This frequently means organizing the training (56%). Only 22% received employer support in the form of unpaid time off.

More often, employers subsidize fees...

FIGURE 1.16 Nature of employer support for adult education and training

Percentage distribution of various forms of employer support, by type of program and for courses by study orientation, Canada, 1997



The common practice is for the employer to provide more than one form of educational and training benefits. Most often, the employer pays fees.

In general, the factors just shown to have a major impact on the likelihood of receiving employer support have less effect on the nature of the support. The only case where there are major differences concerns full-time and part-time employment. Full-time workers were more likely than part-time workers to get their fees paid (86% versus 61%), and get paid or unpaid time off (73% versus 48%). Part-time workers received support in the form of the less attractive option of unpaid time off more often than did full-time workers—41% compared with 18% (see Table 1.16b in Annex C).

...though sometimes they agree to unpaid time off for study.

Further insights into how supply-side characteristics influence adults' readiness to engage in adult education can be obtained by studying barriers to participation.

1.6 Barriers to Participation

Large groups of Canadians encounter barriers to becoming members of the 'learning society.' A better understanding of these barriers is essential for developing public and private strategies for intervention. Cross, in her seminal work *Adults as Learners* (1981, p. 98), classifies obstacles to participation under three headings:

Research suggests there are three main classes of barriers to participation.

- *situational barriers* (those arising from one's situation in life—e.g., lack of time because of work or family responsibility);

- *institutional barriers* (practices and procedures that hinder participation—e.g., fees, lack of evening courses, entrance requirements or limited course offerings); and
- *dispositional barriers* (attitudes towards learning).

Motivation for study and training was not investigated directly.

Of the barriers identified, lack of time is a major one—but how should this finding be interpreted?

The AETS, like similar large-scale data collections conducted in other countries, exclusively almost concentrates on situational and institutional barriers. Initially, people were asked whether there had been any education and training they had wanted to take for work or non-work-related reasons, but for one reason or another had not pursued it. Those who replied yes were then given a list of reasons for non-participation. As the question was directed to those who had indicated an interest in participating, dispositional barriers were not addressed.

Figure 1.17 shows the relative importance of the various barriers identified in the list of response options. Lack of time because of daily responsibilities is a major barrier to education and training. Among working Canadians, being too busy at work was the dominant reason for not starting a course (59%). Only a small group (8%) saw lack of employer support as a barrier. Family responsibilities were mentioned by about one in five as the reason why they did not take the course they had wanted to enrol in. There is a clear sex difference here, with 26% of women but only 15% of men mentioning family responsibilities as a hindrance. Sex differences are also evident in terms of child care, which was noted by 17% of women but only 4% of men. Many respondents (41%) stated they were unable to take a course or program because it was offered at an inconvenient time. However, it is more likely that their replies refer to the daily pressures of time and responsibility than to an actual lack of evening or weekend courses. In Canada, where part-time students constitute approximately 45% of overall student enrolment, inconvenient scheduling is less of a hindrance to educational participation.

In almost all studies of this nature, lack of time emerges as the dominant barrier, but it is a vague concept. Time is not an endless resource. People have to make choices about how they want to spend it. This is not to deny that because of work and family, some people may have very little discretionary time. But it is likely that for many people, mentioning 'lack of time' is really making a statement about the value they ascribe to education and training and about the expected outcome of such activities. Both participants and non-participants in education and training mentioned situational barriers to about the same extent.

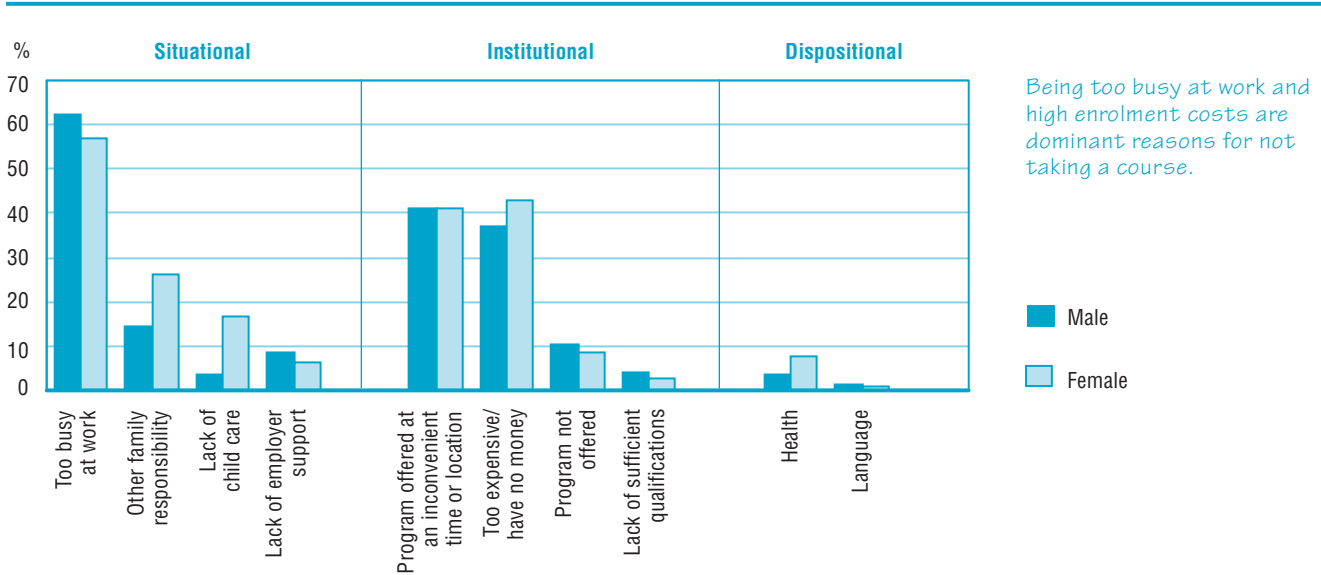
Training costs and the difficulty of finding appropriate sources of funding are other major barriers to participation.

As is evident from the data in Figure 1.17, it is not just daily responsibilities that create barriers to participation; institutional factors also come into play. High costs are reported as a major barrier by no less than 40% of those who wanted to take a course but did not. This is probably part of the explanation for the low participation in personal interest courses which are mainly self-financed. Women mention funding reasons slightly more frequently than men do (43% versus 37%). But cost is not the only factor. Qualifications for financial assistance and financial mechanisms in support of learning opportunities can also be barriers to lifelong learning. In general, financial mechanisms are specific to the sector, program or institution that a student is enrolled in. For educational institutions, this means that revenues depend on factors such as whether study is full time or part time, and whether a student belongs to a specific group targeted for support. For the lifelong learner, the fragmentation of educational finance means different rules apply for eligibility, level of support, and terms and conditions under which grants or loans are awarded and repaid. As a result, access and choice are often determined by the availability of financial support. This is especially so when students forego income from work in order to undertake organised education or training. Other institutional barriers were seldom referred to in the survey.

FIGURE 1.17

Barriers to participation in adult education and training

Percentage distribution of barriers to adult education and training, Canada, 1997



Being too busy at work and high enrolment costs are dominant reasons for not taking a course.

Male
Female

Although the AETS does not directly address dispositional or psychological barriers, it is possible to get a sense of their crucial role in determining the makeup of the Canadian 'learning society'. In all, 72% of Canadians took no formal education or training during 1997 and a large majority of these non participants (87%) not even contemplated doing so. From the point of view of the AETS, this shows that the underlying problem is a lack of demand. Large groups of Canadians do not relate structured learning activities to their everyday lives as citizens, workers or family members. People who don't see adult education as a means of satisfying needs, or who don't believe themselves capable of completing their studies, will rarely participate unless forced to do so (see Table 1.18 in Annex C).

A key factor in the training decision is whether people believe the activity will benefit them.

1.7 Summary and concluding observations

Overall, the findings reflect the influence of work and family. Most participants take courses for job-related purposes and the survey underscores the central role employers play in the education and training of Canadian adults. The relationship between educational attainment and participation in adult education and training shows a familiar pattern. Adult education and training works as a second 'creaming', as those with higher levels of educational attainment participate to a much higher degree than those with an initially poor education. However, a lot more needs to be known about informal training to get a clear picture of the situation.

More discussion and interpretation of the findings is provided in the Conclusion.

The data on supply reveal the crucial role public educational institutions play in Canadian human resources development. Despite much talk about 'new pedagogy,' the traditional medium of classroom instruction still dominates, irrespective of who provides the course. Overwhelmingly, the participants were very satisfied with their adult education experience and found it useful. An important finding is that what has been learned in one context is transferred to another context.

Much adult learning is useful and portable.

CHAPTER 1: Demand and supply of adult education and training

More data are required.

Lack of time because of daily responsibilities is a major barrier to education and training, as are high costs. However, the largest factor seems to be a lack of demand by many Canadians who do not see the benefits of participating in structured learning activities. To decide on appropriate policies and strategies, and to address inequalities, we need a better understanding of how demand evolves and how learning opportunities are distributed over the life span. To do this, more data such as longitudinal information on alternative methods of acquiring knowledge, such as informal training, are also required.

Trends in Canadian Adult Learning

Stephen Arrowsmith and Cathy Oikawa

2.1 Introduction

The previous chapter described current adult education in Canada. The purpose of this chapter is to present, for the first time, an overview of major trends in Canadian adult education and training. Data from a series of national adult education and training surveys have been brought together for analytical purposes for the first time.¹ Statistics Canada conducted these surveys in 1984, 1986, 1990, 1992, 1994 and 1998. The reference year is typically the previous calendar year. Because of changes in methodology and definitions, the present analysis is based on observed trends between 1991 and 1997. Trends in participation rates and study duration are analysed in relation to variables such as age, gender, levels of educational attainment and labour force status.

Like all economically advanced countries, Canada has experienced major changes since the early 1980s. One example is the widespread diffusion of new information and communication technologies and their applications at work and in everyday life. For many participants, adult education and training has offered a means of keeping abreast of such changes. To fully appreciate the contribution of adult education and training to the transformation of Canadian society and the interaction with technological and economic changes requires more in-depth and varied research.

For the first time, trends in adult education are presented.

Further research is needed to illuminate the novel findings presented in this chapter.

1. See Annex B for a more in-depth discussion.

Data Quality and Comparability

The trend data are derived from a series of surveys conducted by Statistics Canada as supplements to the monthly Labour Force Survey between 1984 and 1998. As not all survey data are directly comparable, readers are advised to pay attention to the caveats given in the text. For more information about survey methodology and issues of comparability, readers should turn to Annex B.

For analytical purposes there are three broad categories to which adult learners can be allocated. The first and most exhaustive category comprises all participants aged 17 and over. This category includes students who are enrolled in initial formal education. The second category, which is the focus of this publication, excludes all regular full-time students except those who received employer support, those 20 and over enrolled full-time in an elementary or secondary program and those 25 and over taking a full-time postsecondary program. A third category includes only those individuals from the second category who were employed at the time of the survey.

Rates of participation in adult education and training appear to have stabilized after peaking in the mid-1990s.

2.2 Trends in Canadian Adult Education and Training

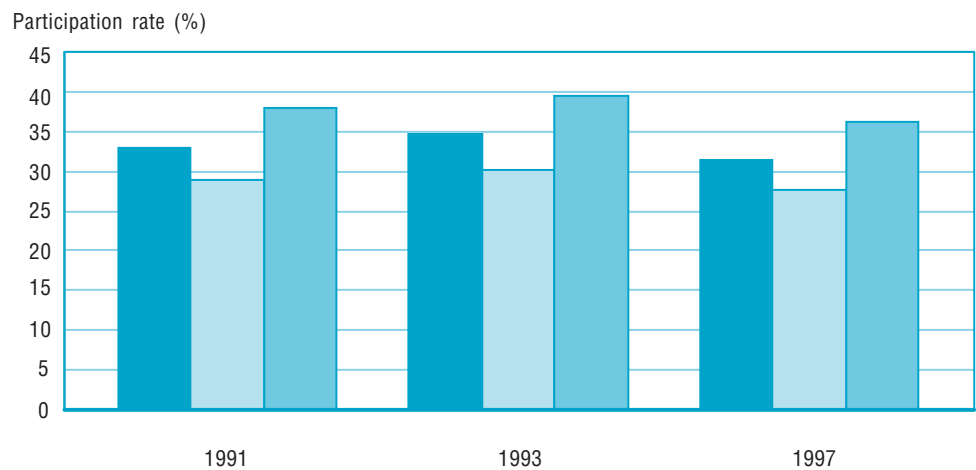
In 1997, 31% of Canadians aged 17 and over participated in a program or course of adult education or training. The national participation rate was 28% when full-time students (as defined in the previous box) are excluded. Participation rates in 1991, 1993 and 1997 were above 30% for the population aged 17 and over and above 27% for those adults who were not full-time students. Participation rates were over 36% for the employed population. Figure 2.1 presents evidence about the overall patterns of participation during the 1990s and the differences across the three populations.² While participation rates have been quite stable there was a slight decline between 1993 and 1997. In light of the emphasis commonly placed on policies designed to strengthen the Canadian learning society, this finding was not anticipated. The remainder of this chapter focuses on the population aged 17 and over, excluding full-time students (see definition in the Introduction).

FIGURE 2.1
Participation rates for selected categories of adult learners

Percentage of the total population, adult population and employed population participating in adult education and training, Canada, 1991, 1993 and 1997

Participation rates have declined slightly for all three categories of adult learners.

■ Total Population
■ Adult population
■ Employed population



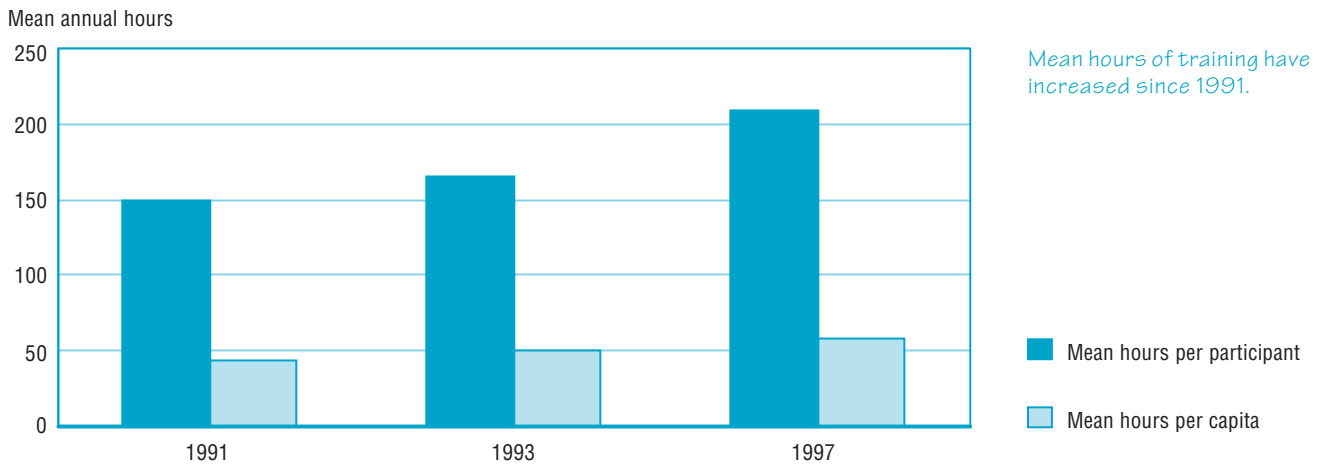
2. Data for the earlier survey years are not included because they are not directly comparable.

Participation rates indicate how many Canadians are involved in adult education and training but they do not offer information about training intensity. The evidence indicates that intensity—measured in hours of study and viewed from both a per capita and per participant perspective—has increased. In 1997 Canadians received an average 58 hours of education or training per capita, while the actual participants averaged 209 hours. Figure 2.2 shows that mean hours of training on a per participant and a per capita basis have increased since 1991.

On average, participants studied more hours in 1997 than 1991.

FIGURE 2.2
Average hours of training

Mean annual number of hours of adult education and training per participant and per capita, Canada, 1991, 1993 and 1997



Training Intensity

Training intensity can be measured using average hours of training per participant and average hours of training per capita. The per capita measure is based on the OECD (1998) indicator of learning effort and is calculated by dividing total hours of training by the total number of adults in the population (i.e., participants and non-participants in adult education and training).

As shown in Figure 2.3, most participants take training of short duration. During the 1990s, 41% to 46% of participants took 30 hours or less of training (1 week of training at 6 hours per day). Since 1991, there have been small increases in the proportion of participants taking training that lasted more than 480 hours (8 months of training at 6 hours per day). However, participants in long-term training still account for a small fraction of total participants.

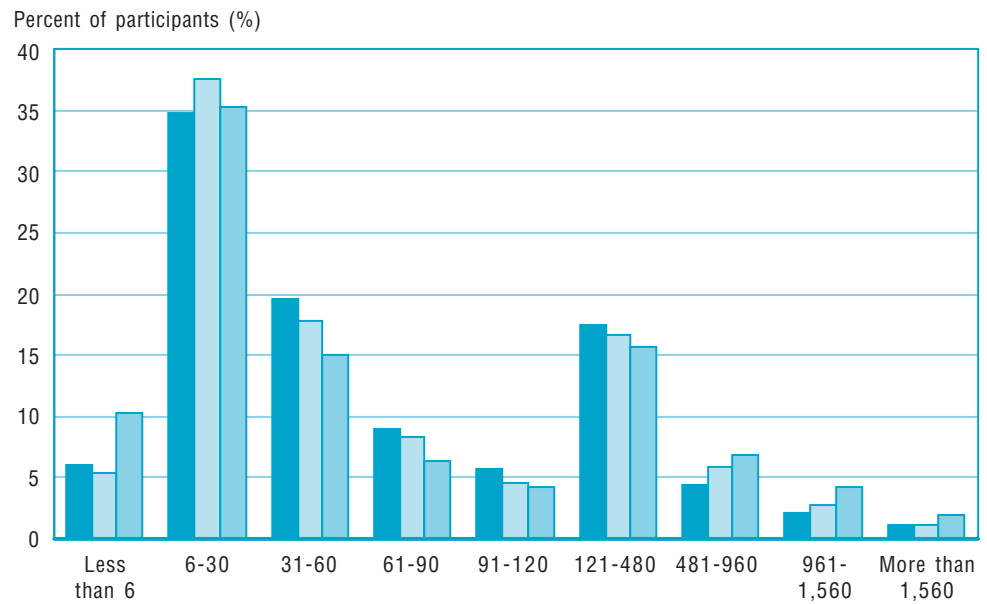
Almost half of participants take one week or less of training a year.

FIGURE 2.3
Duration of training

Percentage distribution of adult participants by total hours of training, Canada, 1991, 1993 and 1997

Participants in long-term training still account for only a small fraction of total participants.

■ 1991
■ 1993
■ 1997



Many factors are known to influence adult education participation; which combination of factors may account for recent trends is a matter for further research.

Figures 2.1 and 2.2 provide information about the overall intensity and rates of participation in adult education and training in Canada. A number of variables, from the previous chapter and other research, are known to influence participation in adult education. For example, Maxwell (1998, p.v) notes that "...access to this essential learning is problematic for many Canadians, especially for those with a weak educational base and for the growing number of Canadians who do not have a long-term attachment to an employer." Factors such as population aging and changes in educational attainment and work organization can influence participation rates. Further compounding the issue, changes in retirement patterns, shifts in industrial and occupational profiles, company mergers and movements in business cycles can also affect learning patterns. Finally, there is some evidence to suggest that Canada has experienced a technology-enabled increase in the volume of informal, self-directed learning at the expense of participation in formal adult education and training (Livingstone 1998 and 1999). Conceivably any one of these factors, or a combination thereof, may account for the recently observed decline in overall rates of participation in adult education and training and much of the variation in rates observed across provinces.

The remainder of this chapter looks at shifts in adult education participation.

A recent report on the International Adult Literacy Survey states: "A prerequisite for a cohesive strategy is understanding what influences adults' readiness to engage in learning, and understanding why large groups are excluded from the emerging learning society"³ (OECD and HRDC, 1997). As a first step towards understanding why some social groups embrace adult education while others do not, it is necessary to examine trends and variation in participation rates by major demographic, social and economic factors. Such factors are reviewed in the remainder of this chapter.

3. "Readiness to learn" refers in part to the social and cultural baggage one brings into adulthood. Family background and early educational experience are major factors.

2.2.1 Gender

It is often assumed that men receive greater amounts of training than women. This assumption is not supported by the survey data, which show similar aggregate participation rates for men and women from 1991 until 1997 (see Table 2.17 in Annex C). In fact, since 1983 women have typically exhibited fractionally higher participation rates. This trend is relatively stable across the 15-year period under examination.⁴ Examining the average hours of training per adult shows steadily increasing average hours of training with little difference by gender. In 1997 only a small difference was observed with women averaging 59 hours of education and training and men 56 hours (see Table 2.2 in Annex C).

Overall, the differences in adult education participation between men and women are marginal...

An analysis of participation by gender when controlling for level of education shows that women with postsecondary education have higher participation rates than men with similar educational attainment. In fact, women with a university degree participate in adult learning to a far greater extent than men (see Table 2.7 in Annex C). Men have slightly higher participation rates for job-related training, but the gap has decreased since 1991, and in 1997 the difference is only one percentage point (see Table 2.11a in Annex C).

... although more detailed data analyses show that women with a university degree participate much more frequently in adult education than men with similar education.

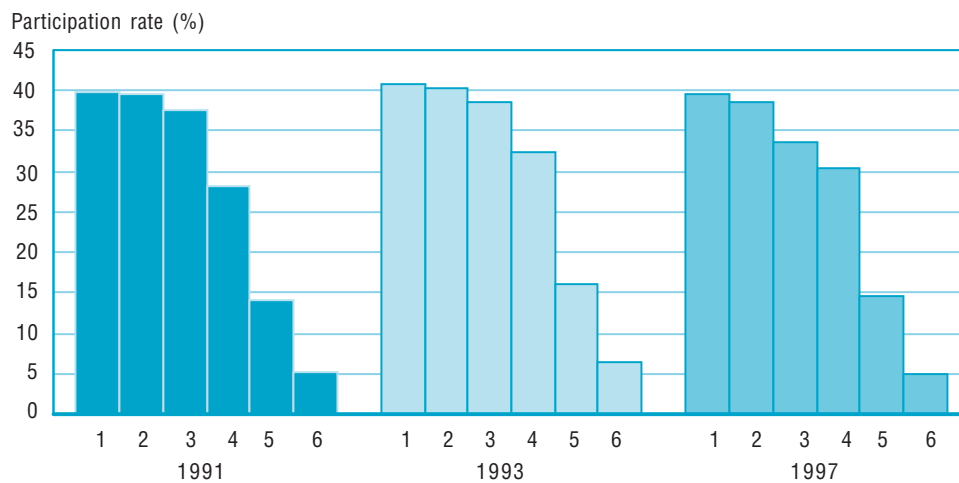
2.2.2 Age

The human life span can be viewed as a series of stages delineated by age.⁵ The findings displayed in Figure 2.4 confirm that participation in adult education and training varies with age. The pattern that emerges supports the logic of human capital theory, with most learning participation occurring in the earlier stages of adult life. This finding has not changed significantly since 1983. People aged 55 and over participated much less than those under 55. Between 1993 and 1997 the largest decrease (5 percentage points) in training rates occurred in the 35-44 age group. The participation rates of the retired or senior population engaging in organised learning activities has remained relatively unchanged.

