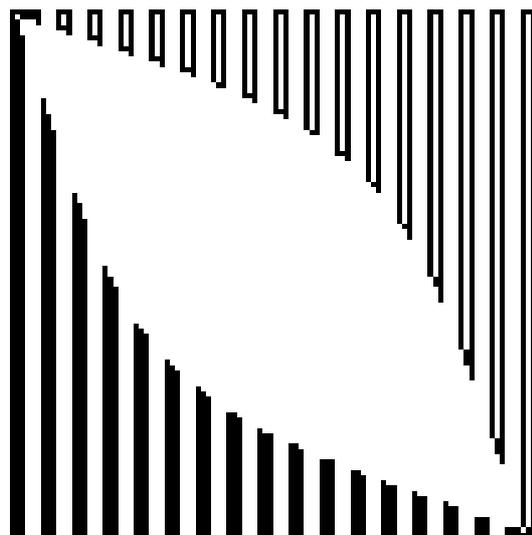


THEMATIC REVIEW ON ADULT LEARNING



CANADA

BACKGROUND REPORT

July 2002

Canada has granted the OECD permission to include this document on the OECD Internet Home Page. The views expressed in the document are those of the author(s) and not necessarily those of Canada, the OECD or its Member countries. The copyright conditions governing access to information on the OECD Home Page are provided at: <http://www.oecd.org/oecd/pages/home/displaygeneral/0,3380,EN-document-592-17-no-21-17182-592-no-no,FF.html>

EXECUTIVE SUMMARY

Introduction

The OECD asked countries participating in the OECD Thematic Review of Adult Learning to produce a country Background Report that would provide an OECD Expert Review Team with the information needed to conduct an effective direct investigation. This Report represents the Background Report for Canada.

The purpose of the OECD Thematic Review is to review the adequacy of learning opportunities for adults, and to assess the participation and access to learning by adults; the review also aims to identify analyses and data that are needed to ensure an informed public debate on adult learning. A primary objective of the Canada Background Report is to capture the philosophy and structural context of adult training in Canada – particularly with regard to the roles of public institutions, private enterprises and individuals. The Report examines the premise that there is too little adult training in Canada. It also examines available studies on the cost effectiveness of training programs directed at the unemployed and disadvantaged.

In order to ensure that the Background Report accurately reflects the diversity of policy and practice in adult learning across Canada, information was collected directly from the provincial ministries and departments responsible for adult education and training. The response to the survey was excellent, and the data form an important component in the Report. The research team also relied heavily on existing information from sources such as published surveys, government policy documents, research reports and program evaluation studies; in addition, the team interviewed officials in Human Resources Development Canada (HRDC).

Social, political and economic factors that affect adult learning

The level and types of adult education and training in an economy depend on a variety of factors including its political, social and economic structure. This is particularly important in Canada. Canada is a federal state with legislative authority shared by the federal government, ten provincial governments and three territorial governments. The country is vast, and its population of 31 million is concentrated in a few cities and along the long border with the US. Almost one-fifth of the population lives in rural (non-farm) areas and is spread over an enormous area: this makes access to and delivery of adult education and training particularly difficult.

Canada is among the most developed countries in the world. Its economy is highly industrialized, and like other developed economies most GDP originates in service industries. The various industries are spread unevenly over the country: about three-quarters of manufacturing and about two-thirds of financial service industries, for example, are located in Ontario and Quebec.

Canada has two official languages (English and French) and its population is highly diverse. In 1996 about 59% reported English as their mother tongue, and about 23% reported French as their mother

tongue; about 18% reported either more than one mother tongue or a mother tongue other than English or French. This diversity is due partly due to immigration. In 1996, there were about 5 million recent immigrants living in Canada (17% of the total population). European-born immigrants still form the largest group of immigrants; but immigration from Asia and the Middle East has grown rapidly over recent years, so that European-born immigrants now account for less than half of the total immigrant population.

The age composition of the population has changed dramatically over the past 50 years or so. The baby-boom in the late 1940s created a significant influx of students, first in the elementary school system and then in the secondary school system, and many new schools had to be built to accommodate them. As the baby-boomers aged, the post-secondary education system was modified and expanded significantly to meet their needs. The composition of the population has again been changing dramatically over recent years. The proportion of the youngest population has dropped markedly, and the proportion in the older age groups is rising as the baby-boomers become older.

In 1996, about 3% of Canadians belonged to one or more of the three aboriginal groups recognized by the Constitution: North American Indian, Métis and Inuit. Of this percentage, about 69% are North American Indian, 26% Métis and 5% Inuit.