Older workers take part less frequently in adult education and training than younger workers.

FIGURE 2.4
Participation rates by age

Percentage of the adult population participating in adult education and training, by age group, Canada, 1991, 1993 and 1997



Younger Canadians have usually had higher participation rates than older Canadians.

Age Group

- 1. 17-24
- 2. 25-34
- 3. 35-44
- 4. 45-54
- 5. 55-64
- 6. 65 and over

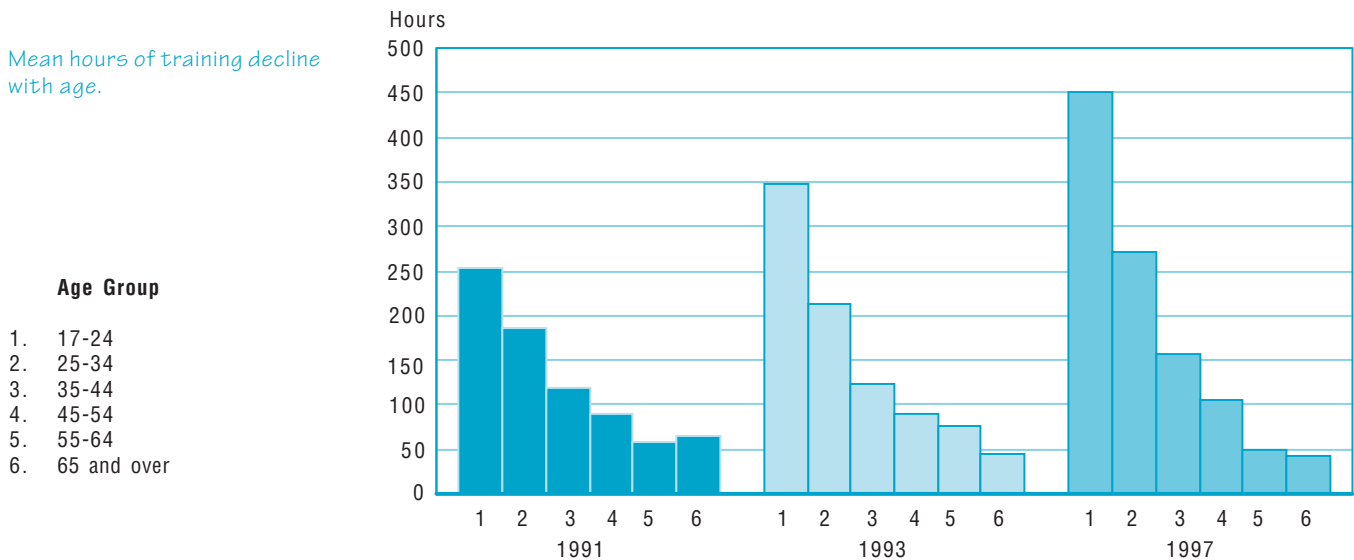
4. The only exception in this pattern was found in the 1986 survey which was directed towards job-related training.
5. For an overview of life span theories and learning, see van der Kamp and Scheeren (1997).

Both participation rates and training intensity are low for those over age 55.

The findings about age and participation rates are consistent with those on training intensity. Figure 2.5 shows that the average hours of training per participant declines as age increases. As might be expected, those in the 17-24 age group received the most education and training in 1997 (451 hours), whereas those aged 65 and over obtained the least (43 hours). As indicated in Figure 2.4, participation in training has declined linearly with age since 1991. It is also apparent that the average hours of training per participant over 65 declined between 1991 and 1997, while it increased for those under 55. Per capita training intensity has also increased in those age groups under 55 (see Table 2.5 in Annex C).

FIGURE 2.5
Mean hours of training per participant by age

Mean annual number of hours of adult education and training per participant and per capita, by age group, Canada, 1991, 1993 and 1997



Note: The age group category 17 to 24 excludes most full-students completing their initial education. A more detailed definition is given in the Introduction and in Annex B of this report.

The employed population receives more education and training than the general population.

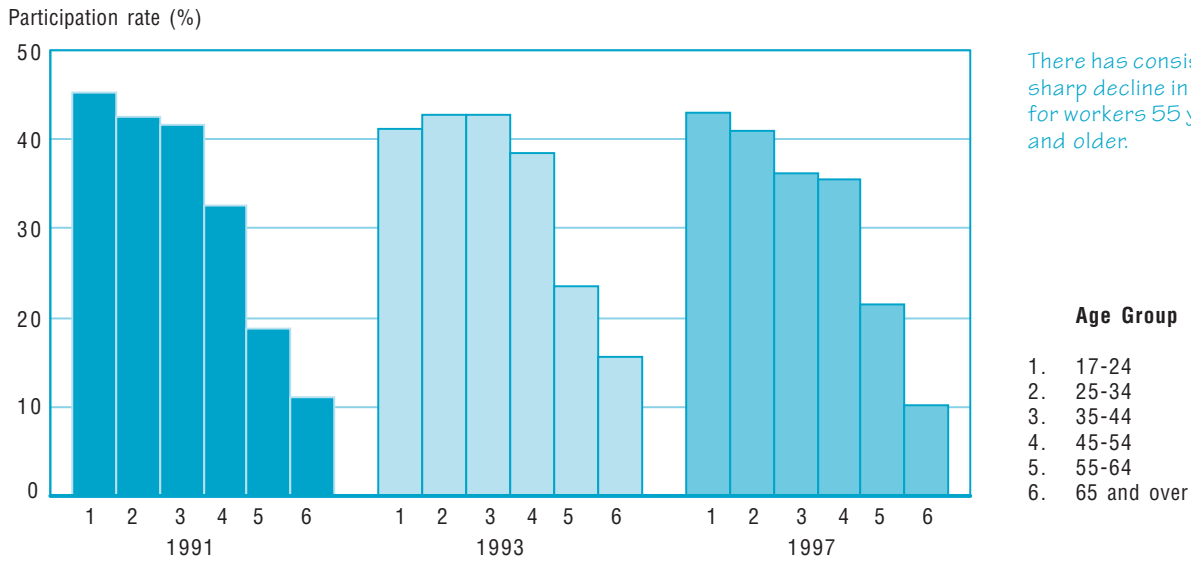
Evidence on participation rates for the employed population by age is presented in Figure 2.6.⁶ Although the employed population participates more often in adult education than the general population, the data do indicate a decline of 6 percentage points from 1993 to 1997 in participation rates for employed workers in the key 35-44 age group. Interesting to note is the slight increase between 1993 and 1997 in the participation rate for the 17 to 24 year-olds. This finding may reflect the increasing complexity of the school-to-work transition, with individuals moving back and forth between work and postsecondary studies.

6. An individual is considered to be employed if his/her labour force status in the week prior to the survey was employed. This approach was chosen to allow us to use the same variable for labour force status for time-series analysis.

FIGURE 2.6

Participation rates, by age

Percentage of the employed population participating in adult education and training, by age group, Canada, 1991, 1993 and 1997



There has consistently been a sharp decline in training rates for workers 55 years of age and older.

- Age Group**
1. 17-24
 2. 25-34
 3. 35-44
 4. 45-54
 5. 55-64
 6. 65 and over

Consistently over the period, those who are employed and over 55 years of age take significantly less adult education or training than other employed age groups. It is also evident that employer support for training generally declines with increasing age, particularly for those who are 55 years of age and over (see Table 2.18 in Annex C). This could lead to a problematic situation since, as Betcherman et al. observe, “Ongoing access to training opportunities is essential if Canadians are to participate in the labour force throughout their working years” (Betcherman et al. 1998, p. 31). Similarly, Van der Kamp and Scheeren (1997, p. 144) suggest, “Because fewer workers will have to support a larger population in retirement, older workers will have to contribute more to the productivity of organizations, and they may even have to stay active for a longer period.” Seen in this light, the comparatively low levels of engagement in adult learning by workers over age 55—and the relatively low levels of support for this group from employers—is unfortunate, particularly given the fact that one does not observe similar declines in other countries such as Sweden.

Participation rates drop dramatically for workers over age 55.

2.2.3 Educational Attainment

If there is one finding that is consistent across studies and time, it is that those who have higher levels of initial, formal education, typically have higher participation rates in adult education (Blomqvist et al., 1999; Doray and Arrowsmith, 1997; Van der Kamp and Scheeren, 1997). Examining the current data, it is clear that those with a university degree display higher participation rates across the 15-year period (see Table 2.7 in Annex C). Interestingly, people with some postsecondary education have higher participation rates than those with a postsecondary certificate or diploma (excluding university degrees). A higher proportion of people with some university training within this group could possibly explain this enrolment pattern.

A ‘culture of learning’ follows one throughout life.

Two findings stand out when reviewing adult education and training by level of educational attainment. These are the relatively stable trends in rates of training between 1991 and 1997 by level of education, and the markedly lower levels of training received by those without postsecondary education. Clearly, the participation in formal education and training of those individuals who have not completed high

Participation rates for people with high-school education or less are markedly lower than for those with more than high-school education.

school are low by any standard, raising concerns for the future prospects of this group in a knowledge-based economy.⁷ Another concern is the decline in participation rates observed in 1997 for those with high levels of education. As can be seen in Figure 2.7 there has been a marked decline in participation rates for those with some postsecondary education and those who have completed postsecondary studies. Should this decline continue, then those with a high level of initial education may not be able to maintain their knowledge and skills at the levels desired.

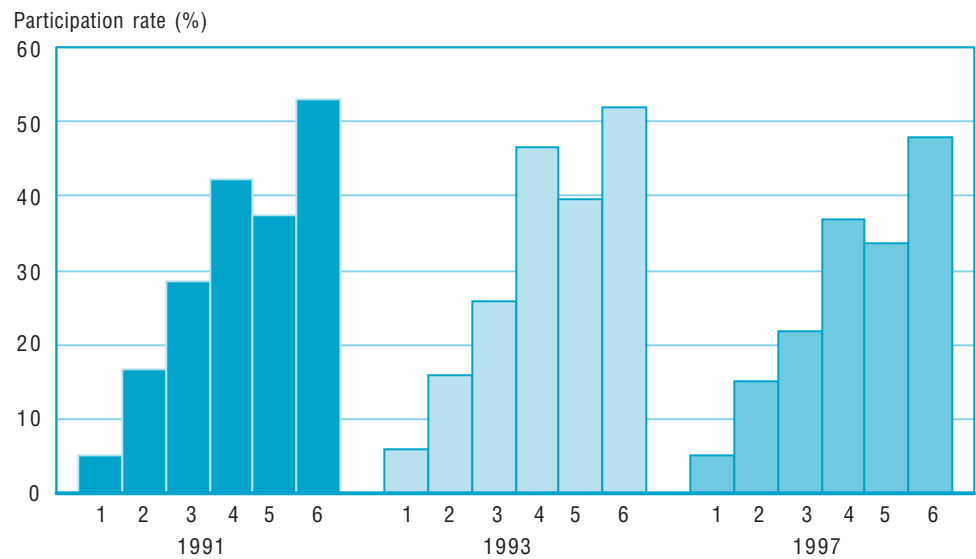
FIGURE 2.7
Participation rates by educational attainment

Percentage of the adult population participating in adult education and training, by level of educational attainment and gender, Canada, 1991, 1993 and 1997

Training rates have decreased for all education groups, but those with little education still have much lower training rates than those with higher levels of education.

Level of Educational Attainment

1. Grade 8 or lower
2. Some secondary
3. High school graduate
4. Some postsecondary
5. Postsecondary certificate or diploma
6. University degree



2.3 Work-related Education and Training

Job-related education and training are critical to maintaining workplace skills.

Although lifelong learning refers to more than just human capital development, the importance of work-related education and training is central to most discussions of lifelong learning.⁸ Ashton and Green (1996, p. 1) adhere to this idea when they observe that, “Across the industrialized world, and in many developing countries too, the thought is paramount that the way to economic growth is via skill formation to raise labour productivity and hence average living standards.” The remainder of this chapter focusses specifically on issues that directly affect work-related training.

Much adult learning is undertaken for the current job or a future job.

Job-related training encompasses two groups—those who are employed and take education or training for their current job or another job; and those who are not employed but take training for a future job. It is not surprising, given the changing requirements of work and the importance of work to social well-being, that much adult education and training is motivated by job-pressures. As Henchy (1998-99, p. 4) says, “The current job market is fragile in its prospects for lifetime security and it is both demanding and unstable in its educational and work-skill demands.”

7. While it is fortunate that in relative terms this segment of the working population is small, there are still a large number of people who fall into this group. For more discussion on the undereducated, readers are referred to Quigley and Arrowsmith (1997).
8. A critique on the human capital approach is presented in Bouchard (1998).

In Canada, the proportion of the labour force participating in adult education or training for job-related reasons remained relatively stable dropping only 1% between 1991 and 1997 (see Table 2.19 in Annex C). As might be expected, a greater proportion of employed persons indicated they took education or training for job-related reasons than those who were unemployed, or not in the labour force.

The percentage of adults in the work force who took training for job-related reasons has remained relatively stable since 1991.

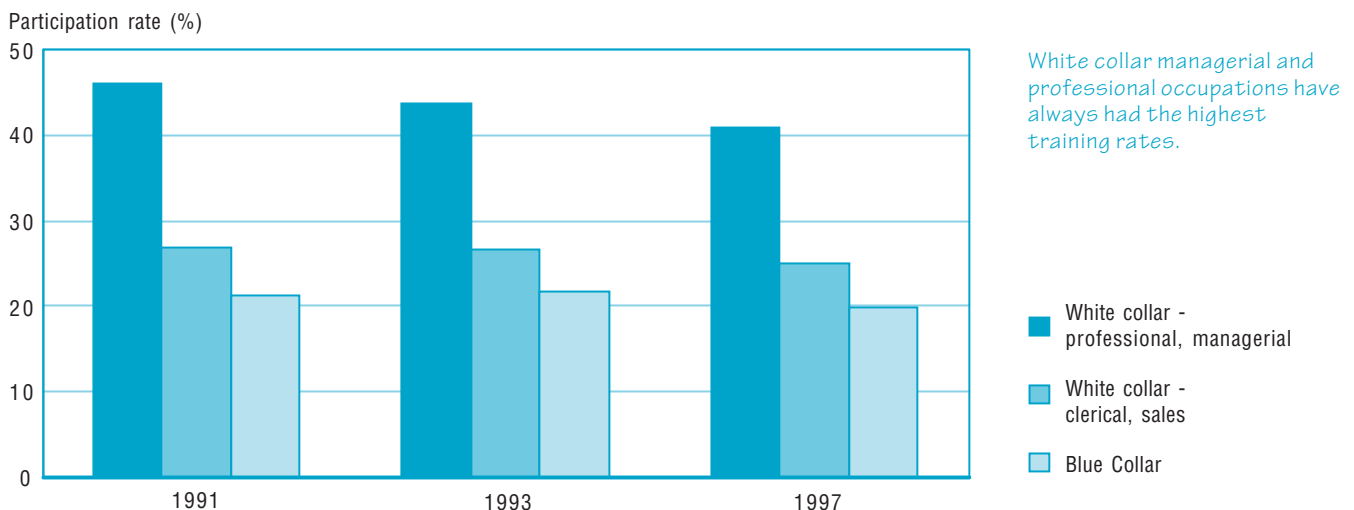
2.3.1 Occupation

There is clear evidence that training patterns are influenced by occupation. For the purpose of the analyses presented below, occupations are grouped into three categories. The findings presented in Figure 2.8 indicate that adults in blue-collar occupations participate much less often in job-related training compared with those in white-collar professional and managerial occupations; white-collar clerical occupations fall in the middle. Moreover, this pattern has held over time. These results suggest that persons working in certain occupations are less likely to develop the skills demanded by the new economy.

The differential training rates of blue-collar and white-collar workers have remained comparable since 1991.

FIGURE 2.8
Participation rates by major occupational group

Percentage of the employed population participating in job-related education and training by major occupational group, Canada, 1991, 1993 and 1997



White collar managerial and professional occupations have always had the highest training rates.

An examination of more detailed occupational groupings provides a picture of how participation rates fluctuate according to occupation. Figure 2.9 shows that participation in job-related education and training by teachers and individuals in natural sciences, engineering and math occupations has declined by 10 percentage points and 6 percentage points respectively between 1991 and 1997.⁹ Since 1991, all but three occupational groups have experienced a reduction in job-related training, although for some groups, such as material handling and teachers, most of the decline occurred between 1993 and 1997. Individuals not in the labour force took part the least often in job-related training, although their share of the total training

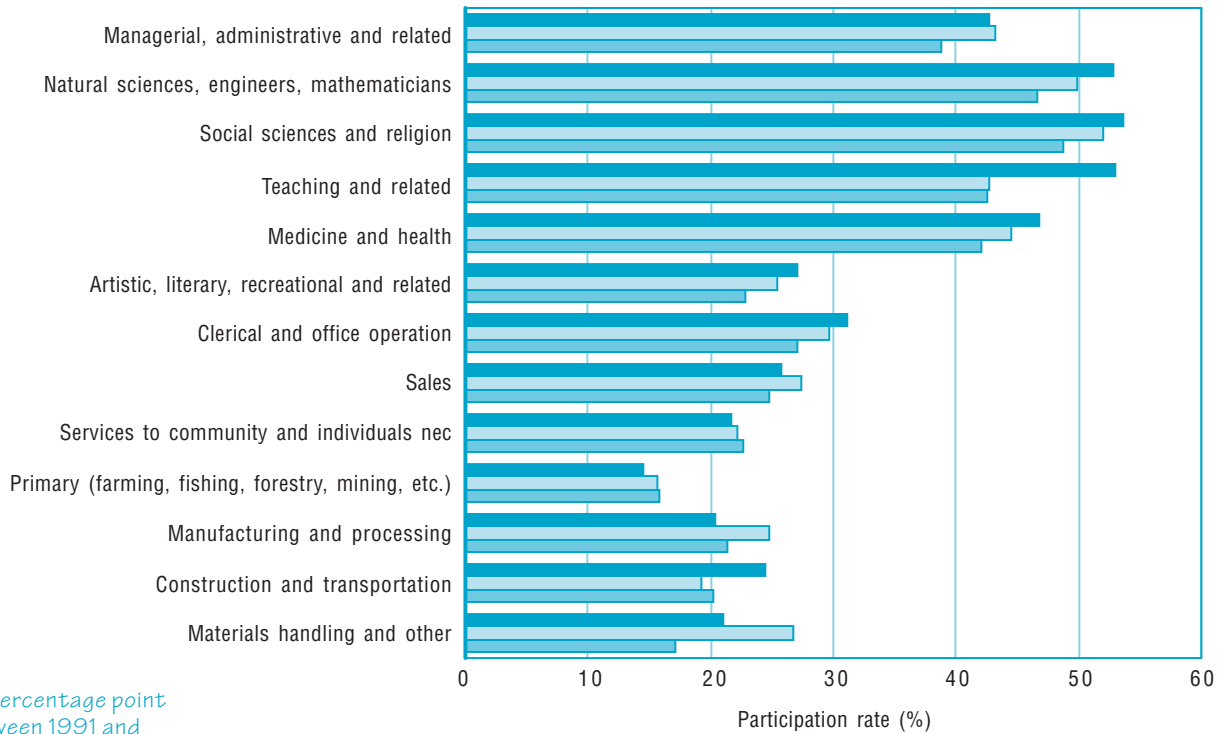
Today teachers take further education and training less frequently than they did in 1991.

9. In their 1992 report, *A Lot to Learn: Education and Training in Canada*, the Economic Council provided information about the age distribution of teachers. It is likely that aging, when juxtaposed with lifecycle theories, provides a plausible explanation for the observed decline in the participation rates of the teaching profession.

has remained stable since 1991 (see Table 2.21 in Annex C). Future research could illuminate the reasons behind these observations. The increasing average age of the labour force may provide a useful starting point for further analysis regarding occupation and training.

FIGURE 2.9
Participation rates by occupation

Percentage of the employed population participating in job-related training by occupational group, Canada, 1991, 1993 and 1997



The largest percentage point declines between 1991 and 1997 by occupation is in the teaching and natural sciences, engineering and mathematics fields.

■ 1991
■ 1993
■ 1997

2.3.2 Industry

Job-related training rates have declined in most industrial sectors.

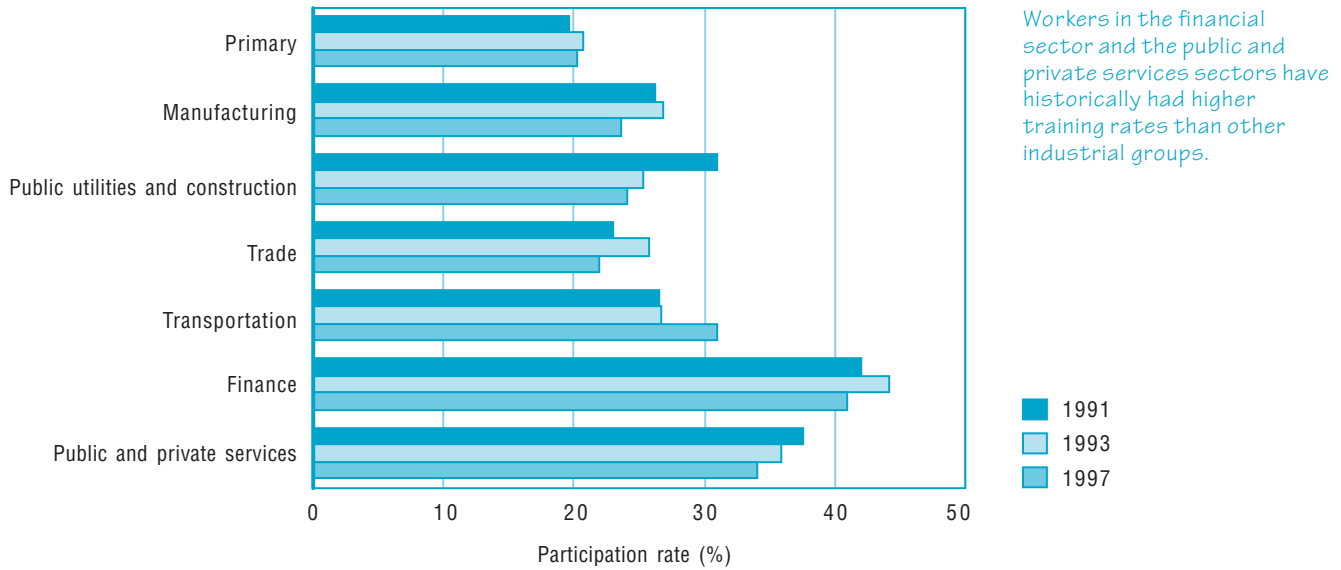
In general, participation rates have declined when viewed by industrial sector. Figure 2.10 indicates that these rates declined by varying degrees since 1991 across all sectors except in transportation where they have increased.¹⁰ The financial sector and the public and private services sectors have consistently had higher training rates than other industrial sectors.

10. One exception is the primary sector that has remained relatively stable throughout this period.

FIGURE 2.10

Participation rates by major industrial group

Percentage of the employed population participating in job-related training by major industrial group, Canada, 1991, 1993 and 1997.



Preliminary results suggest that the mix of occupations within sectors likely influences the participation rates by industry. This could explain why the financial sector, with a preponderance of white-collar workers, has higher participation rates, and the primary sector, with a large proportion of blue-collar workers, has remained at a stable, although quite low, level. For certain sectors the decline in participation may mirror the introduction of new information technologies in the early 1990s and the subsequent stabilization of the demand for training related to such technologies within the sector. Training participation by industrial sectors is a promising area for future research.

New information technologies possibly pushed up job-related training demand in the early 1990s.

2.3.3 Employer Support of Training

A major issue in job-related education and training is the role of the employer.¹¹ Since 1991, participation rates in employer-sponsored training have remained constant. This has been true for all types of training sponsored by the employer including job-related training. A concern is that employer's support is not evenly provided—certain groups receive more support than others. As mentioned previously in this chapter, older workers receive less employer support than younger workers. However, employed men and women now receive similar rates of employer-sponsored training.

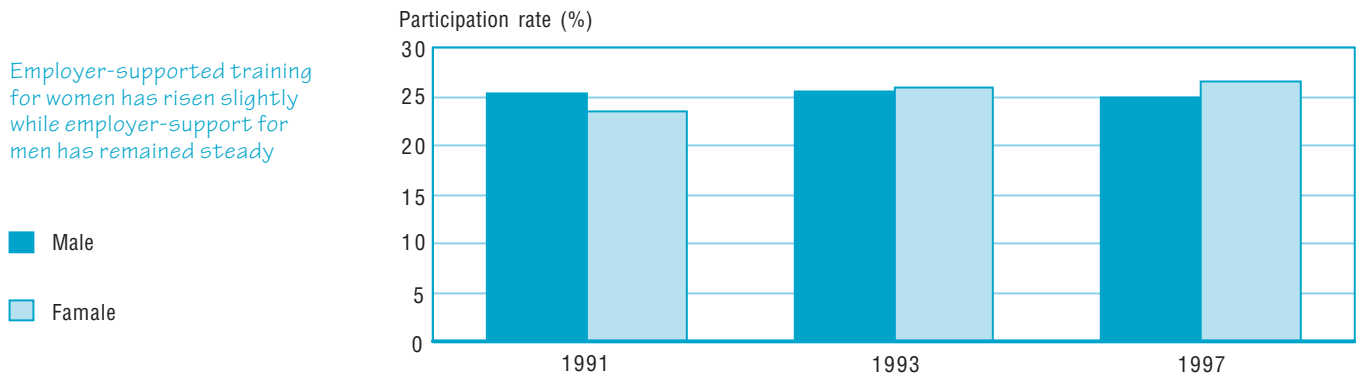
Employer support plays a key role in job-related training, but...

11. Kapsalis (1996) examines the roles of employers and employees in determining training demand and supply.

FIGURE 2.11

Participation in employer-supported training, by sex

Percentage of the employed population taking employer-supported training, by sex, Canada, 1991, 1993 and 1997



Employer-supported training for women has risen slightly while employer-support for men has remained steady

Male
Female

... the intensity of job-related employer supported training is substantially less than non-employer supported training.

Interestingly, an examination of training hours reveals that the average duration of non employer-supported training per participant has consistently been more than double that for employer-sponsored training. This holds for all types of training as well as job-related training and suggests that training with and training without employer support has different objectives. It also indicates that employers may be unwilling, or unable, to invest in training that requires a large amount of their employees' time. In terms of training intensity, the average number of hours of training has steadily increased since 1991, although the percentage increase has been greater for non employer-sponsored training, especially for job-related activities. (see Tables 2.20a and 2.20b in Annex C).

2.3.4 Firm Size

Employees of larger firms are more likely to participate in adult education or training.

A key determinant of training is the size of the firm by which one is employed. The larger the firm the greater the likelihood of a human resources department and associated education and training programs and courses; the more opportunity to allow staff to participate, the more financial resources, and the less corporate risk if and when a trained employee changes firms (Betcherman et al., 1998). The evidence collected in Canada confirms that individuals working in large firms have higher participation rates than those working in small or medium sized firms. As can be seen in Figure 2.12 participation rates in job-related education and training activities for individuals in firms of 100 or more employees have been consistently higher than for those who work in firms of less than 100 people. In fact, in 1997 firms with 500 or more employees had rates that were more than twice those of firms with less than 20 employees.

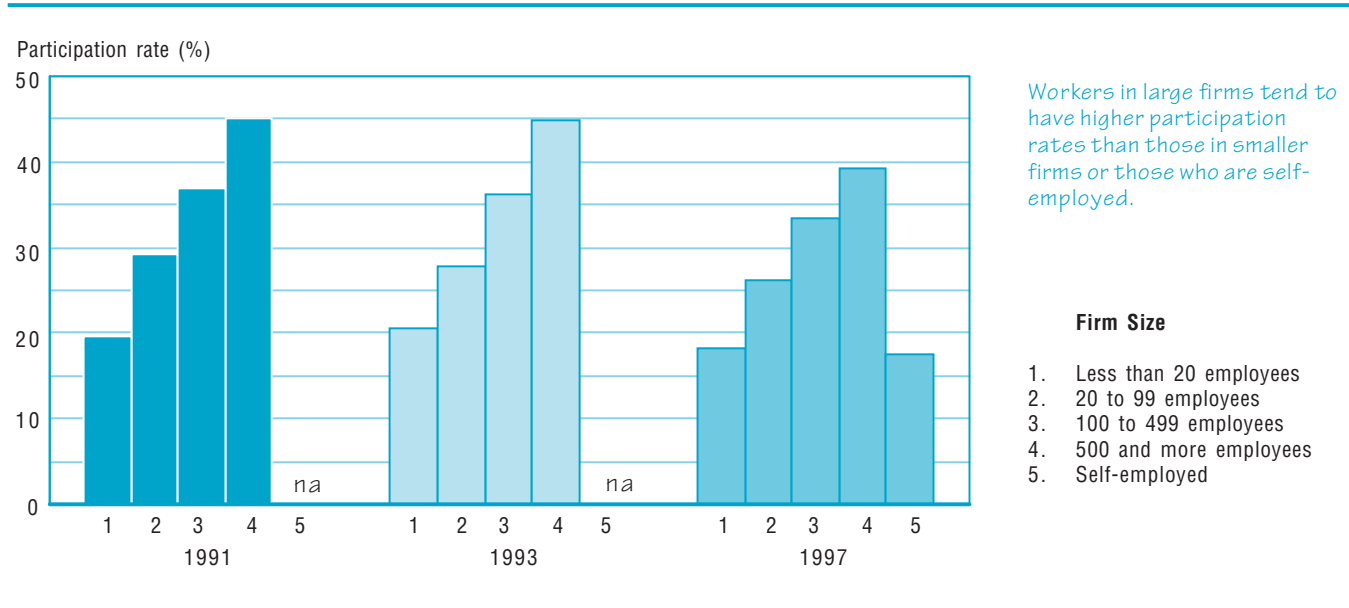
The proportion of the employed population that is self-employed has been increasing steadily and is now approximately 18% of the employed Canadian population.¹² Figure 2.12 shows that the self-employed typically have much lower rates in training than employees of all but the smallest firms. Current thinking suggests that the organisation of work for the self-employed makes it more difficult for them to participate in training for financial or time related reasons. This finding raises concerns about the ability of this growing sector to innovate and adapt to new technology.

The self-employed have training rates similar to those of the smallest firms

FIGURE 2.12

Participation rates by firm size and participation rates of self-employed

Percentage of the employed population participating in job-related education and training by firm size and self-employment, Canada, 1991, 1993 and 1997



2.3.5 Employment Status

Participation rates in job-related training in 1997 were 2 percentage points higher for full-time than for part-time workers. Given the general stability in training rates since 1991, it is of no surprise that participation rates for full-time workers and part-time workers declined by only 3 percentage points, and 2 percentage points respectively. A further review of the evidence of the duration of the training received (Figure 2.13) suggests that part-time workers received more training than full-time workers. Theoretically, part-time workers should tend to have less attachment to the company than full-time employees; likewise, the company should have less attachment to part-time workers. Therefore, we would expect part-time workers to receive less training than full-time workers. The finding that part-time workers had higher average hours of job related training, however, may reflect frequent employment changes resulting in increased “front-end” job orientation training, or alternatively may reflect the increase of younger adults going back to school part-time while still working.

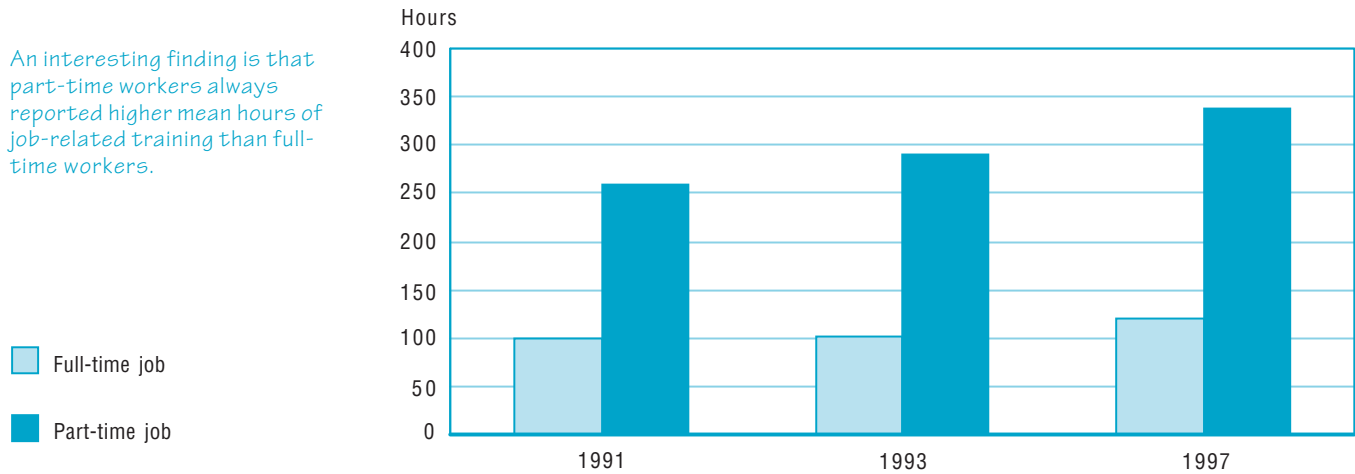
Job-related training rates remained stable for both part-time workers and full-time workers.

12. Based on 1998 Canadian labour force survey data.

FIGURE 2.13

Mean hours of training by employment status

Mean annual number of hours spent on job-related training per employed participant, by full-time and part-time status, Canada, 1991, 1993 and 1997



2.4 Provincial Trends and Comparisons

Wide variations in provincial participation rates persisted over the last 15 years.

The rates displayed in Table 2.1 in Annex C show overall participation and indicate the variation that exists by province. A policy of lifelong learning for all would require fairly equitable access to adult education and training opportunities throughout the country. It appears that with the exception of New Brunswick and Nova Scotia participation rates peaked in 1993. Also observed is a regional pattern that has, by and large, remained stable for 15 years. East of Ontario the participation rates are below the national average, whereas west of Quebec rates are close to, or significantly better than the national average. An examination of the participation rates during the 1990s indicates only three provinces with adult education and training rates of 30% or higher. It is interesting that the three provinces (Ontario, Alberta and British Columbia) that have higher participation rates are typically associated with more robust economies than the other provinces during this period.

Relative to the national average, Ontario, New Brunswick and Nova Scotia have experienced steady improvements in their rates of adult education participation.

While still above the national average, participation rates in Alberta have shown a steady decline towards the national average. The participation rates in Quebec which were below the national average continued to decline. In contrast, Ontario has consistently shown a steady increase relative to the national average. New Brunswick and Nova Scotia have also seen steady improvement with New Brunswick moving closer to the national average and Nova Scotia surpassing the national average. With the exception of Nova Scotia, Canadians living east of Ontario have experienced participation rates lower than the national average throughout the 1990s (see Figure 2.14a). It can be seen from Figure 2.14b that this trend also holds for the employed population. Further research is required to better understand the factors behind these provincial trends.

FIGURE 2.14a

Provincial variation from national participation rate

Variation in percentage points from the national participation rate of the adult population, by province, 1991, 1993 and 1997

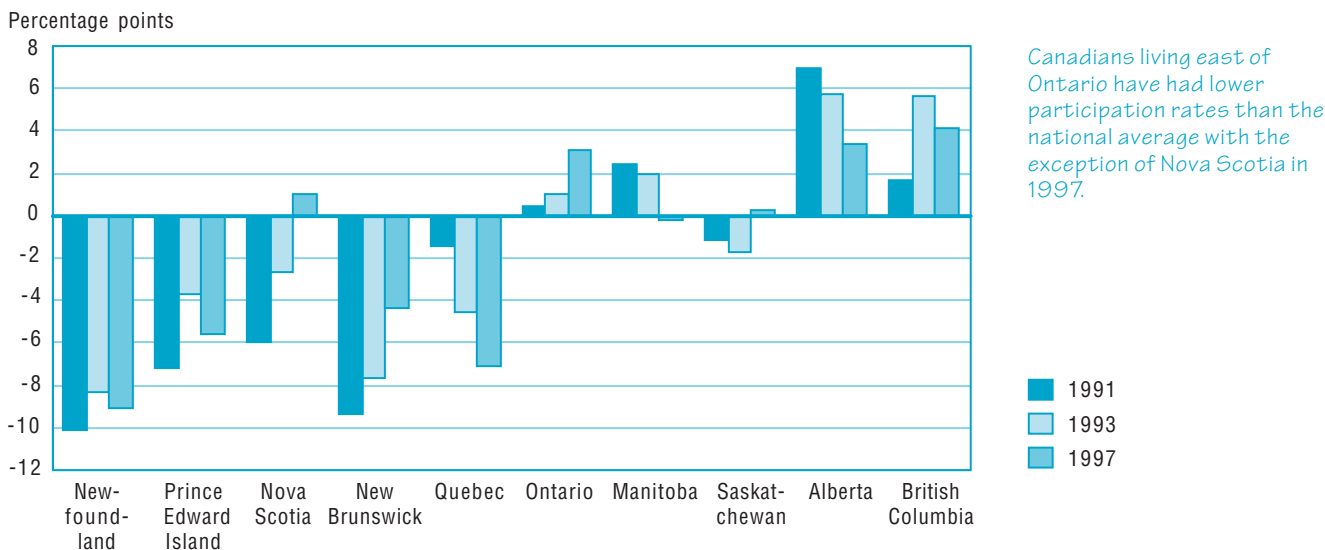
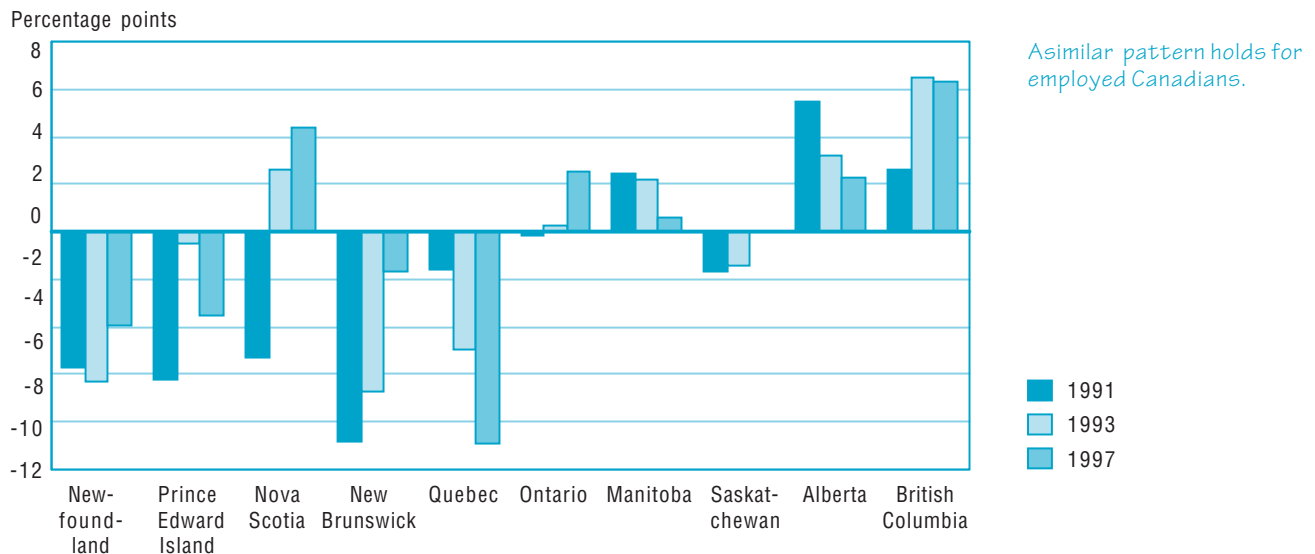


FIGURE 2.14b

Provincial variation from national participation rate

Variation in percentage points from the national participation rate of the employed population, by province, 1991, 1993 and 1997



Participation rates, however, do not tell the whole story of provincial patterns. When hours of training are introduced, as can be seen in Figure 2.15, adult education participants in Quebec and Newfoundland spent significantly more time engaged in learning in 1997 than participants in many other provinces, even though these two provinces have low participation rates. While the relationship between participation rates and training intensity requires further research, it is conceivable that government

Variations in study intensity could be part of the explanation.

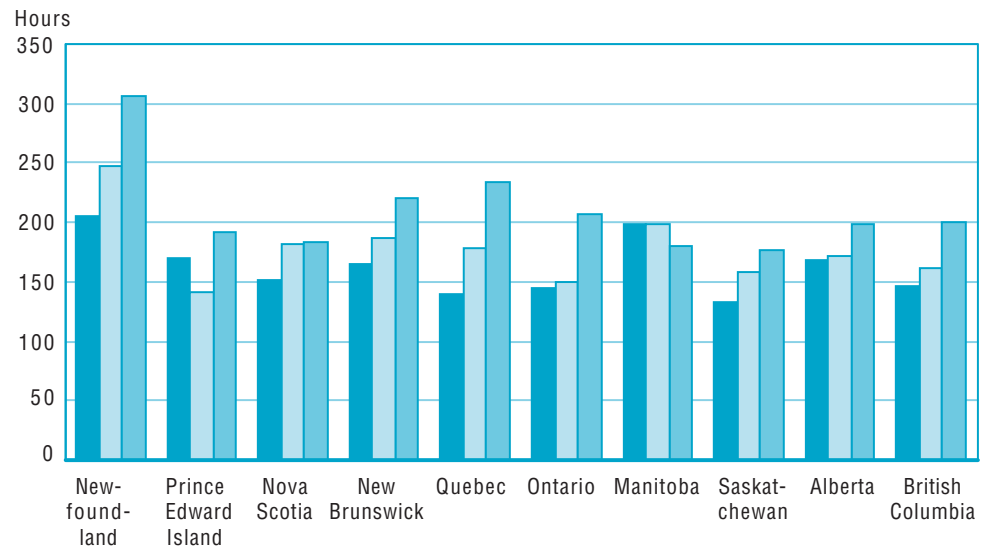
funding rather than corporate-funding provides a part of the explanation. Given provincial participation rates, it is not surprising that when per capita training intensity is examined Quebec ranks low, whereas provinces with high participation rates such as Ontario, British Columbia and Alberta move into the upper quartile (see Table 2.15 in Annex C).

FIGURE 2.15
Mean hours of training by province

Mean annual number of hours spent on adult education and training per participant, by province, 1991, 1993 and 1997

Some provinces with historically low participation rates have high levels of study intensity.

■ 1991
■ 1993
■ 1997



There are no major differences in the adult education participation rates between men and women across Canada.

Gender differences were found to be small at the national level. At the provincial level the gender differences in participation rates remain mostly small, with slight variation by province (see Table 2.17 in Annex C). Some provinces showed slightly higher rates of female participation but on the whole, the data suggest that there are no obvious variations across gender lines by province. It has been observed that age plays an important role in adult education participation, with older adults taking part less frequently than younger. This pattern is stable both across provinces and over time (see Table 2.22 in Annex C).

Educational attainment is an important influence on adult learning regardless of province of residence.

It was noted previously that people with high levels of initial education are also likely to participate in adult education and training. However, contingent on province of residence there can be large differences in participation rates. For instance during 1997 participation rates for participants with a university degree ranged from a low of 40% in Quebec to a high of 56% in Nova Scotia (see Figure 2.16a). Reviewing the findings across 1991, 1993 and 1997 for respondents with a university degree provides a clear sense of the variation by province. In 1991, participation rates for those with a university degree exceeded the national average in only half the provinces. In 1993, only New Brunswick, Quebec and Ontario were below the national average, while in 1997 the only province not to exceed the national average was Quebec. In Quebec the participation rate of adults with a university degree has been declining since 1991.

This variation by province is also evidenced in the participation rates of those with a postsecondary diploma or certificate (see Figure 2.16b). As expected the rates are lower than those for people with university degrees, but there is also significant fluctuation by province. These findings make it clear that participation rates across provinces can be significantly different. These observations raise important questions for future study. Is the variation in the provincial distribution of adult education and training a function of opportunity; or is the variation a function of the perceived need to undertake further education and training given the local economic and social reality? To what extent are these provincial variations induced by different provincial education systems?

FIGURE 2.16a

Participation rates of university degree holders

Percentage of the adult population with a university degree participating in adult education and training, by province, 1991, 1993 and 1997

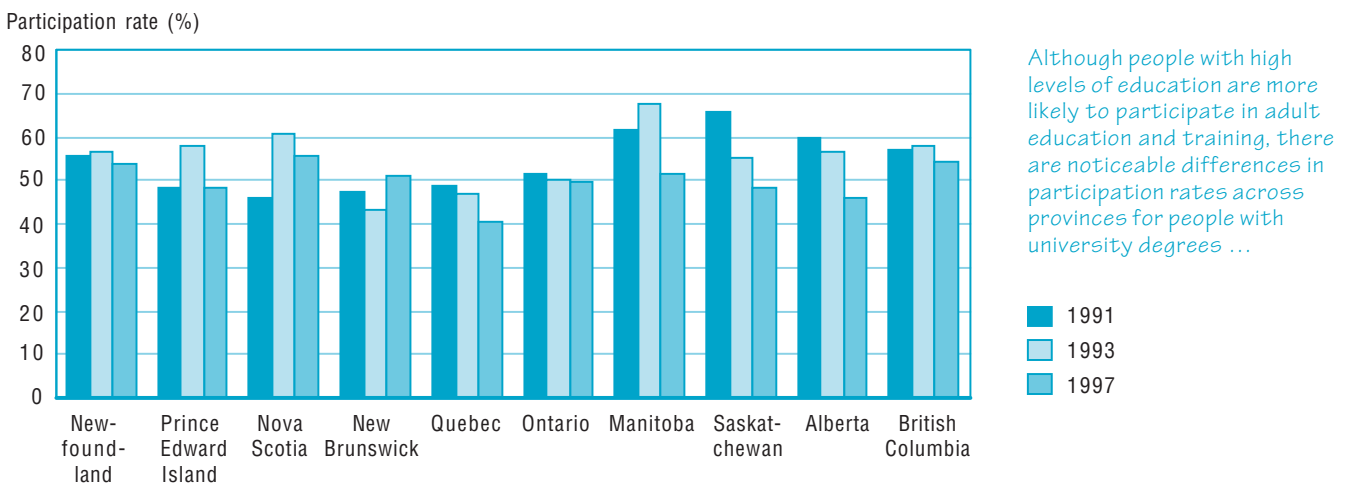
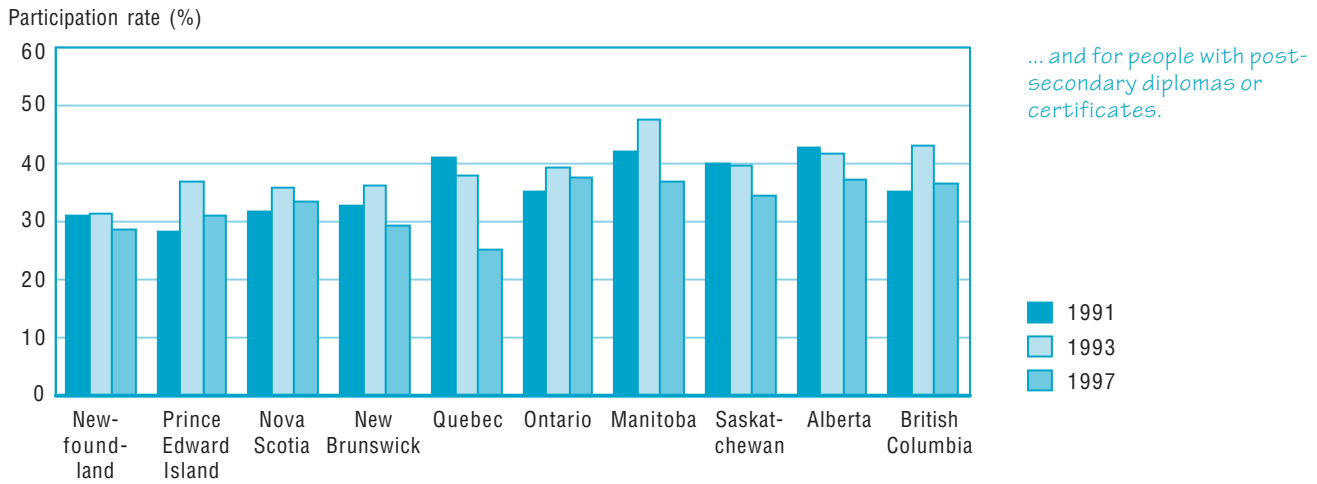


FIGURE 2.16b

Participation rates of post secondary diploma or certificate holders

Percentage of the adult population with a post-secondary diploma or certificate participating in adult education and training, by province, 1991, 1993 and 1997



CHAPTER 2: Trends in Canadian Adult Learning

Variation in the industrial mix, occupational mix and firm size could explain some of the observed trends in participation rates across provinces.