The unemployed are among the least-educated and poorest groups in the country. Unemployment rates vary significantly among provinces: the rate tends to be the highest in the Atlantic provinces and lowest in the Prairie provinces.

In Canada, the proportion of the population with tertiary education and the level of participation in tertiary education are both high compared with other OECD nations; however, the gap in participation has narrowed in recent years. One feature of participation in tertiary education in Canada is that the proportion of enrolments in the two- and three-year technology programs in college is high relative to the US; however, the proportion of graduates taking advanced degrees is lower in Canada than in the US. This is an important issue because it influences the propensity to pursue lifelong learning, as well as the type of training demanded.

Before the 1960s, universities provided the bulk of post-secondary education in Canada. However, factors such as the increasing demand for post-secondary education and growing recognition of the importance of education in economic growth, led to the creation of new types of non-degree granting post-secondary institutions. These are generally referred to as community colleges: they include community colleges, CEGEPs, technical institutes, hospital and regional schools of nursing, and establishments providing technological training in specialized fields.

Community colleges offer career-oriented and technical training, as well as university transfer programs (which allow graduates to enter a university), and general education leading to diplomas or certificates. However, they differ significantly by province:

In Quebec, the CEGEPs provide an intermediate level of education between secondary school and university. After 11 years of elementary and secondary schooling, students in Quebec must complete a two-year CEGEP program to be eligible for university entrance.

In Saskatchewan, Alberta and British Columbia, community colleges offer vocational and technical training, as well as university transfer programs on an optional basis. In Ontario, some colleges offer programs which allow transfer to a university.

In Ontario, Manitoba, and the Atlantic Provinces, colleges offer programs that are quite distinct from those available at universities.

In 1997-98, enrolments in community colleges were 551 thousand while those in universities were 823 thousand: Quebec and Ontario account for the bulk of enrolments.

Government involvement in education and training in Canada

Education is primarily the constitutional responsibility of the provincial and territorial governments. Adult education and training policies and programs in Canada are therefore quite diverse, and they reflect the different social, political and economic structure in each jurisdiction.

The information provided by the provinces and territories on their policies and programs on adult learning clearly demonstrates the effects of this diversity. In many jurisdictions more than one ministry or department is responsible for adult learning. This approach has the advantage that policies and programs can be targeted to the needs of clients of the particular ministry or department. But it has the disadvantage that programs and policies may differ within a jurisdiction and even across the country. And this variation may lead to inequities in opportunities for adult learning across the country.

Apprenticeship is an industry-based learning system that combines on-the-job experience with technical training, and leads to certification in a skilled trade. Classroom training usually takes the form of block release in which the apprentice is released for a short period of classroom training. Provincial and territorial governments are responsible for apprenticeship training, and legislation provides for the designation of an occupation as an apprenticed trade. Designated trades are governed by regulations under an apprenticeship act outlining the standards and conditions of training for specific trades (e.g. curriculum, accreditation, certification, and methods for registering apprentices). Apprenticeship in Canada is largely an adult program (unlike that in Europe). Most apprentices enter the program after spending some time in the labour market, and usually without formal vocational training in the trade.

While education is primarily the constitutional responsibility of provincial and territorial governments, the federal government has some constitutional responsibility for education (e.g. for Native peoples). In addition, the federal government has become involved in other aspects of education and training. It became involved with technical and vocational education early in the 20th Century, and specifically with occupational skills training in 1967 with the introduction of the Adult Occupational Training Act (AOTA). Under the Act, the federal government purchased training courses or seats from provincial institutions or private schools for its clients (particularly the unemployed). These course purchase arrangements remained in force until 1996 when the federal government developed new working arrangements with the provinces/territories as part of the Employment Insurance (EI) Act.

The EI Act established guidelines for the development of active employment benefits and the maintenance of employment services; it allowed HRDC to enter into agreements with provincial/territorial governments to provide for the payment of contributions for all or a portion of any costs of benefits, or for measures similar to employment benefits. All jurisdictions with the exception of Ontario (and Quebec, which chose a transfer agreement in principle) have entered into a Labour Market Development Agreement (LMDA) with the federal government. A number of jurisdictions chose a co-management option in which HRDC is responsible for implementation. Others chose an option that essentially transfers responsibility for the design and delivery of active employment benefits (including skills development and selected employment service functions) to the jurisdiction.

The federal government has also been involved in funding post-secondary education since the economic depression in the 1930s: at that time, it provided direct assistance to students to continue their education in post-secondary institutions. Later, it provided assistance to universities to help defray the costs of education for war veterans after World War II. This program was modified during the 1950s and 1960s, and eventually became part of the block funding for the Canada Health and Social Transfer

(CHST). The bulk of federal support for post-secondary education is now part of a federal tax and cash transfer to provincial/territorial governments for health, education and welfare.