As shown in the previous chapter, work has an influence on training and this influence varies by province. This could, in large part, be a function of variation in the industrial and occupational mix that exists in each province. Another important factor may be firm size and their distribution by province. The trends observed for the adult population generally hold for the employed adult population, both by province and over time. As might be expected larger firms are concentrated in economic pockets, and consequently, this may exacerbate the regional bias that currently exists in Canada. A review of participation rates by firm size lends credence to the notion that this factor plays an important role in influencing adult education participation rates for the employed population. Future analytical work may wish to examine the relationship between province, size of industrial base, distribution of firms by firm size and occupational groupings to further our understanding of this relationship.

2.5 Concluding Observations

"It is now widely acknowledged that one of the keys to both greater social justice and improved productivity and competitiveness is the development of our human resources. This involves our investment in the knowledge, creativity, skills and motivation of individuals—a critical input without which our technological and economic progress will founder"

(Standing Committee on Human Resources Development, 1994, p. 57).

The analyses of adult education and training patterns presented in this chapter offer a number of new findings and insights. At the end of the 1990s, Canada has experienced a slight decline in participation rates. During the 1990's, rates of participation in adult education and training did not vary significantly by gender, although variation in participation rates was exhibited when age, level of education, occupation, employment status, and province of residence were examined. The findings clearly show that the expression 'learning begets learning' holds true. To prepare adults to continually acquire new skills and improve the ones they already have, a culture of learning must be established early in life.

It is evident that most adults pursue further education and training for work-related reasons. It is therefore not surprising that employers play an important role in assisting workers in education and training, although a fair percentage of participants self-finance their job-related education. For those participants who receive employer-supported training, there is a clear relationship between receipt of training and the size of the firm, with larger firms providing more support for training than smaller ones. This benefits those provinces with a preponderance of large, knowledge-based firms, such as Ontario, Alberta and British Columbia. Other factors influencing training decisions are the extent of part-time employment and self-employment. This gives rise to a debate about whether the observed recent trends in participation can be explained by a shift away from formally structured adult education and training to more informal and self-directed modes of adult learning. Since the latter approaches are not being measured at present,¹³ this hypothesis cannot be verified.

13. *Approaches for measuring informal training accurately using survey methodology are in their infancy in Canada; there are many complex measurement issues to be resolved.*

The one constant in the world of work is change. Tomorrow's workplace will continue to be dynamic, requiring a complex mix of skills. The skills required will continue to evolve as well; the need is not only for higher skills but also for new skills. The knowledge and skills acquired in formal education are no more than a first step, a foundation for a life of active learning. A life of active and continuing learning means that education does not end when one ceases to be a full-time student. But the evidence reviewed in this chapter suggests that for some segments of society, the reality is that education does in fact end when schooling ends, or in some instances, even earlier. Throughout the 15 years for which data are currently available, trends of exclusion have persisted. The evidence clearly portrays systemic problems of differential exclusion and inclusion in adult education and training based on province of residence, level of initial education, occupation and employment status, and age. The inevitable conclusion is that certain groups presently do not fully engage in the Canadian learning society.

The evidence is clear that people who work in small firms, or for themselves, have relatively lower rates of participation in adult education and training. This finding suggests that they might have to play a more active role in creating their own career security, based on a willingness to expand and improve their employment skills. While time will determine how those who do not actively pursue training will fare, it is encouraging to note that many Canadians actively pursue learning. Nonetheless, the potential for excluding important and growing segments of Canadian society from lifelong learning is of concern.

Finally, the observed decline in Canadian rates of adult education participation during the late 1990s is puzzling, especially in light of increasing media, interest group and public attention to the effects of globalization and technical change on skill requirements of Canadians. Future surveys will indicate whether the decline will continue, stabilize or be reversed, and whether it may be a function of a shift to informal modes of learning. Future research can also investigate whether there are 'wave effects' influencing training decisions, so that rates of participation are influenced by major changes in the work environment; for example, the widespread diffusion of personal computers in the early 1990s. The observed decline in participation rates may indicate a gradual saturation of further education and training needs related to the last wave of technological innovation and change.

In the absence of further survey trends and in-depth analysis, and based only on currently available data, the findings suggest that there may be structural problems in the Canadian adult education and training environment. Furthermore, it is clear that there are groups of Canadians who are at present systematically excluded from the 'learning society.' Given the Canadian policy commitment to engage in active labour-force measures, it is now time to revisit practices to ensure an economically and socially harmonious future for all.

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Overview of Main Findings and Discussion

Gilles Bérubé, Wendy Salmon and Albert Tuijnman

Introduction

An analysis of the demand and supply of adult education and training in Canada was presented in Chapter 1, using data derived from the 1998 Adult Education and Training Survey (AETS). Chapter 2 examined major trends in adult education and training incidence and volume, drawing on national survey data collected over 15 years. This concluding chapter provides an overview and discussion of the main findings. It also indicates some potential directions for future research.

Overview of Main Findings

- In 1997, 31% of the Canadian adult population aged 17 and over participated in organised adult education or training. The figure is 28% of the adult population if all full-time students aged 17 to 24 who were not supported by their employer are excluded. Of those who received adult education or training in 1997, the vast majority said they participated for job-related reasons.
- In 1991, the comparable figures were 35% and 31%, and in 1993, they were 35% and 30%. The 1997 rate of participation in adult education and training is thus a few percentage points below the levels observed in 1991 and 1993. Although the differences are small, the evidence suggests that the demand for adult education and training as measured by the participation of Canadians in organised and structured adult education and training did not grow between 1991 and 1997. The decline in participation was more pronounced in activities taken for personal interest reasons than in those pursued for job-related reasons.
- The survey findings indicate substantial differences between provinces in the rate of adult education participation. In 1997, rates varied from 19% in Newfoundland to 32% in British Columbia. Quebec and the Atlantic provinces—with the notable exception of Nova Scotia—had comparatively low participation rates.
- Participation rates either stabilized or declined between 1991 and 1997 in all provinces except New Brunswick and Nova Scotia, where a slight upturn in adult education participation occurred. Participation rates declined significantly in Alberta, Manitoba and Quebec.
- Study intensity also varies across Canada. Whereas Newfoundland has a relatively low participation rate, it scores high on the average number of hours spent by participants in adult education or training. Study intensity is above the national average in Quebec but below average in Alberta and British Columbia. Overall, study intensity increased while participation rates declined.

CONCLUSION: Overview of Main Findings and Discussion

- Several factors are found to influence individual and aggregate demand for adult education and training. For example, participation rates are higher for the employed than for the unemployed. Initial educational attainment and age show a strong relationship with participation, but sex does not. Participation rates also co-vary with industry and occupation.
- Public and private educational institutions dominate the Canadian market for adult education and training, but employers play a crucial role in the supply of training as well. Employers also contribute importantly to the financing of training opportunities—over half of all courses taken by Canadians in 1997 were, at least partially, subsidized by an employer.
- Employer involvement varies by industry and size of firm. Workers in utilities, public administration and finance are more likely to get employer support than others. Similarly, people working in large firms are twice as likely to get employer support than those in small firms.
- A key factor in the training decision is whether people believe the activity will benefit them. It is encouraging that participants in adult education and training are highly satisfied with their learning activities and perceive the acquired knowledge and skills to be useful in personal life and at work. However, a large segment of the Canadian population did not perceive any need for further training and did not participate in adult education and training in 1997.
- As in previous similar surveys, the most important barrier to training was lack of time: close to 60% of adults mentioned that reason. More than 40% mentioned the cost of education and training; inconvenient time and location of courses or programs were also perceived as major deterrents.

Discussion

Not all Canadian adults participate in formal education and training. The 1998 AETS, like the surveys that preceded it, finds that low-skilled adults and people with relatively little initial education have a lower probability of participating in adult education or training than do adults with a good initial education and well-developed skills. There is no evidence to suggest that the degree of inequality has lessened over the years (see Chapter 2).

This unequal distribution of formal learning participation is sometimes taken as evidence that Canada has a suboptimal level of adult skills development, particularly given that lower-skilled individuals would seem to have much to gain by acquiring additional skills. The underlying assumption is that non-participation by lesser-skilled individuals is necessarily unwarranted; that the benefits to individuals, to firms and to society of additional adult learning would outweigh the costs. The reasons for this are twofold. First, because the knowledge, skills and qualifications conferred by education weigh heavily in employer recruitment and screening decisions; and second, because sound skills greatly affect the capacity to engage in further education and training during working life and later.

Although not all Canadians engage in lifelong learning, and adults in Canada do not participate in formal training as much as do those in some other advanced countries, we should not conclude that Canadian adults underinvest in the development of their own human capital. It is possible that needs for formal training vary across social groups as a result of diverse individual skill demands and workplace structures, and across countries as a result of different production structures, labour market organization and population composition.¹ To understand whether or not Canada's investment in human capital is sufficient, we need to know more about the outcomes of adult learning.

1. *Controlling for demographic and educational factors, the OECD recently estimated that the average Canadian can expect to undertake 2,109 cumulative hours of job-related training between the ages of 25 and 64. Comparing across the countries included in the analysis, Canada was second highest in terms of expected lifetime training hours, fully 60% above the all-country average (OECD 1999).*

CONCLUSION: Overview of Main Findings and Discussion

It is not enough, though, to look only at economic factors—income, employability and firm productivity—in assessing the appropriate level of adult learning in Canada. Adult education and training are also important elements in strategies to support social inclusion and equity. For government policy makers who are examining their role in enabling and supporting adult skills development, the measurement of the social returns to training gives value to issues such as equity, income redistribution, social inclusion and intergenerational returns. As noted in the Introduction, individual benefits extend beyond the market payoffs of higher wages or employment. It is now well documented that learning leads to better health and other favourable outcomes for family, community and country.²

Policy makers also need to know more about why individuals decide to train or not, in order to assess whether their decisions are somehow unwarranted because they do not reflect the associated costs and benefits. Non-economic barriers may prevent people from participating in training. Of particular interest are the dispositional barriers to adult skills development. In 1997, for example, some 40% of AETS respondents, a disproportionate number of whom were low-skilled, saw no need and expressed no interest in undersataing further education and training.

In this context, it is important to ask whether the same workers are receiving adult education and training year after year or whether, over a period of time, a majority of the work force is involved. Surveys like the AETS cannot answer this question because participants are not followed up. Available longitudinal evidence suggests that the inequalities observed in the 1998 AETS data could become more pronounced over time (Rubenson 1996). People who participate once in adult education are likely to do so again, whereas those who do not participate tend to decline later offers (Tuijnman, 1989).

Formal training—that which is measured by the AETS—is only one aspect of human capital investment. There is evidence that informal vocational training is an important source of adult skill formation in a modern society. Indeed, it is likely that some people and firms find informal training more beneficial than formal methods of learning. Recent research suggest that informal learning is an important component of lifelong learning (Livingstone and Roth 1998 and Betcherman et al. 1998). To assess the overall adequacy of adult training in Canada, the incidence of informal training needs to be considered. There is also a need to understand the role of informal learning in overall skills development, its relationship to more formal structures of adult learning, and the particular circumstances and objectives of the informal learning process.

Though the AETS sheds light on the pattern of adult learning in Canada, there is much we don't know. Knowledge gaps about adult learning outcomes, barriers to and motivators for adult skills development, and the role and structure of informal learning in the overall learning context limit the ability of policy makers, educators, firms and individuals to make informed learning decisions.

Future Research

The adult learning knowledge gaps briefly considered in the preceding section are discussed in more detail in Baran et al. (2000). The original version of this paper was prepared by the Applied Research Branch of Human Resources Development Canada (HRDC), as background to a workshop on adult learning. This workshop brought together experts from academia, government and international organizations to examine key policy-relevant knowledge gaps, and to provide feedback on priorities and directions for future research.

2. See J. Coleman (1990). *Foundations of Social Theory*. Harvard University Press, Cambridge, MA. and OECD (1998). *Human Capital Investment: An International Comparison*. Centre for Educational Research and Innovation, OECD, Paris.

CONCLUSION: Overview of Main Findings and Discussion

While the central role of the AETS in collecting population-wide information from individuals—types of adult learning engaged in, reasons for learning participation, and barriers to further skills development—was confirmed, it was recognized that future versions of the AETS could go further in addressing adult learning needs.

The AETS provides a comprehensive source of data on formal adult education and training activities in Canada, but there has been very little detailed analysis of the available data. And as noted above, significant adult learning knowledge gaps are not currently addressed by the AETS. These gaps are critical to future analysis and policy development in adult education and training in Canada.

In light of the increasing government emphasis on adult learning as a means to support economic growth and social inclusion, it is important that the analytical potential of the AETS be more fully explored. The AETS cannot be viewed as the only means of gathering data and information about adult learning in Canada. The development of complimentary data collection strategies, such as the Workplace and Employee Survey, will expand our ability to understand adult learning in Canada, including its impact on workers and firms.

Glossary of terms

ADULT EDUCATION (Éducation des adultes)

Denotes all educational processes followed by adults, whatever the content, level and method, which supplement or replace initial education. This may include part-time enrolment in day schools, evening schools, correspondence schools, and so on. Training offered may be of a credit or a non-credit nature and could be taken for job-related or personal interest reasons. For the purposes of the AETS, adult education does not include all educational processes but only those that are formal, structured and institutionalized.

ADULT LEARNER (Apprenant adulte)

In the AETS, adult learners have been defined as anyone aged 17 and over enrolled in a structured education or training activity. These learners are older than the compulsory school attendance age. For the purpose of this report, however, the definition has been mainly restricted to adult learners registered in part-time education or training activities. Learners engaged in full-time activities were included only if their activities were sponsored by their employer or if they were 20 years and over and enrolled in an elementary or secondary education program or 25 years and over and registered in a postsecondary program.

BLUE-COLLAR OCCUPATIONS (Professions de Col Bleu)

Includes such occupations as construction, fabricating, farming, fishing, forestry, materials handling, mining, processing, service, transportation, and other crafts.

COMMERCIAL SCHOOL (École commerciale)

These are private vocational schools, licensed or not by a province, providing professional and vocational training for profit.

COMMUNITY COLLEGES (Collèges communautaires)

Includes postsecondary, non-degree granting institutions such as colleges of applied arts and technology or CAATS (in Ontario), general and vocational colleges (Collèges d'enseignement général et professionnel, CÉGEP in Québec) and technical institutes and other establishments that provide university transfer programs or specialized training in fields such as agriculture, the arts and forestry. Enrolment in these programs normally requires successful completion of secondary school.

COURSE (Cours)

A planned series of learning experiences in a particular subject matters or skills. It may be part of a larger program of study that is leading to a certificate, diploma or degree (i.e., Introductory Psychology at a university) or it may represent a complete learning event on its own (i.e., second language).

DURATION OF COURSE OR PROGRAM (Durée d'un cours ou programme)

Refers to the length of time that a course, program or training sessions will take for successful completion. This can be measured in terms of hours, days, weeks, months or years.

DISTANCE EDUCATION (Éducation à distance)

Education conducted through the postal services, radio, television, Internet or newspaper, with little or without regular face-to-face contact between teacher and student. Usually the student must have completed a registration process to be regarded as a distance learner.

EDUCATION (Éducation)

Any activities whose purpose is to develop the knowledge, moral values and understanding required in all walks of life rather than only the knowledge and skills relating to a limited field of activity. For the purpose of this study, only formal education activities were considered.

EDUCATIONAL ATTAINMENT (Niveau de scolarité atteint)

Refers to the highest degree, certificate or diploma received by an individual.

EMPLOYER-SPONSORED EDUCATION OR TRAINING (Éducation ou formation appuyée par l'employeur)

Refers to education or training activities that are financially supported by the employer. The employer may sponsor an employee by paying tuition fees, accommodation, transportation, course materials, providing time-off, etc.

FIELD OF STUDY (Champ d'études)

The specific subject area of the program of studies (e.g., medicine, economics, architecture, social work).

FORMAL EDUCATION OR TRAINING (Éducation ou formation formelle)

Education or training activity which is formally structured and sequentially organised, in which learners follow a program of study or a series of experiences planned and directed by a teacher or trainer and generally leading to some formal recognition of educational performance.

FULL-TIME/PART-TIME EDUCATION OR TRAINING (Études ou formation à temps plein ou temps partiel)

In the AETS, the full-time or part-time student (or trainee) status was supplied by each respondent based on their main daily or weekly activities. This status may be at variance with the status determined by a particular educational institution. Institutions classify their students as full-time or part-time students depending on the number of courses in which they are enrolled. Learning events occupying the equivalent of a full working day are classified as full-time activities.

GROSS DOMESTIC PRODUCT (Produit intérieur brut)

Measures the aggregate value of production originating within the geographical boundaries of a country, regardless of whether the factors of productions are resident or non-resident.

HUMAN CAPITAL (Capital humain)

Represents the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activities.

INFORMAL EDUCATION (Éducation informelle)

The lifelong process whereby an individual acquires attitudes, values, skills and knowledge from daily experience, educative influences and other resources in his/her environment. These learning experiences are not structured in the form of a class under the direction of a teacher nor are they organised in a progressive sequence. They are not intended to be recognized by a formal award.

INFORMAL TRAINING (Formation sur le tas)

Training that is generally acquired while performing regular tasks (learning-by-doing) at work or, observing somebody else performing them and that is by nature not planned nor structured.

JOB-RELATED EDUCATION OR TRAINING (Éducation ou formation liée à l'emploi)

Refers to any education or training activities taken for the development or upgrading of skills to be used in a present or future career/employment position.

KNOWLEDGE-BASED ECONOMY (Économie du savoir)

Economies that are dependent on information and knowledge to increase their productivity and assure economic growth.

LABOUR FORCE (Population active)

The labour force is composed of that portion of the civilian, non-institutional population 15 years of age and over who form the pool of available workers in Canada. To be considered a member of the labour force an individual must be working (either full-time or part-time) or unemployed but actively looking for work. For the purpose of this survey, only the population 17 years and over have been considered.

LABOUR FORCE STATUS (Situation vis-à-vis l'activité)

This variable classifies the working-age population according to their connection to the labour force. A person may be either employed (full-time or part-time), unemployed or not in the labour force. The Canadian labour force is made up of the first three classifications, full-time and part-time workers, and the unemployed.

LEARNING EFFORT (Effort d'apprentissage)

It represents both the level of incidence and the intensity of training a population receives. The measure is derived by multiplying the participation rate in adult education and training by the average hours spent by participants in such activities. The resultant measure is the average number of hours of education or training in the entire adult population.

LIFELONG LEARNING (Apprentissage à vie)

The concept that education is not a once-and-for-all experience, which is confined to the initial cycle of full-time formal education, commenced in childhood. Rather it is seen as a process that continues throughout the entire life cycle and responds to different requirements throughout the working and life cycles.

LITERACY LEVEL (Niveau de littératie)

Literacy refers to the information processing skills (reading, writing and numeracy) necessary to use the printed material commonly encountered at work, at home and in the community. The literacy level refers to the degree of competence that is exhibited by an individual, a group, a country, etc., in these skills.

MEDIUM / METHOD OF INSTRUCTION (Méthode pédagogique)

Refers to the techniques used to meet the objectives of the course or program. Possible methods are classroom instruction, seminars, workshops, educational software, radio or television broadcasting, audio-video cassettes, tapes or disks, reading material, and on-the-job training.

ODDS RATIO (Quotient de probabilité)

The odds ratio indicates the relative probability of an event occurring or not occurring. In the context of the AETS, an odds ratio of 1 represents equal odds of respondents receiving and not receiving adult education or training. Coefficients with values below 1 indicate less chance of receiving education, whereas coefficients greater than 1 represent an increased chance.

PARTICIPATION RATE (Taux de participation)

The participation rate represents the proportion of a population engaged in a specific activity. In this study, the participation rates are expressed as the proportion of the population 17 years of age and over who are engaged in adult education and training activities. This rate could be calculated for various populations (e.g., total population, labour force population, etc.)

PERSONAL INTEREST COURSES (Cours suivi par intérêt personnel)

Courses taken as a hobby, for personal development or as a recreational activity.

POST-SECONDARY EDUCATION (Études postsecondaires)

Refers to the kind of education generally obtained in community colleges or universities.

PRIMARY SECTOR (Secteur primaire)

An industrial grouping which includes the agricultural, fishing, forestry and mining industries.

PRIVATE SECTOR EDUCATION OR TRAINING (Éducation ou formation dispensée par le secteur privé)

Refers to the education and training taken outside the jurisdiction of Provincial Ministries of Education. These may be business schools, private training institutes established by an employer within a firm, and the like, which may receive some public funding but that are mainly funded through tuition fees charged to users.

PROGRAM (Programme)

A selection of courses taken for credit towards a degree, diploma or certificate.

PROVIDER (Fournisseur)

Any private or public organization supplying education or training activities.

PUBLIC SECTOR EDUCATION OR TRAINING (Éducation ou formation dispensée par le secteur public)

Refers to the education and training taken in educational institutions which come under the jurisdiction of Provincial Ministries of Education (elementary/secondary schools, universities and colleges, apprenticeship and trade/vocational programs, which are authorized and legislated by Provincial governments).

SECONDARY SECTOR (Secteur secondaire)

This industrial classification includes the manufacturing, construction and utilities industries.

SKILLS (Compétences)

Refer to practical knowledge, know-how or ability to perform a physical or mental task a person acquires through education or training.

SPONSOR/SPONSORSHIP (Parrain / parainage)

The course or program sponsor is the person or organization paying for tuition and/or other expenses such as transportation, course material, time off, etc., on behalf of the student.

TERTIARY SECTOR (Secteur tertiaire)

The industrial classification which includes the retail and wholesale trade industries, the finance, insurance and real estate industries and the service industries.

**TRADE/VOCATIONAL TRAINING OR EDUCATION
(Formation ou enseignement professionnel)**

Activities and programs that provide the skills needed to function in a particular vocation. These programs emphasize manipulative skills and well-defined or well-established procedures, rather than the application of ideas and principles.

TRAINING (Formation)

The systematic development of the attitudes, knowledge and skill patterns of an individual in order that he/she may perform a specific task at a particular level of competence. Training can be formal or informal.

TRAINING RATE (Taux de formation)

This rate measures the number of employer-sponsored trainees per 100 employees in any specific firm, industry or sector.

TRAINING VOLUME (Volume de formation)

Refers to the total number of hours a person spends on education or training.

WHITE-COLLAR OCCUPATIONS (Professions de Col Blanc)

An occupational classification which includes people in the artistic, clerical, managerial, medical, natural science, religion, sales, social science and teaching occupations.

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Survey Methodology and Data Quality

Introduction

Statistics Canada began surveying Canadians about their participation in adult education and training in the early 1980s with surveys being conducted in 1984, 1986, 1990, 1992, 1994 and 1998.

Although all of these surveys have shared the common goal of profiling participation in the adult education and training system, the content and approach taken to measurement has evolved considerably. The survey methodology was significantly improved beginning in 1992, reflecting a better understanding of the underlying phenomenon and a need for more detailed information. This report brings together data from the three most recent surveys (1992, 1994, 1998) to explore trends in participation as estimates from these surveys are strictly comparable. Estimates from earlier surveys are generally not strictly comparable due to changes in the underlying approach to measurement. Where this report includes some limited points of comparison to earlier surveys, great care has been taken to ensure they are valid and reliable.

The Definition of Adult Learners

For analytical purposes, participants in adult education and training can be placed in three broad categories. The most general and inclusive category contains all participants 17 years of age and older. This category includes students who are still in their initial cycle of formal learning, and consequently, this definition overestimates participation in adult education and training. By excluding those students who are 17-19 years of age and enrolled in an elementary or secondary program and those who are 17-24 years of age and enrolled in a postsecondary program, one is able to focus analysis on the second broad category – the population of “adult learners”.¹ Note that students who are supported by their employer are not excluded and are considered to be adult learners. The third broad category includes only adult learners who were employed at the time of the survey, or during the reference period. In each of these three categories, the lower age bound of 17 years was chosen as it reflects the legal age for leaving school plus one year. For the purposes of this publication, the main focus is on adult learners as defined for the second and third categories.

In previous Statistics Canada—Human Resources Development Canada adult education and training publications, a slightly different definition of adult learners was used. Previous publications excluded regular full-time students of any age except those who were financially supported by an employer. Whoever education and training activities taken by these full-time students beyond their regular school

1. See the Introduction for a more comprehensive description of the definition used in this report.

and university programs were included. In this publication, these activities are excluded. This change reflects a more precise grouping of the core age for learning and therefore better reflects the actual adult learning population.

Survey Objectives

Although the objectives of the AETS surveys have evolved over time, the objectives for the 1998 survey are indicative:

- To measure the incidence of adult education and training in Canada in a comprehensive manner;
- To provide a socioeconomic and demographic profile of individuals who participate and do not participate in adult education and training;
- To profile the types, duration and location of training and education that individuals receive;
- To profile employer involvement in the training and education process;
- To identify barriers faced by individuals who wish to take some form of education and training but cannot.

Survey Design and Coverage²

The 1998 Adult Education and Training Survey (AETS), as all other AET surveys, was conducted as a telephone supplement to the January 1998 Labour Force Survey (LFS). The LFS employs a panel design whereby the entire monthly sample of dwellings consists of six panels, or rotation groups, of approximately equal size. Each of these panels is, by itself, representative of the entire LFS population. All dwellings in a rotation group remain in the LFS sample for six consecutive months after which time they are replaced (rotated out of the sample) by a new panel of dwellings selected from the same or similar clusters. Because of the rotation group feature, it is possible to readily conduct supplementary surveys using the LFS design but employing less than the full-size sample.³

Dwellings new to the LFS sample are contacted through a personal visit. The interviewer first obtains socio-demographic information for each household member and then obtains labour force information for all eligible members. Provided there is a telephone in the dwelling and permission has been granted, subsequent interviews are conducted by telephone. As a result, approximately 85% of all dwellings are interviewed by telephone. In these subsequent monthly interviews, as they are called, the interviewer confirms the socio-demographic information collected in the first month and collects the labour force information for the current month.

In all dwellings, information about all household members is obtained from a knowledgeable household member—usually the person at home when the interviewer calls. Such ‘proxy’ reporting, which accounts for approximately 55% of the information collected, is used to avoid the high cost and extended time requirements that would be involved in repeat visits or calls necessary to obtain information directly from each respondent.

At the conclusion of the LFS monthly interviews, interviewers introduce the supplementary survey, if any, to be administered to some, or all, household members that month.⁴

2. Reference is made to the most recent survey. The major survey parameters have not changed since 1992.

3. A detailed description of the LFS design is available in the Statistics Canada publication entitled *Methodology of the Canadian Labour Force Survey (Catalogue no. 71-526-XPB, 1998)*.

4. A detailed description of the Labour Force Survey is available in the Statistics Canada publication entitled *A Guide to the Labour Force Survey (Catalogue no. 71-543-GIE)*.

The AETS used five of the LFS rotation groups. This yielded a sample of 39,217 individuals (Table 1). The sample covers all ten provinces, but excludes the Yukon, Nunavut and the Northwest Territories. Also excluded are inmates of institutions such as prisons or hospitals, residents of Indian reserves, and full-time members of the armed forces. The sample size is large enough to allow detailed breakdowns and tables and to produce estimates for various sub-populations of particular interest to policy makers.

For the AETS the target population was modified to include only those 17 years of age and over rather than 15 years of age and over.⁵ Unlike the LFS, AETS information was only collected for one randomly selected member of the household rather than all members of the household. Proxy responses were not permitted.

Data collection for the AETS occurs during the Labour Force Survey week and the following week. The extra week of collection provides a window to reach selected respondents who may not be available during the LFS week.

Proxy Responses

In keeping with standard Labour Force Survey practice, surveys prior to 1992 accepted proxy response where information for all household members was accepted from a single knowledgeable household member. Research conducted prior to the 1992 Adult Education and Training Survey indicated that this approach seriously underestimated participation rates, particularly shorter duration training events. Given the nature of adult training events and the detailed information required, proxy responses have not been permitted for the AETS as of the 1992 survey.

Table 1
Sample Size by Province and Survey Year

Province	Sample size by survey collection year (Number of individuals)			
	1990	1992	1994	1998
Newfoundland	5,570	2,550	2,152	1,530
Prince Edward Island	2,434	1,187	1,131	1,150
Nova Scotia	7,080	3,607	3,172	2,732
New Brunswick	6,518	3,189	2,781	2,487
Quebec	18,799	10,012	9,568	7,650
Ontario	27,709	14,256	13,680	10,597
Manitoba	6,570	3,533	3,119	3,070
Saskatchewan	7,191	3,932	3,649	2,984
Alberta	9,046	4,769	4,276	3,236
British Columbia	8,704	4,538	4,231	3,781
Canada	99,621	51,573	47,759	39,217

Notes:

- Data not available for 1984 and 1986.
- AET surveys conducted after 1990 were non-proxy and only one person per household was selected.
- The Labour Force Survey sampling frame was redesigned between the 1994 and 1998 AETS surveys. This resulted in a smaller but more efficient sample.

5. This became the standard during the 1990s.

Sampling Error

The primary objective of the AETS was to create a measure of incidence of adult education and training at the Canada level. The sample size is large enough to allow detailed breakdowns at the provincial level and other sub-populations such as the labour force population. However, the size of the sample does not lend itself to such details without decreasing the reliability of data.

The difference between estimates derived from a sample and those derived from a complete census taken under similar conditions is referred to as sampling error. As in any sample survey, some of the AETS estimates are subject to considerable sampling error or are based on too small a sample to be statistically reliable. The standard errors of estimates which is shown in parentheses in Annex C is a good indicator of the quality of the estimates. Estimates based on less than 30 observations are not shown. Such cases are noted by an asterisk (*).

Response Rates

Benefiting from its link to the LFS, the adult education and training surveys have maintained remarkably high response rates throughout the 1980s and 90s. As can be seen in Table 2, AETS response rates have dropped only slightly during this period.

Table 2
Response Rates by Province and Survey Year

Province	Response rates by survey collection year (%)			
	1990	1992	1994	1998
Newfoundland	96.4	90.4	89.5	90.6
Prince Edward Island	95.3	88.5	89.5	89.7
Nova Scotia	94.8	90.2	90.3	89.7
New Brunswick	93.9	88.8	87.6	87.3
Quebec	95.5	89.1	87.9	89.5
Ontario	92.2	86.5	84.8	81.1
Manitoba	90.4	86.3	88.6	85.7
Saskatchewan	92.6	87.8	88.9	84.2
Alberta	90.3	87.2	88.0	80.5
British Columbia	92.4	87.7	85.7	84.1
Canada	93.2	87.9	87.2	85.2

Notes:

- Data not available for 1984 and 1986.
- AET surveys conducted after 1990 were non-proxy and only one person per household was selected.
- The Labour Force Survey sampling frame was redesigned between the 1994 and 1998 AET surveys. This resulted in a smaller but more efficient sample.

Table 3
Number of Respondents by Province and Survey Year

Province	Survey collection year					
	1984	1986	1990	1992	1994	1998
Newfoundland	5,921	4,739	5,368	2,305	1,925	1,387
Prince Edward Island	2,545	2,093	2,319	1,051	1,012	1,032
Nova Scotia	6,887	5,420	6,709	3,255	2,863	2,451
New Brunswick	7,758	5,639	6,126	2,831	2,437	2,171
Quebec	14,823	11,806	17,946	8,917	8,407	6,848
Ontario	17,723	14,594	25,534	12,326	11,607	8,595
Manitoba	7,456	5,266	5,938	3,050	2,764	2,630
Saskatchewan	8,850	6,712	6,659	3,452	3,243	2,513
Alberta	10,570	10,263	8,169	4,160	3,763	2,604
British Columbia	9,005	7,167	8,040	3,981	3,624	3,179
Canada	91,538	73,699	92,808	45,328	41,465	33,410

Notes:

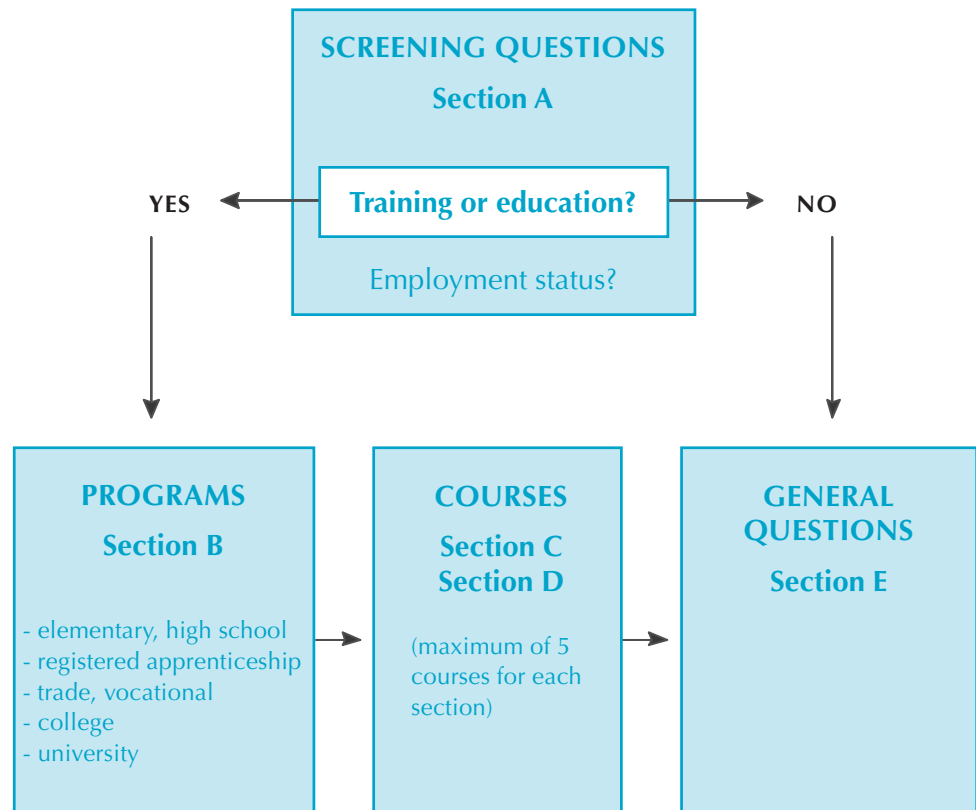
- AET surveys conducted after 1990 were non-proxy and only one person per household was selected.
- The Labour Force Survey sampling frame was redesigned between the 1994 and 1998 AET surveys. This resulted in a smaller but more efficient sample.

Survey Content

The coverage of Adult Education and Training surveys has evolved considerably since their inception. In the first survey of the series, the 1984 Adult Education Survey, the term “training” was not explicitly used, resulting in a serious underrepresentation of training events. In the second survey of the series, the 1986 Adult Training Survey, the focus was explicitly limited to training and education for work or employment, leading to a serious underrepresentation of other, less instrumental, learning events. The survey also extended the reference period from 12 months to 24 months. Furthermore, the survey limited the target population to those between 16 and 65, precluding any analysis of formal learning in the period after normal retirement. The third survey of the series (1990) resulted in a marriage of what until this time had been two discrete concepts: education and training. Following the 1990 survey, and building on the marriage of the two key concepts, a major review of survey content and methodology was undertaken resulting in an approach and definitions that have remained essentially constant since the 1992 survey.

In some cases questions and/or response categories or the general structure of the questionnaire changed across surveys. These changes had an impact on some estimates. For example, more recent surveys have collected more detailed information on the programs or courses taken. In 1984 only information about the last course taken was requested, while in 1986 and 1990 information was requested for the last program, or the last full-time registered apprenticeship program, or the last course, and/or the last short-term training. For the 1992 and 1994 survey, information was collected for all programs and courses separately for employer supported and non-employer supported events. The design of the 1998 AETS is intended to facilitate the collection of training information without unduly burdening the respondent. As can be seen in the following schematic representation, the 1998 questionnaire is a series of modules. Respondents only answer questions for those modules that are applicable. In 1998 the presence of employer support was determined through a response category.

Figure 1
The 1998 AETS Questionnaire Structure



Survey Timing

To facilitate recall and improve comparability of estimates, the AETS has typically been conducted as a supplement to the January Labour Force Survey (1984, 1992, 1994, 1998). Respondents are then asked to identify the education and/or training they received in the previous calendar year. For most respondents this approach provides realistic time-bounding and limits telescoping where respondents erroneously report events that occurred prior to the reference period.

Two surveys, however, could not be fielded in January due to operational considerations. The 1990 survey was conducted in November 1990 and the 1986 Adult Training Survey was conducted in February 1986. Little is known about the degree to which these differences may influence the reporting of the incidence or characteristics of learning events. The 1986 survey also asked respondents to provide data for calendar years 1984 and 1985, making comparisons with other survey cycles difficult.

For the 1998 AETS, collection took place in January 1998 except in Quebec. Collection in Quebec was delayed until March due to the ice storm of 1998; however, as evidenced in Table 2, response rates were not adversely affected.

ANNEX C

This annex presents data tables showing the numeric values used for the production of the figures featured in the text. The values in parentheses are the standard errors of the estimates. Standard jack-knife procedures have been used for the calculation of these errors, which should be seen as indicators of the probable range of error of the estimates, given that other methods might produce slightly different results. All AETS estimates based on less than 30 cases are flagged with an asterisk (*). In all such cases the estimates are considered to be unreliable, even though the standard errors might be small.

Statistical Tables for Chapter 1

TABLE 1.1
Level of education (1996) and functional literacy (1995) in selected OECD countries

	Percentage of the population by highest completed education and level of functional literacy (document)							
	Level of education (aged 25-64)				Functional literacy (aged 16-65)			
	Not completed high school	High school	Non-university tertiary	University	Level 1	Level 2	Level 3	Level 4/5
Australia	43	32	10	15	17	28	38	17
Canada	24	29	31	17	18	25	32	25
Germany	19	60	9	13	9	33	40	19
Netherlands	37	40	n/a	23	10	26	44	20
New Zealand	40	35	14	11	21	29	32	18
Poland	26	61	3	10	45	31	18	6
Sweden	26	47	14	13	7	19	40	35
United Kingdom	24	55	9	13	23	27	31	19
United States	14	52	8	26	24	26	31	19

Source: OECD (1998) and OECD et al. (1997).

TABLE 1.2
Percentage of adult population participating in education and training by study orientation, job-related and personal interest and employer support, employer-sponsored and non employer-sponsored, Canada, 1997

	Overall participation ^a	Participating in job-related programs/courses	Participating in personal interest programs/courses	Participating in ^b employer-sponsored programs/courses	Participating in non employer-sponsored programs/courses
Canada	27.7	21.1	9.8	23.7	14.1

- a. Participation in job-related adult education and training and in personal interest programs/courses as well as participation in employer and non employer-sponsored training do not sum to the overall participation rate (27.7%) because a certain number of people participated in more than one category of activity.
- b. Estimations are based on respondents who had a job in 1997.

TABLE 1.3

Percentage and likelihood of adult population participating in adult education and training by province, study orientation, job-related and personal interest and employer support, employer-sponsored and non employer-sponsored, 1997^a

Province	Overall participation			Participating in job-related programs/courses			Participating in personal interest programs/courses			Participating in ^b employer-sponsored programs/courses			Participating in non employer-sponsored programs/courses		
	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds
Quebec	20.6	1.00	1.00	14.6	1.00	1.00	7.9	1.00	1.00	15.1	1.00	1.00	12.0	1.00	1.00
Newfoundland	18.6	0.88 ³	1.09 ³	15.3	1.06 ³	1.38 ¹	4.5	0.55 ¹	0.62 ¹	17.8	1.21 ³	1.56 ¹	9.1	0.74 ²	0.75 ³
Prince Edward Island	22.2	1.10 ³	1.25 ³	17.3	1.22 ³	1.41 ³	6.9	0.87 ³	0.95 ³	19.0	1.33 ³	1.68 ²	10.7	0.87 ³	0.93 ³
Nova Scotia	28.8	1.56 ¹	1.75 ¹	22.6	1.71 ¹	1.96 ¹	9.8	1.28 ¹	1.32 ¹	28.5	2.23 ¹	2.46 ¹	13.2	1.12 ³	1.14 ³
New Brunswick	23.4	1.17 ³	1.33 ¹	17.1	1.20 ³	1.39 ¹	8.4	1.07 ³	1.13 ³	20.2	1.41 ¹	1.61 ¹	11.8	0.98 ³	1.01 ³
Ontario	30.8	1.72 ¹	1.70 ¹	23.9	1.83 ¹	1.82 ¹	10.3	1.35 ¹	1.29 ¹	27.2	2.09 ¹	2.09 ¹	14.8	1.27 ¹	1.25 ¹
Manitoba	27.6	1.47 ¹	1.60 ¹	21.4	1.59 ¹	1.75 ¹	9.5	1.23 ³	1.27 ²	24.9	1.86 ¹	2.03 ¹	13.3	1.12 ³	1.21 ²
Saskatchewan	28.0	1.50 ¹	1.71 ¹	22.6	1.70 ¹	1.96 ¹	8.8	1.12 ³	1.21 ³	26.3	2.01 ¹	2.33 ¹	12.1	1.01 ³	1.14 ³
Alberta	31.1	1.74 ¹	1.65 ¹	24.7	1.92 ¹	1.81 ¹	10.5	1.37 ¹	1.31 ¹	27.1	2.08 ¹	2.16 ¹	13.9	1.19 ¹	1.17 ²
British Columbia	31.9	1.80 ¹	1.84 ¹	23.5	1.79 ¹	1.83 ¹	12.7	1.71 ¹	1.66 ¹	25.8	1.95 ¹	1.97 ¹	18.1	1.62 ¹	1.61 ¹

a. Variables included in the adjusted odds model are age, gender, educational level and labour force status.

b. Estimations are based on respondents who had a job during 1997.

1. p<.01

2. p<.05

3. p>.05, not statistically significant

TABLE 1.4

Mean hours of adult education and training per participant and per capita, by province, 1997

Province	Mean hours per participant	Mean hours per capita ^a
Newfoundland	307	57
Prince Edward Island	192	43
Nova Scotia	184	53
New Brunswick	221	52
Quebec	234	48
Ontario	207	64
Manitoba	180	50
Saskatchewan	177	50
Alberta	199	62
British Columbia	200	64
Canada	209	58

a. The mean number of hours per capita is obtained by dividing total hours of training by the total adult population, that is the sum of the participants and non participants in adult education and training.

TABLE 1.5

Percentage and likelihood of adult population participating in adult education and training by gender, study orientation, job-related and personal interest, employer support, employer-sponsored and non employer-sponsored, Canada, 1997^a

Gender	Overall participation			Job-related training			Personal interest training			Employer-sponsored training ^b			Non employer-sponsored training		
	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds
Male	26.8	1.00	1.00	21.6	1.00	1.00	7.5	1.00	1.00	23.0	1.00	1.00	11.3	1.00	1.00
Female	28.6	1.10 ¹	1.22 ¹	20.6	0.94 ¹	1.04	12.0	1.68 ¹	1.72 ¹	24.0	1.08 ¹	0.99	16.7	1.56 ¹	1.57 ¹

a. Variables included in the adjusted odds model are age, province, educational level and labour force status.

b. Estimations are based on respondents who had a job during 1997.

1. p<.01

2. p<.05

3. p>.05, not statistically significant

TABLE 1.6a

Percentage and likelihood of adult population participating in adult education and training by educational attainment, study orientation, job-related and personal interest and employer support, employer-sponsored and non employer-sponsored, 1997^a

Level of education	Participation rate and likelihood														
	Overall participation			Job-related training			Personal interest training			Employer-sponsored ^b			Non employer-sponsored		
	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds
Some secondary or less	10.9	1.00	1.00	6.8	1.00	1.00	4.8	1.00	1.00	9.6	1.00	1.00	7.1	1.00	1.00
Secondary completed	21.8	2.28 ¹	1.53 ¹	16.0	2.62 ¹	1.60 ¹	7.5	1.63 ¹	1.39 ¹	17.7	2.03 ¹	1.84 ¹	10.5	1.52 ¹	1.27 ¹
Some postsecondary	36.9	4.78 ¹	3.08 ¹	29.4	5.70 ¹	3.39 ¹	11.6	2.63 ¹	2.13 ¹	27.7	3.63 ¹	3.30 ¹	19.5	3.15 ¹	2.44 ¹
Trade certificate	25.3	2.77 ¹	2.10 ¹	19.9	3.42 ¹	2.29 ¹	7.5	1.62 ¹	1.59 ¹	21.8	2.63 ¹	2.49 ¹	10.9	1.60 ¹	1.60 ¹
Community college	39.2	5.28 ¹	3.37 ¹	31.3	6.25 ¹	3.60 ¹	13.1	3.03 ¹	2.46 ¹	30.1	4.07 ¹	3.69 ¹	18.9	3.04 ¹	2.54 ¹
Some university	39.2	5.28 ¹	4.16 ¹	28.2	5.38 ¹	3.87 ¹	15.2	3.59 ¹	3.26 ¹	27.1	3.51 ¹	3.34 ¹	22.4	3.76 ¹	3.73 ¹
University degree	48.0	7.55 ¹	5.07 ¹	37.3	8.18 ¹	4.82 ¹	17.8	4.32 ¹	3.86 ¹	35.7	5.23 ¹	4.81 ¹	24.0	4.11 ¹	3.87 ¹

a. Variables included in the adjusted odds model are labour force status, age and gender.

b. Estimations are based on respondents who had a job in 1997.