The federal government also supports post-secondary education through the funding of research and scholarship (for example through the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council). In addition, it provides support in the form of loans to students: the program was started at the end of the First World War, and it was modified over the years and replaced by the Canada Student Loans Program (CSLP) in 1964.

During the late 1980s and the early 1990s, the federal government experimented with the use of different mechanisms for promoting private sector involvement in training and human resource development. One such experiment was the creation of the Canadian Labour Force Development Board (CLFDB), together with a network of provincial and local level boards. This experiment was not entirely successful, and the CLFDB was later disbanded. Another such experiment was the creation of Sector Councils. These councils provide a mechanism for bringing together representatives from business, labour, education and professional groups: one of their key objectives is to strengthen the human resource development capacity of a critical sector.

The federal government has had a long involvement in the provision of Labour Market Information (such as data on wages and job openings, training opportunities, and certification). Labour Market Information (LMI) is particularly important under the new federal-provincial arrangements since clients are expected to play a more direct and active role in training than in the past.

The institutional structure of adult education and training

Post-secondary education in Canada is provided by degree-granting institutions (universities), and by non-degree granting institutions (community colleges). In most provinces/territories, community colleges form the primary vehicle for adult education and worker training; universities also provide lifelong learning, but this only affects a small segment of the adult population. College programs include employment-related programs, such as apprenticeship and continuing education.

Universities and community colleges are public institutions, and they derive about three-quarters of their funding from the provincial/territorial and federal governments (the largest share is provided by the provinces and territories). Government support varies widely by both level (college or university) and by institution. At the university level, tuition fees account for an increasing proportion of operating income, a trend that is likely to continue. At the college level, tuition fees account for a much smaller proportion of operating income.

Private colleges (or schools) provide an alternative system for skills training for adults. Surveys of private schools in Canada have only been conducted at irregular intervals, so that little up-to-date information is available. However, the available data suggest that private schools are becoming a more important component in adult learning. Private schools tend to be more flexible and more responsive to employer needs than public institutions.

A less visible and largely undocumented contribution to adult learning is made by community-based organizations established to address special issues (such as adult literacy), or to meet the needs of special groups (such as immigrants, the rural poor, persons with physical or learning disabilities, members of specific ethnic or cultural groups, displaced workers, adults with low levels of literacy and women). Typically local agencies or advocacy groups identify an unmet need, and seek funding from the federal or provincial/territorial governments.

Participation in adult learning

Data from the recent Adult Education and Training Survey (AETS) show that 28% of Canadians participated in some form of organised adult education and training in 1997. This rate is slightly lower than the rates reported in previous surveys, suggesting that participation in organised forms of adult education and training has declined somewhat in recent years.

The data also show that participants in adult education and training in 1997 took predominantly job-related programs/courses. Moreover, employers play a central role in the education and training of adults: close to 25% of respondents who worked during 1997 participated in an employer-sponsored program/course, only 14% had taken a program or course that was not employer-sponsored.

Participation rates vary by a range of factors. They vary by province: it is relatively low for the Atlantic provinces (except Nova Scotia), and for Quebec; and it is relatively high for Alberta, British Columbia and Ontario. They also vary considerably by level of functional literacy: it is lowest for those with Literacy Level 1 and highest for Literacy Level 5 (as measured by the International Adult Literacy Survey). They also vary by level of education: they are lowest for those who have only completed elementary education or lower, and highest for those with a university degree.

They also vary by age: the rate is fairly stable from early adulthood to the mid-fifties, but it declines sharply for those 55 years and older. The participation rate is slightly higher for women than men, but this similarity masks the problems that women face in the adult education and training market: for example, women do not receive the same level of employer support for their education and training as men do.

Data from the AETS show that workplace characteristics are closely linked with participation in adult education and training. For example, workers in large companies are more likely than those in small companies to receive employer support for their training. Employer-support is relatively high for workers in utilities, public administration and finance, and relatively low for those in construction, manufacturing and trade. It is highest for workers in professional and managerial occupations, and lowest for those in clerical and blue collar occupations.

The AETS includes information on barriers that affect participation in adult education and training. In terms of situational barriers, lack of time due to responsibilities in daily life (e.g. being too busy at work) is a major barrier in taking education and training. In terms of institutional barriers, an inconvenient time or location for the program is seen a major barrier.