1. p<.01

2. p<.05

3. p>.05, not statistically significant

TABLE 1.6b

Percentage and likelihood of adult population participating in education and training by educational attainment and province, Canada, 1997^a

	Overall participation rate	Odds	Adjusted odds		Overall participation rate	Odds	Adjusted odds
Atlantic Canada				Saskatchewan			
Some secondary or less	8.4	1.00	1.00	Some secondary or less	9.9	1.00	1.00
Secondary completed	19.9	2.66 ¹	1.56 ¹	Secondary completed	29.4	3.80 ¹	1.98 ¹
Postsecondary non university	32.1	5.21 ¹	3.49 ¹	Postsecondary non university	35.9	5.09 ¹	3.04 ¹
University degree	53.6	12.43 ¹	7.54 ¹	University degree	48.4	8.49 ¹	5.19 ¹
Quebec				Alberta			
Some secondary or less	9.1	1.00	1.00	Some secondary or less	15.0	1.00	1.00
Secondary completed	15.5	1.85 ¹	1.20 ³	Secondary completed	24.6	1.83 ¹	1.26 ³
Postsecondary non university	25.0	3.34 ¹	2.11 ¹	Postsecondary non university	37.6	3.39 ¹	2.47 ¹
University degree	40.3	6.76 ¹	4.00 ¹	University degree	45.8	4.75 ¹	3.37 ¹
Ontario				British Columbia			
Some secondary or less	11.9	1.00	1.00	Some secondary or less	13.3	1.00	1.00
Secondary completed	23.5	2.29 ¹	1.68 ¹	Secondary completed	22.5	1.89 ¹	1.27 ³
Postsecondary non university	38.6	4.68 ¹	3.49 ¹	Postsecondary non university	36.9	3.82 ¹	2.86 ¹
University degree	49.7	7.33 ¹	5.61 ¹	University degree	54.3	7.75 ¹	5.88 ¹
Manitoba				a. Variables included in the adjusted odds model are labour force status, age and gender.			
Some secondary or less	9.9	1.00	1.00	1. p<.01			
Secondary completed	21.4	2.47 ¹	1.54 ¹	2. p<.05			
Postsecondary non university	38.0	5.56 ¹	3.72 ¹	3. p>.05, not statistically significant			
University degree	51.7	9.68 ¹	6.06 ¹				

TABLE 1.7

Percentage of adult population participating in education and training by age group, study orientation, job-related and personal interest and employer support, employer-sponsored and non employer-sponsored and mean hours of study by age group, Canada, 1997

Age	Overall participation		Participation			
	%	Mean hours of study ^a	Job-related %	Personal interest %	Employer-sponsored ^b %	Non employer-sponsored %
17-24	39.5	451	30.8	12.9	25.0	22.5
25-34	38.6	272	30.6	12.6	24.1	21.7
35-44	33.6	157	27.3	10.5	25.5	15.1
45-54	30.3	106	23.7	10.2	25.7	12.2
55-64	14.6	49	8.4	7.6	14.4	7.8
65+	5.0	43	0.5	4.5	5.0	4.5

a. Mean hours of education and training per participant

b. Employed adult population only.

TABLE 1.8a

Percentage and likelihood of adult population participating in education and training by labour force status and study orientation, job-related and personal interest, Canada, 1997^a

Labour force status	Overall participation			Job-related training			Personal interest training		
	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds
Not in labour force	12.7	1.00	1.00	6.1	1.00	1.00	7.5	1.00	1.00
Employed	36.2	3.88 ¹	1.70 ¹	29.4	6.36 ¹	2.41 ¹	11.3	1.58 ¹	0.96 ³
Unemployed 0-6 months.	23.5	2.11 ¹	1.00 ³	19.2	3.64 ¹	1.48 ¹	5.4	0.71 ²	0.50 ¹
Unemployed 7-12 months	28.8	2.77 ¹	1.28 ³	22.7	4.49 ¹	1.84 ¹	9.1	1.24 ³	0.78 ³
Unemployed one year or more	28.6	2.74 ¹	1.45 ¹	20.0	3.83 ¹	1.76 ¹	9.8	1.36 ³	0.98 ³

a. Variables included in the adjusted odds model are age, gender and educational level.

1. p<.01

2. p<.05

3. p>.05, not statistically significant

TABLE 1.8b

Percentage of adult education participating in education and training by labour force status, age group and study orientation, job-related and personal interest, Canada, 1997

Age	Labour force status	Overall participation	Job-related	Personal interest
17-24	Employed	39.9	32.5	12.3
	Unemployed	29.1	23.5	8.8
	Not in labour force	32.1	22.4	12.7
	Total	36.3	28.5	12.0
25-34	Employed	40.2	33.0	12.3
	Unemployed	26.2	21.7	6.8
	Not in labour force	28.2	18.8	10.7
	Total	36.8	29.5	11.5
35-44	Employed	37.5	31.2	11.4
	Unemployed	24.5	19.9	5.7
	Not in labour force	20.2	12.0	9.6
	Total	33.6	27.2	10.6
45-54	Employed	34.6	28.4	11.2
	Unemployed	15.3	8.6	7.8
	Not in labour force	11.3	4.9	7.2
	Total	28.3	22.0	10.1
55-64	Employed	20.8	15.8	7.4
	Unemployed	17.9	12.8	6.4
	Not in labour force	8.5	1.6	7.2
	Total	13.9	7.8	7.3
65+	Employed	8.8	5.6	3.8
	Unemployed	0.0	0.0	0.0
	Not in labour force	3.7	0.2	3.5
	Total	4.0	0.5	3.5
Total	Employed	36.2	29.4	11.3
	Unemployed	26.0	20.4	7.2
	Not in labour force	12.7	6.1	7.5
	Total	27.7	21.1	9.8

TABLE 1.9

Percentage and likelihood of employed adult population participating in education and training by class of main job and study orientation, job-related and personal interest, Canada, 1997^a

Class of main job	Overall participation			Participating in job-related programs/courses			Participating in personal interest programs/courses			Participating in non employer-sponsored programs/courses		
	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds	%	Odds	Adjusted odds
Self-employed	24.3	1.00	1.00	18.1	1.00	1.00	9.0	1.00	1.00	12.8	1.00	1.00
Public employees	49.9	3.10 ¹	2.43 ¹	41.8	3.24 ¹	2.57 ¹	15.9	1.91 ¹	1.45 ¹	19.8	1.68 ¹	1.25 ¹
Private employees	34.4	1.63 ¹	1.45 ¹	27.6	1.72 ¹	1.52 ¹	10.6	1.19 ¹	1.06 ³	15.2	1.21 ¹	0.97 ³

a. Variables included in the adjusted odds model are age, gender, educational level and labour force status.

1. p<.01

2. p<.05

3. p>.05 not statistically significant

TABLE 1.10a

Percentage and likelihood of employed adult population participating in employer-sponsored education by firm size and private, public sectors, Canada, 1997^a

Ownership	Firm Size (Number of employees)	Participation rate	Odds	Adjusted odds
Public	Less than 20	26.1	1.00	1.00
	20 - 99	37.3	1.70 ¹	1.56 ¹
	100 - 500	42.8	2.12 ¹	1.80 ¹
	Over 500	40.0	1.90 ¹	1.61 ¹
Private	Less than 20	15.0	1.00	1.00
	20 - 99	17.6	1.20 ²	1.11 ³
	100 - 500	29.5	2.36 ¹	2.16 ¹
	Over 500	30.8	2.52 ¹	2.09 ¹
Total	Less than 20	16.4	1.00	1.00
	20 - 99	21.2	1.37¹	1.23¹
	100 - 500	33.6	2.57¹	2.14¹
	Over 500	33.9	2.61¹	1.95¹

a. Variables included in the adjusted odds model are industry, main occupation, type of job, ownership, age and sex.

1. p<.01
2. p<.05
3. p>.05, not statistically significant

TABLE 1.10b

Percentage and likelihood of employed adult population participating in employer-sponsored education in the private and public sector, Canada, 1997^a

Ownership	Participation rate	Odds	Adjusted odds
Private sector	20.0	1.00	1.00
Public sector	35.2	1.91 ¹	1.30 ¹

a. Variables included in the adjusted odds model are level of education, main occupation, type of job, firm size, age and sex.

1. p<.01
2. p<.05
3. p>.05, not statistically significant

TABLE 1.10c

Percentage and likelihood of employed adult population participating in employer-sponsored education by gender and full-time, part-time work, Canada, 1997^a

Gender	Type of Job	Participation rate	Odds	Adjusted odds
Males	Part-time	17.8	1.00	1.00
	Full-time	25.5	1.40 ¹	1.21
Females	Part-time	20.4	1.00	1.00
	Full-time	29.5	1.48 ¹	1.25 ¹
Total	Part-time	19.9	1.00	1.00
	Full-time	26.9	1.48¹	1.24¹

a. Variables included in the adjusted odds model are industry, main occupation, firm size, age and sex.

1. p<.01
2. p<.05
3. p>.05, not statistically significant

TABLE 1.10d**Percentage and likelihood of employed adult population participating in employer-sponsored education by industry, Canada, 1997^a**

Industry	Participation rate	Odds	Adjusted odds
Construction	13.7	1.00	1.00
Agriculture	10.1	0.51 ²	0.50 ²
Other primary	24.2	2.18 ¹	1.51 ²
Manufacturing	19.4	1.09 ³	0.76 ²
Utilities	44.1	3.45 ¹	1.98 ¹
Transportation	29.1	1.84 ¹	1.27 ³
Trade	20.0	1.11 ³	0.78 ³
Finance, insurance and real estate	37.7	2.69 ¹	1.56 ¹
Education, health and welfare	33.9	2.27 ¹	1.09 ³
Business, personal and misc. services	18.5	1.08 ³	0.72 ²
Public Administration	41.0	3.30 ¹	1.74 ¹

a. Variables included in the adjusted odds model are main occupation, type of job, firm size, age and sex.

1. $p < .01$
2. $p < .05$
3. $p > .05$, not statistically significant

TABLE 1.10e**Percentage and likelihood of employed adult population participating in employer-sponsored education by occupation, Canada, 1997^a**

Occupation	Participation rate	Odds	Adjusted odds
Blue collar	15.7	1.00	1.00
Professional, managerial	35.1	2.91 ¹	2.64 ¹
Clerical, sales, service	19.4	1.29 ¹	1.29 ¹

a. Variables included in the adjusted odds model are industry, type of job, firm size, age and sex.

1. $p < .01$
2. $p < .05$
3. $p > .05$, not statistically significant

TABLE 1.10f**Percentage and likelihood of employed adult population participating in employer-sponsored education by job status, Canada, 1997^a**

Job status	Participation rate	Odds	Adjusted odds
Employee without supervisory roles	21.1	1.00	1.00
Employee with supervisory roles	37.9	2.21 ¹	1.94 ¹
Self-employed without employees	11.3	0.52 ¹	0.61 ³
Self-employed with employees	18.2	0.87 ³	1.20 ³

a. Variables included in the adjusted odds model are industry, main occupation, firm size, age and sex.

1. $p < .01$
2. $p < .05$
3. $p > .05$, not statistically significant

TABLE 1.10g

Percentage and likelihood of employed adult population participating in employer-sponsored education by income, Canada, 1997^a

Income (\$)	Participation rate	Odds	Adjusted odds
Under 15,000	10.5	1.00	1.00
15,000-24,999	16.5	1.51 ¹	1.93 ¹
25,000-34,999	24.9	2.46 ¹	3.26 ¹
35,000-49,999	34.3	3.84 ¹	5.16 ¹
50,000 or more	41.6	5.63 ¹	7.63 ¹

a. Variables included in the adjusted odds model are industry, main occupation, type of job, firm size, age and sex.

1. p<.01

2. p<.05

3. p>.05, not statistically significant

TABLE 1.11

Percentage distribution of suppliers of adult education and training, level of programs and courses by study orientation, job-related and personal interest, Canada, 1997

	Educational institution	Commercial school/private training provider	Employer	Non-profit organization	Supplier of equipment	Someone else	No instructor
Programs							
Elementary/High school	89.6	3.4	1.9	1.5	0.5	2.9	1.1
Apprenticeship	58.5	18.1	19.2	1.4	4.0	2.8	1.5
Trade/vocational	49.2	23.8	6.5	3.7	3.9	5.7	1.8
College	84.0	4.4	2.2	1.1	0.2	0.9	1.4
University	90.0	1.5	1.7	1.1	0.0	1.5	1.2
Total	75.3	9.7	4.7	1.9	1.5	2.8	1.4
Courses							
Job-related	25.3	20.4	31.6	6.2	10.7	12.3	1.5
Personal interest and other	28.3	19.7	4.5	15.5	5.5	27.5	1.6
Not stated	2.1	0.0	0.2	0.7	0.0	0.0	0.0
Total	26.1	20.0	22.3	9.2	8.9	17.3	1.5

TABLE 1.12

Percentage distribution of medium of instruction in courses by supplier, Canada, 1997^a

	Total number of courses		Converntional media				Sub-total	New learning technologies					Sub-total
	Number	%	Classroom instruction	Reading materials	On-the-job training	Corres-pondence		Educa-tional software	Radio/TV	A/V media	Internet	Other	
Course Supplier													
Educational institution	1,702,718	26.1	94.2	30.9	10.4	5.0	97.8	13.8	1.0	10.8	0.4	5.6	26.0
Commercial school	1,301,581	20.0	87.9	43.4	18.7	4.2	93.9	13.5	2.9	23.9	0.3	9.9	39.4
Employer	1,451,190	22.3	87.9	37.8	34.0	2.6	97.8	14.8	1.3	23.6	0.4	3.5	35.7
Non-profit organization	600,813	9.2	90.4	36.8	12.4	2.3	94.0	4.5	2.0	19.7	0.1	10.6	31.1
Supplier of equipment	577,940	8.9	98.5	33.0	21.4	3.2	96.3	14.8	1.1	18.0	0.9	5.9	31.2
Someone else	1,125,754	17.3	80.8	25.4	11.6	3.3	85.5	4.9	0.8	14.0	0.1	19.5	34.9
No instructor	98,220	1.5	9.5	56.8	6.3	50.8	77.6	14.5	0.0	18.5	2.1	19.8	48.4
Total	6,517,524	<i>a</i>	86.3	32.7	16.6	4.2	93.2	10.6	1.3	16.8	0.3	8.8	31.4

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.13a

Percentage distribution of the level of use at work of skills and knowledge acquired through education and training, programs and courses, by study orientation, job-related and personal interest, Canada, 1997

	Acquired skills or knowledge used at work				Total
	To a great extent	Somewhat	Very little	Not at all	
Programs					
Job-related purpose	45.5	28.5	10.0	15.8	100.0
Personal interest purpose	25.4	35.2	15.8	23.5	100.0
Courses					
Job-related purpose	54.8	32.6	7.3	5.3	100.0
Personal interest purpose	22.4	28.9	15.4	33.4	100.0

TABLE 1.13b

Percentage distribution of the level of use in personal life of skills and knowledge acquired through education and training, programs and courses, by study orientation, job-related and personal interest, Canada, 1997

	Acquired skills or knowledge used in personal life				Total
	To a great extent	Somewhat	Very little	Not at all	
Programs					
Job-related purpose	23.5	38.4	18.9	19.3	100.0
Personal interest purpose	33.6	38.4	12.9	15.0	100.0
Courses					
Job-related purpose	16.5	31.6	18.7	33.1	100.0
Personal interest purpose	33.8	38.7	15.6	12.0	100.0

TABLE 1.13c

Percentage distribution of the level of use at work of skills and knowledge acquired through education and training courses, by supplier and by study orientation, job-related and personal interest, Canada, 1997

Supplier	Acquired skills or knowledge used at work				Total
	To a great extent	Somewhat	Very little	Not at all	
Education institution					
Job-related course	51.5	33.2	8.6	6.8	100.0
Personal interest course	26.1	26.3	20.6	26.8	100.0
Commercial/private trainer					
Job-related course	48.6	36.3	10.0	5.8	100.0
Personal interest course	21.9	42.1	10.6	25.3	100.0
Employer					
Job-related course	60.8	30.2	5.3	3.7	100.0
Personal interest course	38.6	32.8	20.4	10.0	100.0
Non-profit organization					
Job-related course	45.7	35.2	12.6	6.5	100.0
Personal interest course	26.8	35.0	19.2	26.4	100.0
Producer/supplier of equipment					
Job-related course	57.3	34.3	6.2	2.1	100.0
Personal interest course	34.3	27.7	4.9	33	100.0
Someone else					
Job-related course	60.9	30.0	5.0	4.2	100.0
Personal interest course	32.5	28.7	20.5	18.4	100.0
No instructor					
Job-related course	52.6	29.4	11.9	6.1	100.0
Personal interest course	40.0	39.9	18.7	1.3	100.0

TABLE 1.13d

Percentage distribution of the level of use in personal life of skills and knowledge acquired through education and training courses, by supplier and by study orientation, job-related and personal interest, Canada, 1997

Supplier	Acquired skills or knowledge used in personal life				Total
	To a great extent	Somewhat	Very little	Not at all	
Education institution					
Job-related course	17.2	36.0	13.8	27.0	100.0
Personal interest course	26.6	35.5	18.7	19.3	100.0
Commercial/private trainer					
Job-related course	14.7	33.5	19.3	32.5	100.0
Personal interest course	29.1	42.3	15.5	13.2	100.0
Employer					
Job-related course	13.4	28.1	20.7	37.8	100.0
Personal interest course	26.8	45.5	9.8	18.2	100.0
Non-profit organization					
Job-related course	25.2	32.2	15.8	26.8	100.0
Personal interest course	35.5	34.4	22.1	8.0	100.0
Producer/supplier of equipment					
Job-related course	15.7	26.1	15.1	43.1	100.0
Personal interest course	31.4	48.8	12.5	7.4	100.0
Someone else					
Job-related course	16.4	29.6	21.1	32.8	100.0
Personal interest course	34.3	37.1	16.3	12.3	100.0
No instructor					
Job-related course	15.6	25.2	19.1	40.1	100.0
Personal interest course	9.1	75.3	13.2	2.4	100.0

TABLE 1.13e

Percentage distribution of the degree of expectations met by job-related and personal interest courses, by supplier and study orientation, Canada, 1997

Supplier	Degree of expectations met				Total
	To a great extent	Somewhat	Very little	Not at all	
Education institution					
Job-related course	62.7	31.5	4.9	0.9	100.0
Personal interest course	51.6	39.0	6.9	2.5	100.0
Commercial/private trainer					
Job-related course	56.7	37.2	4.5	1.6	100.0
Personal interest course	59.6	37.8	1.4	1.2	100.0
Employer					
Job-related course	60.8	35.0	3.4	0.8	100.0
Personal interest course	63.6	26.7	9.7	0.0	100.0
Non-profit organization					
Job-related course	66.9	28.9	2.5	1.7	100.0
Personal interest course	72.3	26.1	1.4	0.2	100.0
Producer/supplier of equipment					
Job-related course	56.6	37.1	4.3	2.0	100.0
Personal interest course	60.8	31.6	4.9	2.7	100.0
Someone else					
Job-related course	67.2	28.7	3.1	1.0	100.0
Personal interest course	65.6	32.3	1.8	0.3	100.0
No instructor					
Job-related course	62.0	32.6	5.4	0.0	100.0
Personal interest course	69.3	30.7	0.0	0.0	100.0

TABLE 1.14a

Percentage distribution of sources of financial support for participants in programs by type of program and by gender, Canada, 1997^a

Type of program	Employer and others	Employer only	Self/ family	Government	Union/ professional organizations	Other	No fees
Elementary/High school							
Male	5.8	3.2	41.6	38.5	0.2	0.8	16.4
Female	2.2	0.8	42.4	35.0	0.9	1.7	24.3
Total	3.9	2.0	42.0	36.6	0.5	1.3	20.5
Apprenticeship							
Male	44.3	17.8	41.7	29.6	1.0	5.3	1.2
Female	35.4	22.3	44.8	22.7	1.5	0.8	4.6
Total	41.0	19.4	42.9	27.1	1.2	3.7	2.5
Trade/vocational							
Male	39.8	25.7	43.6	18.4	2.1	2.8	4.5
Female	22.6	11.4	62.4	14.1	0.4	6.4	3.1
Total	31.5	18.8	52.6	16.3	1.4	4.6	3.8
College							
Male	26.9	17.1	58.8	16.6	0.1	1.7	1.5
Female	13.8	7.3	76.3	16.2	0.2	1.1	0.1
Total	19.0	11.2	69.3	16.3	0.2	1.3	0.6
University							
Male	24.3	7.9	80.9	6.6	1.3	3.4	1.6
Female	19.1	6.2	86.6	7.1	1.3	1.1	0.4
Total	21.3	6.9	84.0	6.9	1.3	2.0	0.9
All programs							
Male	28	14.5	56.6	19.1	1.2	2.7	4.7
Female	16.9	7.6	69.5	16.0	0.8	2.3	4.9
Total	22.2	10.9	63.4	17.5	0.9	2.5	4.9

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.14b

Percentage distribution of sources of financial support for participants in courses by study orientation, job-related and personal interest, and by gender, Canada, 1997^a

Study orientation	Employer and others	Employer only	Self/family	Government	Union/professional organizations	Other	No fees
Job-related purpose							
Male	76.6	57.3	17.6	5.7	3.9	4.0	10.8
Female	71.1	51.8	23.0	7.1	2.5	3.7	11.6
Total	74.0	54.6	20.2	6.4	3.3	3.8	11.1
Personal-interest related purposes							
Male	33.7	21.9	52.1	15.3	1.9	5.1	5.2
Female	20.0	12.3	67.5	4.5	2.1	4.1	9.6
Total	25.6	16.2	61.2	8.9	2.0	4.6	7.9
Not stated							
Male	0.0	1.0	0.0	4.6	0.0	0.0	0.0
Female	0.0	0.0	23.2	0.0	0.0	0.0	0.0
Total	0.0	0.5	10.2	2.5	0.0	0.0	0.0
All courses							
Male	68.3	50.5	23.7	7.4	3.6	4.1	9.7
Female	57.8	41.5	34.3	6.4	2.4	3.8	11.0
Total	63.0	45.9	29.1	6.9	3.0	3.9	10.4

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.14c

Percentage distribution of sources of financial support for participants in programs by labour force status and by gender, Canada, 1997^a

Labour force status	Employer and others	Employer only	Self/family	Government	Union/professional organizations	Other	No fees
Employed							
Male	36.6	19.2	57.3	12.8	1.2	2.4	4.5
Female	24.4	11.2	73.7	8.9	1.0	1.9	3.3
Total	30.4	15.1	65.7	10.8	1.1	2.2	3.9
Unemployed							
Male	16.5	7.7	53.9	30.3	1.7	2.8	4.3
Female	2.1	0.7	61.0	30.9	0.0	4.3	6.9
Total	9.2	4.2	57.5	30.6	0.8	3.6	5.7
Not in the labour force							
Male	3.6	1.5	55.3	35.9	0.6	3.8	5.8
Female	2.9	0.8	61.4	29.3	0.6	2.8	8.5
Total	3.2	1.1	58.9	24	0.6	3.3	7.3
All programs							
Male	28.0	14.5	56.6	19.1	1.2	2.7	4.7
Female	16.8	7.7	69.5	16.0	0.8	2.3	4.9
Total	22.2	10.9	63.4	17.5	0.9	2.5	4.9

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.14d

Percentage distribution of sources of financial support for participants in courses by labour force status and by gender, Canada, 1997^a

Labour force status	Employer and others	Employer only	Self/family	Government	Union/professional organizations	Other	No fees
Employed							
Male	74.3	55.3	20.0	5.4	3.7	4.0	10.1
Female	65.7	47.4	30.2	4.5	2.7	3.5	10.8
Total	70.1	51.4	25.0	5.0	3.2	3.8	10.5
Unemployed							
Male	36.3	17.9	45.0	26.0	3.8	7.6	7.6
Female	28.8	19.1	40.5	22.6	0	6.3	12.4
Total	32.7	18.5	42.8	24.4	1.9	7.0	9.9
Not in the labour force							
Male	15.1	11.3	55.5	21.7	1.9	3.0	5.8
Female	9.1	6.1	62.2	14.6	0.9	6.0	11.6
Total	11.4	8.1	59.6	17.2	1.3	4.9	9.3
All courses							
Male	68.3	50.5	23.7	7.4	3.6	4.1	9.7
Female	57.8	41.5	34.3	6.4	2.4	3.8	11.0
Total	63.0	45.9	29.1	6.9	3.0	3.9	10.4

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.15

Percentage of participants in adult education and training who received financial support from various sources by province, Canada, 1997^{a, b}

Province	Employer	Self/Family	Government	Union/professional organizations	Other	No fees
Newfoundland	58.1	38.8	9.1	1.7	3.9	2.3
Prince Edward Island	62.7	31.8	10.3	1.5	2.9	6.4
Nova Scotia	65.5	38.4	6.9	0.8	4.3	2.8
New Brunswick	56.7	33.9	13.9	0.8	2.2	4.5
Quebec	48.5	48.9	9.5	0.3	1.7	2.2
Ontario	62.3	36.7	8.0	0.8	1.5	4.3
Manitoba	63.8	38.6	5.0	0.4	2.0	4.3
Saskatchewan	67.9	31.3	6.9	0.8	3.7	4.1
Alberta	66.6	38.2	5.1	0.8	1.2	2.6
British Columbia	55.5	47.7	7.6	0.7	2.6	2.7

a. Due to multiple responses, the sums could exceed 100%.

b. Except for data in the first column (employer), numbers refer to participants who did not receive any support from an employer.

TABLE 1.16a

Percentage distribution of various forms of support for employer-supported education and training by type of program and for courses by study orientation, job-related and personal interest, Canada, 1997^a

	Paying for fees and tuition	Paying for materials	Paid leave	Unpaid leave	Providing premises	Providing accommodation	Organizing the training	Other
Programs								
Elementary/High school	18.4	22.4	16.7	77.0	20.8	4.5	16.3	10.1
Apprenticeship	59.6	56.2	40.1	41.3	55.9	19.4	50.9	14.7
Trade / Vocational	64.8	55.0	42.6	24.1	38.9	19.4	31.1	15.8
College	55.6	41.1	27.7	31.3	23.4	9.6	17.4	16.8
University	52.0	34.0	28.5	37.9	17.1	10.7	10.0	8.3
Total	54.8	43.6	33.2	36.3	30.3	13.8	23.7	13.0
Courses								
Job-related purpose	86.3	80.6	75.7	14.9	67.4	34.5	64.8	14.9
Personal interest purpose	79.7	61.3	50.1	24.1	45.6	25.5	41.1	13.3
Not stated	1.6	0.9	1.7	11.2	1.1	1.3	1.1	0.0
Total	84.9	77.9	72.4	15.8	64.6	33.3	61.8	14.6
All learning activities	80.6	72.7	66.1	20.3	59.3	30.1	55.9	14.8

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.16b

Percentage distribution of various forms of support for employer-sponsored programs and courses by types of main job, full-time and part-time, Canada, 1997^{a,b}

Type of main job	Paying for fees and tuition	Paying for materials	Paid leave	Unpaid leave	Providing premises	Providing accommodation	Organizing the training	Other
Programs								
full-time	72.6	55.5	43.5	24.3	35.8	19.7	27.8	14.0
part-time	20.4	15.8	17.7	62.3	18.7	4.3	14.9	8.8
Total	58.8	44.8	36.5	34.6	31.2	15.5	24.3	12.6
Courses								
full-time	88.5	81.4	76.0	14.2	66.9	35.0	62.9	14.9
part-time	78.0	66.0	57.4	21.6	60.4	22.5	62.1	13.3
Total	87.3	79.7	73.9	15.0	66.2	33.6	62.8	14.7

a. Due to multiple responses, the sums could exceed 100%.

b. Estimates were based on respondents who were enrolled in at least one program or one course sponsored by employers.

TABLE 1.17

Percentage distribution of barriers, situational, institutional, dispositional and other barriers, preventing adults to enroll in adult education or training, Canada, 1997^a

	Male	Female	Total
Situational	64.9	63.8	64.3
Too busy at work	62.2	56.9	59.4
Other family responsibility	14.6	26.1	21.1
Lack of child care	3.6	16.7	11.0
Lack of employer support	8.6	6.5	7.5
Institutional	70.6	72.0	71.4
Program offered at an inconvenient time or location	41.3	41.3	41.3
Too expensive/have no money	37.2	42.7	40.3
Program not offered	10.3	8.7	9.4
Lack of sufficient qualifications	4.2	2.9	3.4
Dispositional	4.9	8.6	7.0
Health	3.5	7.6	5.8
Language	1.4	1.0	1.2
Other barriers	9.2	8.8	9.0

a. Due to multiple responses, the sums could exceed 100%.

TABLE 1.18

Percentage and likelihood of the adult population that wanted to take some adult education or training but did not, by participation in adult education and training, Canada, 1997^a

	Adults who wanted to take some adult education and training but did not		
	Percent	odds	Adjusted odds
Non-participants	13.5	1.00	1.00
Participants	25.7	2.22 ¹	1.54 ¹

a. Variables included in the adjusted odds model are age, gender and level of education.

1. $p < .01$

2. $p < .05$

3. $p > .05$, not statistically significant

Statistical Tables for Chapter 2

TABLE 2.1

Percentage of the total population¹, adult population² and employed population³ participating in adult education and training, by province, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997⁴

Province	1983			1984-1985			1989-1990		
	Total population	Adult population	Employed population	Total population	Adult population	Employed population	Total population	Adult population	Employed population
Newfoundland	17.1	10.3	17.2	13.7	8.1	11.5	16.9	11.8	17.4
Prince Edward Island	22.0	15.8	21.1	16.2	10.1	12.4	15.8	11.6	15.7
Nova Scotia	22.3	15.8	21.6	18.8	13.5	17.9	20.0	16.1	22.2
New Brunswick	20.3	13.8	21.2	18.0	13.2	18.4	18.0	14.0	20.0
Quebec	25.2	19.4	24.7	22.0	15.7	19.4	21.5	17.2	23.4
Ontario	27.6	20.8	26.0	22.9	17.9	20.5	23.5	19.8	25.6
Manitoba	27.1	21.2	26.6	23.2	18.3	21.6	21.7	18.1	23.7
Saskatchewan	25.5	19.9	25.3	20.6	16.2	17.9	20.9	17.2	21.7
Alberta	32.7	27.0	31.9	26.7	22.3	25.7	27.7	24.5	29.8
British Columbia	27.4	22.3	28.0	24.3	20.0	22.6	24.1	20.7	26.6
Canada	26.7	20.6	26.1	22.6	17.4	20.6	22.8	19.0	25.0

Province	1991			1993			1997		
	Total population	Adult population	Employed population	Total population	Adult population	Employed population	Total population	Adult population	Employed population
Newfoundland	25.4	18.8	32.2	27.1	22.0	33.2	25.2 (1.3)	18.6 (1.3)	32.2 (2.5)
Prince Edward Island	26.2	21.6	31.6	31.8	26.6	39.1	27.3 (1.7)	22.2 (1.5)	32.6 (2.6)
Nova Scotia	27.9	22.9	32.5	31.1	27.6	42.2	32.3 (1.4)	28.8 (1.5)	40.6 (2.4)
New Brunswick	23.9	19.5	29.0	27.3	22.6	32.8	27.1 (1.0)	23.4 (1.0)	34.5 (1.5)
Quebec	32.2	27.4	36.3	31.0	25.8	34.6	25.3 (0.8)	20.6 (0.8)	27.2 (1.2)
Ontario	33.5	29.3	37.7	35.9	31.3	39.9	34.0 (0.8)	30.8 (0.8)	38.7 (1.1)
Manitoba	34.4	31.3	40.3	36.4	32.3	41.8	31.2 (1.2)	27.6 (1.2)	36.8 (1.7)
Saskatchewan	32.0	27.7	36.2	32.9	28.6	38.2	31.6 (1.2)	28.0 (1.2)	36.2 (1.7)
Alberta	39.0	35.8	43.3	40.1	36.0	42.8	34.1 (1.1)	31.1 (1.1)	38.5 (1.6)
British Columbia	33.8	30.5	40.4	39.1	35.9	46.0	35.3 (1.0)	31.9 (1.1)	42.5 (1.5)
Canada	33.0	28.9	37.9	34.8	30.3	39.6	31.4 (0.4)	27.7 (0.4)	36.2 (0.6)

1. Total population refers to the population aged 17 and over.

2. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

3. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

4. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.

TABLE 2.2

Mean annual number of hours of adult education and training per participant and per capita¹, Canada, 1991, 1993 and 1997

	1991			1993			1997		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Mean hours per participant	149	147	151	165	173	158	209	211	207
Mean hours per capita	43	41	45	50	51	49	58	56	59

1. The mean annual number of hours per capita is obtained by dividing total hours of training by the total adult population, that is the sum of the participants and the non participants in adult education and training.

Table 2.3

Percentage distribution of adult participants by total hours of training, Canada, 1991, 1993, 1997

Total hours of training	1991	1993	1997
Less than 6	6.0	5.4	10.3
6-30	34.7	37.5	35.2
31-60	19.6	17.8	15.1
61-90	8.9	8.4	6.3
91-120	5.7	4.6	4.3
121-480	17.5	16.7	15.7
481-960	4.4	5.8	6.9
961-1,560	2.1	2.7	4.3
Greater than 1,560	1.1	1.2	1.9

TABLE 2.4

Percentage of the adult population¹ participating in adult education and training, by age group, Canada, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997²

Age Group	1983	1984-1985	1989-1990	1991	1993	1997
17-24 ³	22.8	13.2	18.3	39.8	40.7	39.5 (1.7)
25-34	32.2	26.5	28.8	39.5	40.2	38.6 (1.1)
35-44	26.6	20.2	26.0	37.6	38.7	33.6 (0.8)
45-54	15.7	12.7	18.5	28.1	32.4	30.3 (1.0)
55-64	10.1	6.1	8.0	14.0	16.2	14.6 (0.8)
65 and over ⁴	3.8	3.8	3.0	5.2	6.3	5.0 (0.4)
All Ages	20.6	17.4	19.0	28.9	30.3	27.7 (0.4)

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

2. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.

3. In 1984-1985, this category included persons 18-24 years old only.

4. In 1984-1985, this category included persons 65 years old only.

TABLE 2.5

Mean annual number of hours of adult education and training per participant and per capita¹, by age group, Canada, 1991, 1993 and 1997

Age Group	1991		1993		1997	
	Per participant	Per capita	Per participant	Per capita	Per participant	Per capita
17-24	254	101	347	141	451	178
25-34	185	73	213	85	272	105
35-44	119	45	124	48	157	53
45-54	90	25	90	29	106	32
55-64	58	8	77	13	49	7
65 and over	66	3	44	3	43	2
All Ages	149	43	165	50	209	58

1. The mean annual number of hours per capita is obtained by dividing total hours of training by the total adult population, that is the sum of the participants and the non participants in adult education and training.

TABLE 2.6

Percentage of the employed population¹ participating in adult education and training, by age group, Canada, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997²

Age Group	1983	1984-1985	1989-1990	1991	1993	1997
17-24 ³	26.9	15.9	21.1	45.2	41.1	43.1 (2.2)
25-34	33.9	28.6	30.5	42.4	42.8	40.9 (1.3)
35-44	28.6	22.1	27.7	41.7	42.7	36.3 (1.0)
45-54	18.1	14.8	21.8	32.7	38.5	35.4 (1.2)
55-64	13.3	9.1	12.2	18.9	23.6	21.5 (1.5)
65 and over ⁴	6.4	8.4*	8.0	11.0	15.7	10.2* (2.5)
All Ages	26.1	20.6	25.0	37.9	39.6	36.2 (0.6)

* Unreliable estimate.

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

2. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.

3. In 1984-1985, this category included persons 18-24 years old only.

4. In 1984-1985, this category included persons 65 years old only.

TABLE 2.7

Percentage of the adult population¹ participating in adult education and training, by level of educational attainment and gender, Canada, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997²

Level of Educational Attainment	1983			1984-1985			1989-1990		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Grade 8 or lower ³	4.9	4.3	5.4	3.8	4.0	3.6	3.5	4.1	2.9
Some secondary	N/A	N/A	N/A	N/A	N/A	N/A	8.3	8.5	8.2
High school graduate ⁴	16.8	14.7	18.7	12.0	12.0	11.9	17.1	16.7	17.3
Some postsecondary	35.3	31.6	39.0	32.3	31.5	33.2	31.4	29.9	32.8
Postsecondary certificate or diploma	36.0	33.0	38.4	29.9	30.6	29.3	28.3	27.3	29.2
University degree	44.3	40.6	49.6	35.4	32.9	38.9	37.8	35.1	41.5
Canada	20.6	18.8	22.2	17.4	17.4	17.4	19.0	18.9	19.2
Level of Educational Attainment	1991			1993			1997		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Grade 8 or lower ³	5.2	5.1	5.2	5.9	5.5	6.3	5.0 (0.8)	6.1 (1.0)	4.1 (1.2)
Some secondary	16.7	17.2	16.3	16.0	17.6	14.5	15.0 (0.9)	15.5 (1.3)	14.4 (1.2)
High school graduate ⁴	28.4	27.7	28.9	25.8	24.2	27.2	21.8 (0.9)	22.3 (1.3)	21.3 (1.3)
Some postsecondary	42.2	38.3	46.0	46.6	44.8	48.0	36.9 (1.5)	35.9 (2.3)	37.7 (1.9)
Postsecondary certificate or diploma	37.5	34.7	40.2	39.6	38.7	40.6	33.7 (0.7)	31.0 (1.0)	36.2 (1.1)
University degree	52.9	50.5	56.0	52.0	48.0	56.7	48.0 (1.1)	43.6 (1.7)	53.2 (1.6)
Canada	28.9	28.0	29.7	30.3	29.5	31.0	27.7 (0.4)	26.8 (0.6)	28.7 (0.6)

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.
2. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.
3. In 1983 and 1984-1985, defined as "none or elementary".
4. In 1983 and 1984-1985, defined as "some high school or completed high school".

TABLE 2.8

Percentage of the employed population¹ participating in job-related training by major occupational group, Canada, 1991, 1993 and 1997

Occupational Group	1991	1993	1997
White collar - professional, managerial	46.1	43.8	40.9 (0.9)
White collar - clerical, sales	26.8	26.6	25.0 (0.9)
Blue Collar	21.2	21.8	19.8 (0.9)
Total	31.7	31.4	29.4 (0.6)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.9

Percentage of the employed population¹ participating in job-related training by occupational group, Canada, 1991, 1993 and 1997

Occupational Group	1991	1993	1997
Managerial, administrative and related	42.7	43.2	38.9 (1.4)
Natural sciences, engineers, mathematicians	52.8	50.0	46.6 (2.8)
Social sciences and religion	53.7	52.0	48.8 (3.2)
Teaching and related	53.0	42.8	42.6 (2.4)
Medicine and health	46.7	44.5	42.1 (2.2)
Artistic, literary, recreational and related	27.0	25.5	22.8 (3.2)
Clerical and office operation	31.1	29.6	27.1 (1.5)
Sales	25.8	27.4	24.9 (1.6)
Services to community and individuals nec	21.6	22.2	22.7 (1.5)
Primary (farming, fishing, forestry, mining, etc.)	14.5	15.6	15.9 (2.0)
Manufacturing and processing	20.5	24.8	21.3 (1.5)
Construction and transportation	24.4	19.3	20.3 (1.6)
Materials handling and other	21.0	26.7	17.1 (2.6)
Total	31.7	31.4	29.4 (0.6)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.10

Percentage of the employed population¹ participating in job-related training by major industrial group, Canada, 1991, 1993 and 1997

Industrial Groups	1991	1993	1997
Primary	19.6	20.8	20.3 (1.9)
Manufacturing	26.3	26.8	23.6 (1.4)
Public utilities and construction	31.0	25.2	24.1 (2.1)
Trade	23.1	25.8	22.0 (1.3)
Transportation	26.6	26.7	31.0 (2.3)
Finance	42.0	44.1	41.0 (2.3)
Public and private services	37.6	35.9	34.0 (0.9)
Total	31.7	31.4	29.4 (0.6)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.11a

Percentage of the adult population¹ participating in job-related training, by sex, Canada, 1991, 1993 and 1997

	1991	1993	1997
Male	24.1	23.9	21.6 (0.6)
Female	20.9	21.2	20.6 (0.5)
Total	22.5	22.5	21.1 (0.4)

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

TABLE 2.11b

Percentage of the employed population¹ participating in employer-supported training, by sex, Canada, 1991, 1993 and 1997

	1991	1993	1997
Male	25.3	25.5	24.8 (0.7)
Female	23.5	25.8	26.6 (0.7)
Total	24.5	25.7	25.6 (0.5)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.12

Percentage of the employed population¹ participating in job-related training by firm size and self-employment, Canada, 1991, 1993 and 1997

Firm Size	1991	1993	1997
Less than 20 employees	19.7	20.5	18.3 (0.7)
20 to 99 employees	29.1	27.8	26.2 (1.3)
100 to 499 employees	36.8	36.2	33.3 (1.9)
500 and more employees	45.0	44.8	39.2 (1.0)
Self employed²	na	na	17.5 (1.0)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

2. Self-employed refers to people who run their own business. A self-employed business may have employees in addition to the owner.

TABLE 2.13a

Mean annual number of hours spent on job-related training per employed participant¹, by full-time and part-time employees, Canada, 1991, 1993 and 1997

	1991	1993	1997
Full-time job	99	101	121
Part-time job	259	291	338
Total employed	118	126	158

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.13b

Percentage of the employed population¹ participating in job-related training by full-time and part-time employees, Canada, 1991, 1993 and 1997

	1991	1993	1997
Full-time job	32.7	32.0	29.7 (0.6)
Part-time job	25.7	27.4	28.1 (1.2)
Total employed	31.7	31.4	29.4 (0.6)

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.14a

Variation (in percentage points) from the national participation rate of the adult population¹, by province, 1991, 1993 and 1997

Province	1991	1993	1997
Newfoundland	-10.1	-8.3	-9.1
Prince Edward Island	-7.2	-3.7	-5.6
Nova Scotia	-5.9	-2.7	1.1
New Brunswick	-9.3	-7.7	-4.4
Quebec	-1.4	-4.5	-7.1
Ontario	0.4	1.0	3.1
Manitoba	2.4	2.0	-0.2
Saskatchewan	-1.2	-1.7	0.3
Alberta	7.0	5.7	3.4
British Columbia	1.6	5.6	4.1

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

Source: *Calculated from Table 2.1*

TABLE 2.14b

Variation (in percentage points) from the national participation rate of the employed population¹, by province, 1991, 1993 and 1997

Province	1991	1993	1997
Newfoundland	-5.7	-6.3	-4.0
Prince Edward Island	-6.2	-0.5	-3.6
Nova Scotia	-5.3	2.6	4.4
New Brunswick	-8.9	-6.8	-1.7
Quebec	-1.6	-5.0	-8.9
Ontario	-0.2	0.3	2.5
Manitoba	2.4	2.2	0.6
Saskatchewan	-1.7	-1.4	0.0
Alberta	5.4	3.2	2.3
British Columbia	2.6	6.5	6.3

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

Source: *Calculated from Table 2.1.*

Table 2.15

Mean annual number of hours spent on adult education and training per participant and per capita¹, by province 1991, 1993 and 1997

Province	1991		1993		1997	
	Per participant	Per capita	Per participant	Per capita	Per participant	Per capita
Newfoundland	205	39	247	54	307	57
Prince Edward Island	170	37	142	38	192	43
Nova Scotia	152	35	182	50	184	53
New Brunswick	165	32	187	42	221	52
Quebec	140	38	179	46	234	48
Ontario	144	42	150	47	207	64
Manitoba	199	62	199	64	180	50
Saskatchewan	133	37	158	45	177	50
Alberta	168	60	171	62	199	62
British Columbia	146	45	161	58	200	64
Canada	149	43	165	50	209	58

1. The mean annual number of hours per capita is obtained by dividing total hours of training by the total adult population, that is the sum of the participants and the non participants in adult education and training.