Assessing the effectiveness of training

Canada has had a long history in assessing and evaluating training programs. HRDC and its forerunner, Employment and Immigration Canada (EIC), have carried out many evaluation studies since the late 1970s. The evaluation studies carried out by EIC/HRDC in the early 1980s were relatively simple and subject to much criticism. But the quality of evaluation studies has increased considerably over time, and recent studies have been based on fairly sophisticated statistical techniques.

The provincial and territorial governments have had a much shorter history of involvement in this area. The evaluation process and techniques used by provincial and territorial governments vary considerably by jurisdiction. Many of the evaluation studies conducted by provincial/territorial governments have been relatively unsophisticated; but some jurisdictions are now conducting fairly sophisticated evaluation studies.

Several conclusions can be drawn from evaluation studies of training programs carried out in Canada. For many programs the positive impact on clients outweighed the cost of the programs, so that they were cost-effective. Flexible programs targeted to specific groups were the most effective. Work experience with private sector employers seemed to be more effective than work experience with public or non-profit employers. Training or work experience in shortage occupations appeared to work best. Social assistance recipients, visible minorities and the disabled are among those who have benefited the most from training programs.

Conclusions

The analysis in this Report shows that adult learning responsibilities are widely diffused in Canada, so that it may appear on the surface that the adult learning system in Canada lacks cohesion. This is not necessarily so. Given Canada's geographic size and its economic and cultural diversity, it is understandable that a monolithic approach or a single set of policies on adult learning would be inappropriate. Adult learning systems must be complex in order to meet the various objectives, and it is inevitable that significant variations will exist across jurisdictions. It is therefore critical that effective mechanisms be in place to coordinate the activities of the various stakeholders, and to promote effective partnerships.

Most jurisdictions have created formal mechanisms to coordinate adult training activities. And the Council of Ministers of Education Canada (CMEC) has served, since 1967, as the vehicle through which provincial/territorial ministers of education consult and act on matters of mutual interest, and cooperate with national education organizations and with the federal government.

There has been some discussion about jurisdictional responsibilities in adult learning and the apparent duplication of services between the federal and provincial/territorial governments. Some analysts argue that the public has not always been sure about which level of government and which agencies provide which services. Thus the withdrawal of the federal government from the course purchase arrangements under the AOTA, and the creation of Labour Market Development Agreements with provinces and territories, promise a more cohesive system and more effective partnerships.

Engaging business and public interest groups in issues connected with human resource development is not new. For many years governments have sought the advice and participation of stakeholders in activities such as setting occupational standards, developing curriculum, and identifying training needs. However, several innovations in partnerships for training were introduced in the late 1980s and early 1990s, and these should lead to significant improvements in the relevance and timeliness of training for adults.

Several questions follow from the analysis in this Report: Are the current levels of adult education and training in Canada adequate? Do individuals, business enterprises and governments invest enough resources in adult learning? Does Canada have a learning culture?

Employer investments in training constitute an important component of adult learning in Canada. It is often argued that Canadian employers do not provide enough training; but after decades of debate, the data required to test the hypothesis are still not available. Data gaps include information on training expenditures and on the outcomes of training (such as its impact on productivity and the other benefits of training). Data are also needed on the external benefits of training (i.e. the benefits to workers and, more broadly, to the economy and to society as a whole). While it is not clear if employers provide enough training, especially in terms of externalities, survey data suggest that employers generally are content with

the current level of training they provide. One explanation for this is that employers do not recognize the benefits of training: if so, establishing a business case for employer investments in training could be useful.

International comparisons are frequently used to show that there is too little adult training in Canada. International comparisons show that Canada's training effort is about average for developed economies, and that it lags behind that for countries such as the Netherlands and Finland. However factors such as the high levels of initial education in Canada, and its effects on adult learning, should be taken into account when making international comparisons. Moreover, international comparisons are based on traditional formal education; thus if the level of informal learning in Canada were higher than that in other countries, this could also partly explain the lower level of adult training in the country. The definition and measurement of informal learning are therefore areas that deserve further study.

Waiting lists for college courses and programs, which are lists of persons who meet the requirements for courses and programs but cannot immediately enter (i.e. demand exceeds supply), are often used as evidence that Canada is not providing sufficient training. Three factors have traditionally been used for determining the courses and programs offered in colleges: community or labour market needs; individual interest and suitability in terms of minimum education prerequisites and skills; and the overall level of funding for particular courses and program areas. Many courses and programs (such as those in health occupations) are supply managed. Thus long waiting lists do not necessarily mean that there is insufficient training in terms of the needs of the community or the labour market, particularly in specific vocations.

An examination of participation in adult learning in Canada shows that there is wide variation by socio-economic class, by level of education and by minority group (such as aboriginal peoples). This suggests the level participation for some groups remains low despite strong empirical evidence that education and training will improve their earnings and employability.

Financial barriers play a key role in the participation of these population groups. But non-financial barriers may also have an important effect. Despite evidence that those with higher education generally have higher earnings and more stable employment, many lower skilled workers do not see the need for further education and training: they often believe that their skills are adequate. It follows that there is a clear need for detailed analysis of the effects of non-financial barriers on participation in adult learning.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
I INTRODUCTION AND BACKGROUND	12
I.1 Background on the OECD Thematic Review of Adult Learning.....	12
I.2 Overall Objectives and Scope of the Thematic Review	12
I.3 Canadian Participation in the Thematic Review	13
I.4 Objectives and Organization of this Report	13
I.5 Methodology	15
II. SETTING THE CONTEXT: THE POLITICAL, SOCIAL AND ECONOMIC STRUCTURE OF CANADA	17
II.1 Introduction	17
II.2 Political structure.....	17
II.3 Economic and social structure.....	18
II.4 Education.....	20
II.6 Post-secondary education.....	23
II.7 Adult education and training.....	25
III. POLICY AND ORGANIZATION OF ADULT LEARNING SYSTEMS IN CANADA.....	27
III.1 Introduction.....	27
III.2: Provincial/territorial policies and programs.....	27
III.3 Federal Policies and Programs in Adult Education and Training.....	30
III.4 The institutional structure of adult education and training.....	33
III.5 The apprenticeship system.....	36
IV A PORTRAIT OF ADULT LEARNING IN CANADA.....	38
IV.1 Introduction.....	38
THIS CHAPTER PROVIDES A PORTRAIT OF THE INVOLVEMENT OF ADULT CANADIANS IN LIFELONG LEARNING. IT INCLUDES SOME DATA AND DISCUSSION ON THE FOLLOWING TOPICS:	38
IV.2 Participation in organised adult education and training.....	39
IV.3 Characteristics of participants and non-participants	41
IV.4 Adult education and training and the world of work	45
IV.6 Financial support	50
IV.7 Providers	51
IV.8 Medium of instruction	51
IV.9 Perceived usefulness of adult education and training.....	52
IV.10 Barriers to Participation	54
IV.11 Informal learning	56
IV.12 Concluding comments	58

V.	ASSESSING THE EFFECTIVENESS OF ADULT TRAINING.....	60
V.1	Introduction.....	60
V.2	The evolution of the evaluation of federal training programs in Canada.....	61
V.3	Recent evaluation studies of some federal training programs.....	63
V.4	Some examples of the evaluation of provincial training programs.....	65
V.5	Evaluation of training in industry.....	69
V.6	Summary of lessons learned about effective training practices.....	73
V.7	Other social and economic perspectives.....	76
VI.	SUMMARY AND OVERALL ASSESSMENT OF ADULT LEARNING IN CANADA.....	80
VI.1	Coordination.....	80
VI.2	Learning Pathways and Transparent Learning Outcomes.....	83
VI.3	Incentives and motivations.....	85
VI.4	Knowledge Gaps in Adult Learning.....	90
	GLOSSARY.....	93
	BIBLIOGRAPHY.....	100

I INTRODUCTION AND BACKGROUND

I.1 Background on the OECD Thematic Review of Adult Learning

In 1996, the OECD Education Committee meeting at Ministerial level agreed to implement strategies of lifelong learning for all. At their meeting in Paris, the ministers concluded that far-reaching changes would be necessary if the goal of 'lifelong learning for all' were to be realized. Recognizing that adults encounter particular problems in participating in lifelong learning, the ministers called on the OECD to 'review and explore new forms of teaching and learning appropriate for adults, whether employed, unemployed or retired'.

In 1998, participants at a joint OECD/US Department of Education conference on adult learning further suggested that a thematic review would be a valuable tool for identifying and analyzing lessons learned from different national experiences. In response, the Education Committee of the OECD at its meeting in November 1998 proposed a Thematic Review of Adult Learning in OECD member countries. The objective of the review would be to identify, analyze and compare cross-country experiences with adult learning, and to understand how policy and institutional environments might be made more supportive for adult learning.

In March 1999, the Employment, Labour and Social Affairs (ELSA) Committee of the OECD expressed strong support for the proposed Thematic Review but suggested some amendments to reflect the specific issues and concerns of the OECD labour ministers. At the suggestion of the ELSA Committee, the OECD Directorate for Education, Employment, Labour and Social Affairs (DEELSA) agreed to make this project a joint undertaking of both the Education and the ELSA Committees.

National representatives met in Paris in June 1999 to discuss the proposed terms of reference that would incorporate the interests of the two committees, and to indicate Canada's interest in direct participation in the