Table 2.16

Percentage of the adult population¹ participating in adult education and training, by level of educational attainment and province, 1991, 1993 and 1997

	Grade 8 or lower			Some secondary			High school graduate		
	1991	1993	1997	1991	1993	1997	1991	1993	1997
Newfoundland	2.2*	4.7*	1.7* (0.9)	9.0	12.4	6.3* (2.1)	17.2	19.9	10.7* (2.4)
Prince Edward Island	3.3*	4.0*	4.0* (1.8)	12.7*	13.7	9.1* (2.3)	19.4*	22.9	14.3* (3.9)
Nova Scotia	2.7*	4.5*	7.9* (2.8)	10.1	14.3	12.4 (2.0)	21.9	28.5	27.1 (3.6)
New Brunswick	2.6*	3.1*	5.1* (1.7)	9.7	10.6	14.0 (2.4)	16.4	20.2	19.2 (2.2)
Quebec	6.3	5.9	6.4 (1.7)	18.8	14.8	12.2 (2.0)	28.9	22.3	15.6 (1.7)
Ontario	4.3	6.7	4.3* (1.1)	17.8	17.1	16.3 (1.7)	27.9	25.7	23.5 (1.8)
Manitoba	3.5*	4.0*	1.4* (1.1)	13.7	15.0	14.4 (2.2)	32.6	23.2	21.4 (2.2)
Saskatchewan	4.2*	3.2*	4.0* (2.0)	11.8	14.5	13.3 (2.0)	30.9	25.0	29.5 (2.9)
Alberta	8.8	8.0*	4.1* (2.2)	18.7	17.6	18.8 (2.6)	35.4	32.2	24.6 (2.3)
British Columbia	4.5*	7.6*	4.5* (4.1)	15.4	17.4	17.0 (2.1)	27.3	29.0	22.5 (2.1)
Canada	5.2	5.9	5.0 (0.8)	16.7	16.0	15.0 (0.9)	28.4	25.8	21.8 (0.9)

	Some postsecondary			Postsecondary diploma or certificate			University degree		
	1991	1993	1997	1991	1993	1997	1991	1993	1997
Newfoundland	23.9*	48.3	34.5* (7.3)	30.9	31.3	28.8 (3.0)	55.6	56.5	53.6 (5.6)
Prince Edward Island	52.1*	50.7*	37.0* (6.6)	28.3	37.0	31.2 (3.1)	48.3	58.1	48.4 (5.1)
Nova Scotia	39.1	31.3	39.5 (5.3)	31.8	35.7	33.4 (2.7)	45.9	60.8	55.6 (3.8)
New Brunswick	37.5	35.7	36.7 (5.0)	32.7	36.1	29.2 (2.0)	47.5	43.0	51.2 (3.5)
Quebec	41.0	41.7	24.7 (2.8)	41.1	37.9	25.1 (1.4)	48.8	46.8	40.3 (2.4)
Ontario	42.6	46.2	41.4 (2.8)	35.1	39.4	37.8 (1.5)	51.5	50.2	49.7 (1.9)
Manitoba	50.5	58.8	41.8 (4.5)	42.1	47.7	36.9 (2.4)	61.6	67.4	51.6 (3.9)
Saskatchewan	39.2	48.1	40.5 (4.3)	39.9	39.7	34.6 (2.1)	65.9	55.4	48.3 (3.1)
Alberta	46.1	56.5	38.5 (4.2)	42.7	41.7	37.4 (2.0)	60.0	56.7	45.8 (3.2)
British Columbia	40.8	47.2	37.8 (3.2)	35.1	43.0	36.7 (2.0)	57.2	58.1	54.3 (2.8)
Canada	42.2	46.6	36.9 (1.5)	37.5	39.6	33.7 (0.7)	52.9	52.0	48.0 (1.1)

* Unreliable estimate.

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

TABLE 2.17

Percentage of the adult population¹ participating in adult education and training, by gender and province, 1991, 1993 and 1997

Province	1983			1985-84			1990-89		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Newfoundland	10.3	10.3	10.2	8.1	8.5	7.6	11.8	11.4	12.1
Prince Edward Island	15.8	12.2	19.2	10.1	9.0	11.1	11.6	10.1	13.1
Nova Scotia	15.8	13.9	17.5	13.5	13.4	13.6	16.1	15.7	16.5
New Brunswick	13.8	13.6	14.1	13.2	13.8	12.7	14.0	14.4	13.6
Quebec	19.4	17.3	21.4	15.7	16.3	15.1	17.2	17.6	16.8
Ontario	20.8	19.3	22.3	17.9	17.4	18.3	19.8	19.2	20.4
Manitoba	21.2	19.0	23.3	18.3	18.2	18.4	18.1	18.9	17.4
Saskatchewan	19.9	18.0	21.8	16.2	15.4	16.9	17.2	16.9	17.4
Alberta	27.0	25.6	28.5	22.3	23.0	21.5	24.5	24.1	24.9
British Columbia	22.3	20.2	24.4	20.0	19.7	20.3	20.7	20.5	20.9
Canada	20.6	18.8	22.2	17.4	17.4	17.4	19.0	18.9	19.2

Province	1991			1993			1997		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Newfoundland	18.8	20.7	17.0	22.0	24.4	19.7	18.6 (1.3)	18.4 (2.0)	18.8 (1.8)
Prince Edward Island	21.6	19.8	23.3	26.6	20.7	32.3	22.2 (1.5)	20.6 (2.2)	23.8 (2.1)
Nova Scotia	22.9	21.9	23.9	27.6	28.5	26.7	28.8 (1.5)	29.5 (2.0)	28.1 (1.9)
New Brunswick	19.5	19.5	19.5	22.6	23.1	22.1	23.4 (1.0)	22.7 (1.4)	24.0 (1.4)
Quebec	27.4	24.5	30.2	25.8	25.9	25.6	20.6 (0.8)	19.8 (1.0)	21.4 (1.1)
Ontario	29.3	29.6	29.0	31.3	30.1	32.5	30.8 (0.8)	30.1 (1.2)	31.5 (1.1)
Manitoba	31.3	32.9	29.7	32.3	31.5	33.0	27.6 (1.2)	26.9 (1.6)	28.2 (1.5)
Saskatchewan	27.7	26.5	28.8	28.6	28.6	28.6	28.0 (1.2)	26.5 (1.7)	29.6 (1.5)
Alberta	35.8	34.7	36.9	36.0	33.1	38.8	31.1 (1.1)	29.8 (1.7)	32.4 (1.5)
British Columbia	30.5	29.3	31.7	35.9	34.6	37.1	31.9 (1.1)	29.8 (1.6)	33.9 (1.4)
Canada	28.9	28.0	29.7	30.3	29.5	31.0	27.7 (0.4)	26.8 (0.6)	28.7 (0.6)

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

TABLE 2.18

Percentage of the employed population¹ participating in employer-supported training, by age group, 1991, 1993 and 1997

Age Group	1991	1993	1997
17-24	20.7	18.2	27.8 (2.0)
25-34	27.7	27.0	26.1 (1.1)
35-44	29.3	29.6	27.4 (1.0)
45-54	21.5	27.1	27.3 (1.1)
55-64	12.9	15.9	15.5 (1.3)
65 and over	5.3*	5.2*	6.1* (2.2)
All Ages	24.5	25.7	25.6 (0.5)

* Unreliable estimate.

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.19

Percentage of the adult population¹ participating in job-related training by labour force status, Canada, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997²

Labour force status ³	1983	1984-1985	1989-1990	1991	1993	1997
In labour force	16.1	16.4	20.3	30.3	30.0	28.6 (0.5)
Employed	16.7	16.7	20.8	31.7	31.4	29.4 (0.6)
Unemployed	11.4	12.9	15.7	18.7	19.7	20.4 (1.6)
Not in labour force	2.1	5.8	4.5	6.7	7.5	6.1 (0.4)
Total	11.2	13.7	15.2	22.5	22.5	21.1 (0.4)

* Unreliable estimate.

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.
2. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.
3. The labour force status of an individual was the one prevailing the week prior to the survey.

TABLE 2.20a

Mean annual number of hours spent on adult education and training per participant¹ by employer-sponsored and non employer-sponsored training, Canada, 1991, 1993 and 1997

Sponsorship of training	1991	1993	1997
Employer sponsored training	76	85	114
Non employer-sponsored training	181	203	278
Total	149	165	209

1. Excludes individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

TABLE 2.20b

Mean annual number of hours spent on job-related training per employed-participant¹ by employer-sponsored and non employer-sponsored training, Canada, 1991, 1993 and 1997

Sponsorship of training	1991	1993	1997
Employer sponsored training	71	76	92
Non employer-sponsored training	219	246	354
Total	118	126	158

1. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.21

Percentage distribution of adult population participating¹ in job-related training, by labour force status, Canada, 1983, 1984-1985, 1989-1990, 1991, 1993 and 1997²

Labour force status ³	1983	1984-1985	1989-1990	1991	1993	1997
Employed	85.5	82.4	84.5	84.0	82.0	84.6 (0.7)
Unemployed	7.9	7.3	6.1	6.2	6.8	5.7 (0.5)
Not in the labour force	6.6	10.3	9.4	9.8	11.2	9.7 (0.6)
Total	100.0	100.0	100.0	100.0	100.0	100.0

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.
2. Data prior to 1991 are not strictly comparable to 1991, 1993 and 1997 data.
3. An individual is considered to be employed if his/her labour force status in the week prior to the survey was "employed".

TABLE 2.22

Percentage of the adult population¹ participating in adult education and training, by age group and province, 1991, 1993 and 1997

	17-24			25-34			35-44		
	1991	1993	1997	1991	1993	1997	1991	1993	1997
Newfoundland	24.5	32.4	27.9* (6.1)	29.7	30.3	31.0 (3.3)	23.5	28.4	26.2 (3.1)
Prince Edward Island	39.9*	32.6*	31.2* (6.5)	28.0	37.8	28.4 (3.3)	29.2	37.6	29.3 (3.3)
Nova Scotia	28.1	33.0	35.6 (5.1)	35.4	40.6	39.3 (3.4)	31.3	33.8	37.8 (3.0)
New Brunswick	23.0	30.1	38.6 (5.0)	28.9	30.5	30.8 (2.5)	26.2	28.9	27.8 (2.1)
Quebec	36.4	32.0	24.2 (3.1)	40.3	36.6	33.0 (2.3)	35.5	34.2	24.6 (1.5)
Ontario	43.2	47.2	46.7 (3.3)	38.5	39.8	42.2 (2.0)	37.8	39.4	36.1 (1.6)
Manitoba	49.0	43.4	36.6 (4.9)	44.9	42.0	40.0 (2.7)	40.4	43.5	35.0 (2.6)
Saskatchewan	40.7	38.0	40.9 (4.4)	39.8	41.5	40.9 (3.0)	39.0	40.1	38.3 (2.8)
Alberta	40.9	42.5	36.9 (4.7)	45.1	45.6	37.0 (2.5)	43.0	46.2	39.0 (2.2)
British Columbia	41.4	42.1	49.1 (4.7)	39.7	47.6	40.9 (2.6)	43.1	43.2	39.6 (2.3)
Canada	39.8	40.7	39.5 (1.7)	39.5	40.2	38.6 (1.1)	37.6	38.7	33.6 (0.8)
	45-54			55-64			65+		
	1991	1993	1997	1991	1993	1997	1991	1993	1997
Newfoundland	16.2	23.2	13.1 (2.9)	4.2*	3.2*	6.4* (2.4)	0.6*	0.6*	0.2* (0.2)
Prince Edward Island	19.5*	29.5	27.4 (4.3)	10.3*	9.5*	12.2* (3.3)	2.3*	4.2*	2.3* (1.0)
Nova Scotia	22.9	32.0	33.9 (3.5)	6.8	13.4	19.2 (3.2)	3.1*	3.7*	2.0* (1.0)
New Brunswick	20.9	23.8	26.7 (2.7)	6.7*	10.1	14.2 (2.5)	1.8*	5.9*	1.8* (0.7)
Quebec	24.6	26.4	22.6 (2.0)	12.8	11.0	9.5 (1.6)	4.1	4.4	3.7 (0.9)
Ontario	28.0	32.1	34.2 (1.9)	14.6	17.8	15.7 (1.5)	7.1	8.7	5.9 (0.9)
Manitoba	26.6	37.9	29.1 (3.0)	16.4	18.3	18.1 (2.6)	5.5*	5.9*	4.6* (1.1)
Saskatchewan	28.5	33.6	30.5 (3.1)	14.6	13.6	13.6 (2.6)	2.6*	3.3*	3.7* (0.8)
Alberta	38.5	36.9	38.4 (2.8)	22.4	20.1	14.6 (2.4)	5.2*	4.1	4.9* (1.2)
British Columbia	34.7	44.9	32.3 (2.3)	13.1	23.7	21.4 (2.8)	4.2	7.2	7.4 (1.2)
Canada	28.1	32.4	30.3 (1.0)	14.0	16.2	14.6 (0.8)	5.2	6.3	5.0 (0.4)

* Unreliable estimate.

1. The adult population is the population aged 17 and over but excluding individuals who were 17-19 years old and enrolled full-time in a non employer-sponsored elementary or secondary program or 17-24 years old and enrolled full-time in a non employer-sponsored postsecondary program.

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REFERENCES

- Ashton, D. and Green, F. (1996), *Education, Training and the Global Economy*.
Edward Elgar Publishing Limited, Cheltenham.
- Baran, J., Bérubé, G., Roy, R. and Salmon, W. (2000), *Adult Education and Training in Canada: Addressing Key Knowledge Gaps*, Applied Research Branch, Human Resources Development Canada, R-00-06, Ottawa.
- Barker, K. (1998/1999), "Serving the Learning Needs of Education Consumers". *Education Canada*, Winter, Vol. 38, No. 4, pp. 25–27.
- Bélanger, P. and Tuijnman, A.C. (Eds.) (1997), *New patterns of adult learning: A six-country comparative study*. Pergamon Press, Oxford.
- Bélanger, P. and Valdivielso, S (Eds.) (1997), *The Emergence of Learning Societies: Who Participates in Adult Learning?* Pergamon Press, Oxford.
- Betcherman, G., Leckie, N. and McMullen, K. (1996), "Workplace training in Canada: New evidence on incidence and impacts", *Canadian Business Economics*, Fall, Vol. 5, No. 1.
- Betcherman, G., McMullen, K. and Davidman, K. (Eds.) (1998), *Training for the New Economy: A Synthesis Report*. Canadian Policy Research Networks, Ottawa.
- Blomqvist, I., Niemi H. and Ruuskanen, T. (1999), *Participation in Adult Education and Training in Finland*. Statistics Finland, Helsinki.
- Boothby, D. and Gingras, Y. (1998), *Have the Labour Market Conditions of Low-Skilled Workers Worsened in Canada?* Applied Research Branch, Human Resources Development Canada, R-99-1E, Ottawa.
- Bouchard, P. (1998), "Training and work: Myths about human capital". In Scott, S.M., Spencer, B. and Thomas, A. (Eds.), *Learning for Life: Canadian Readings in Adult Education*. Thompson Educational Publishing Inc., Toronto.
- British Columbia, Chambers of Commerce (1994), *Moving Forward*. Chambers of Commerce, Vancouver, B.C.
- Cross, K.P. (1981), *Adults as Learners*. Jossey-Bass, San Francisco.
- Delors, J. et al. (1996), *Learning: The Treasure Within*. Report to UNESCO of the International Commission on Education for the Twenty-first Century. UNESCO, Paris.
- Devereaux, M.S. (1985), *One in Every Five: A Survey of Adult Education in Canada*. Statistics Canada and the Department of the Secretary of State. Ottawa.
- Dodge, D. (1981), *Labour Market Development in the 1980s*. Canada's Task Force on Labour Market Development. Employment and Immigration Canada, Ottawa.
- Doray, P. and Arrowsmith, S. (1997), "Patterns of Participation in Adult Education: Cross-national comparisons". In Bélanger, P. and Tuijnman, A.C. (Eds.), *New Patterns of Adult Learning: A Six-Country Comparative Study*. Pergamon and UNESCO Institute for Education, Oxford.
- Economic Council of Canada (1992), *A Lot to Learn: Education and Training in Canada*. Ottawa.
- Employment and Immigration Canada (1983), *Learning a living in Canada*. Report to the Minister of Employment and Immigration Canada by the Skill Development Task Force. Ottawa.
- Heckman, J. J., Lochner, L. and Taber, C. (1998), "Explaining Rising Wage Inequality: Explorations with a Dynamic General Equilibrium Model of Labor Earnings with Heterogeneous Agents" *Review of Economic Dynamics*, Vol. 1, pp. 1–58.
- Helliwell, J., (Ed.), *Proceeding of the International Symposium on the Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being*, Organisation for Economic Co-operation and Development and Human Resources Development Canada, forthcoming.
- Henchey, N. (1998/1999), "What is the Business of Education". *Education Canada*, Winter, Vol. 38, No. 4, pp. 4-6.
- Holzer, H. (1996), *What Employers Want*. Russell Sage Foundation, New York.
- Hosmer, D.W. and Lemeshow, S. (1989), *Applied Logistic Regression*. John Wiley and Sons, New York.
- Houtkoop, W. and Oosterbeek, H (1997), "Demand and Supply of Adult Education and Training". In Bélanger, P. and Tuijnman, A.C.(Eds.), *New Patterns of Adult Learning: A Six-Country Comparative Study*. Pergamon Press, Oxford.
- Human Resources Development Canada (1994), *Improving Social Security in Canada: A Discussion Paper*. Ottawa.
- Jennings, P. (1996), *Employer-sponsored training in Canada: Evidence from the 1994 Adult Education and Training Survey*. Working paper W-96-4E Human Resources Development Canada, Ottawa.
- Kapsalis, C. (1996), *Determinants of Employer-Sponsored Training: An Analysis of the 1994 Adult Education and Training Survey*. Human Resources Development Canada, Research Study R-96-14E, Ottawa.
- Karman, Z., Stone, L. and Yaremko, W.P. (1998), *Gender Equality Indicators: Public concerns and public policies*. Status of Women Canada, Health Canada, Statistics Canada and Human Resources Development Canada, Ottawa.
- Kasim, R.M. and Murray, T.S.(1999), *Adult literacy, social inequality and the information economy: Findings from the Canadian International Adult Literacy Survey*. Statistics Canada and Human Resources Development Canada. Ottawa.
- Livingstone, D.W. (1999), *The education jobs-gap. Underemployment or economic democracy*. Garamond Press. Toronto.
- Livingstone, D.W. and Roth, R. (1998), *Findings from National Survey Shows Canadians Involved in Unprecedented Levels of Informal Learning*, Press Release from the National Research Network on New Approaches to Lifelong Learning, Ontario Institute for Studies in Education, Toronto, November 11.

REFERENCES

- Marginson, S. (1997), *Markets in Education*. Allen & Unwin, St-Leonards.
- Maxwell, J. (1998), "Foreword" In Betcherman, G., McMullenn, K. and Davidman, K. (Eds.), *Training for the New Economy: A Synthesis Report*, Ottawa.
- McIntyre, J., Brown, A. and Ferrier, F. (1996), *The Economics of ACE Delivery*. BACE, Sydney.
- McLuhan, Marshall. (1964), *Understanding Media: The extensions of Man*. McGraw-Hill, New York.
- Murray, T.S., Kirsch, I.S. and Jenkins, L.B. (1998), *Adult literacy in OECD countries: Technical report on the first international Adult Literacy Survey*. National Center for Education Statistics, United States Department of Education, Washington, D.C.
- Nussbaum, M. (1990). "Aristotelian Social Democracy". In R.B. Douglass, G.M. Mara and H.S. Richardsson (Eds.), *Liberalism and the Good*. Routledge, New York.
- Organisation for Economic Co-operation and Development (1999), *Employment Outlook*, June, Paris.
- Organisation for Economic Co-operation and Development (1998), *Education at a Glance: OECD Indicators 1998*. Paris.
- Organisation for Economic Co-operation and Development (1998), *Human Capital Investment – An International Comparison*, Centre for Educational Research and Innovation, Paris.
- Organisation for Economic Co-operation and Development (1996), *Lifelong learning for all*. Paris.
- Organisation for Economic Co-operation and Development (1995), *The OECD jobs study: Implementing the strategy*. Paris.
- Organisation for Economic Co-operation and Development (1991), *Reviews of National Policies for Education: The Netherlands*. Paris.
- Organisation for Economic Co-operation and Development, Human Resources Development Canada and Statistics Canada (1997), *Literacy Skills for the Knowledge Society: Further Results from the International Adult Literacy Survey*. Paris, Hull and Ottawa.
- Organisation for Economic Co-operation and Development and Statistics Canada (1995), *Literacy, economy and society: Results from the first International Adult Literacy Survey*. Paris and Ottawa.
- Picot, G. (1999), *Trends in Canadian labour markets in the nineties*. Presentation to the Standing Committee on Finance, Ottawa.
- Quigley, A. B. and Arrowsmith, S. (1997), "The Non-participation of Undereducated Adults". In Bélanger, P. and Tuijnman, A.C. (Eds.), *New Patterns of Adult Learning: A Six-Country Comparative Study*. Pergamon and UNESCO Institute for Education. Oxford. pp 101–129.
- Riddell, W. C. and Sweetman, A. (1997), *Human Capital Formation in Periods of Rapid Change*, Document presented at the conference "Adapting Public Policy to a Labour Market in Transition", IRPP, Montreal.
- Rothstein, B. (1998), *Just Institutions Matter. The Moral and Political Logic of the Welfare State*. Cambridge University Press, Cambridge.
- Rubenson, K. (1997), "Adult Education and Training: the Poor Cousin. An Analysis of Reviews of National Policies for Education", mimeo, OECD, Paris.
- Rubenson, K. (1996), "The role of popular adult education: Reflections in connection with an analysis of Surveys on Living Conditions, 1975 to 1993." Parliamentary Commission on Popular Adult Education. *Three Studies on Popular Adult Education*. Fritzes, Stockholm.
- Rubenson, K. and Schuetze, H. (Eds.) (2000), *Transition to the Knowledge Society: Policies and Strategies for Individual Participation and Learning*, University of British Columbia, Institute for European Studies.
- Scott, S.M., Spencer, B. and Thomas, A. M., (Eds) (1998), *Learning for Life: Canadian Readings in Adult Education*. Thompson Educational Publishing, Inc. Toronto.
- Sen, A. (1982), *Choice, Welfare and Measurement*. MIT Press, Cambridge, MA.
- Smith, J. and Marsiske, M. (1997), "Abilities and competencies in adulthood: Life span perspectives on workplace skills". In Tuijnman, A.C., Kirsch, I.S. and Wagner, D.A. (Eds.), *Adult basic skills: Innovations in measurement and policy analysis*. Hampton Press, Cresskill, New Jersey. pp. 73–114
- Statistics Canada. (1997), *Labour Force Update: The Self Employed*. Vol.1, No.3, Autumn, Catalogue no. 71-005-XPB, Ottawa.
- Statistics Canada and Human Resources Development Canada (1999), *Adult literacy, social inequality and the information economy: Findings from the Canadian International Adult Literacy Survey*, Ottawa.
- Statistics Canada and Human Resources Development Canada (1998), *The Evolving Workplace: Findings from the Pilot Workplace and Employee Survey*. Catalogue No. 71-583-XPE, Ottawa.
- Statistics Canada and Human Resources Development Canada (1997), *The 1994 Adult Education and Training Survey*. Catalogue no. 81-583-XPE, Ottawa.
- Statistics Canada and Human Resources Development Canada (1995), *The 1992 Adult Education and Training Survey*. Ottawa.
- Statistics Canada and Human Resources Development Canada (1993), *The 1990 Adult Education and Training Survey*. Ottawa.
- Timmerman, D. (1995), "Problems in the Financing of Recurrent Education", mimeo, OECD, Paris.
- Tuijnman, A.C. (1989), *Recurrent Educations, Earnings and well-being: A50-year Longitudinal Study of a Cohort of Swedish Men*. Aca Universit at is Stockholmiensis, Almgvist and Wiksell International, Stockholm.
- Van der Kamp, M. and Scheeren, J. (1997), "New Trajectories of Learning Across the Lifespan." In Bélanger, P. and Tuijnman, A.C. (Eds.), *New Patterns of Adult Learning: A Six-country Comparative Study*. Pergamon Press, Oxford, pp.132–154.

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LEARNING A LIVING

In today's emerging knowledge societies the capacity of labour markets, firms and individuals to adjust to change, improve productivity and capitalize on technological innovation depends in large measure on the skills of the adult population. Improving the stock of skills available to the economy through investment in adult education and workplace learning has therefore become an issue of considerable strategic importance. But how are the Canadian markets for adult education and training evolving?

This report presents, for the first time, evidence on the development of adult education and training in Canada during the last decade. Examined are not only broad trends in the demand and supply of adult education, but also the factors contributing to observed developments. Survey data collected in 1998 allow readers to gauge the current situation and make comparisons over time and across Canadian provinces. The findings indicate, first, that growth in adult education participation has slowed in recent years, and second, that there are major differences between the provinces in who gets trained, and how much.
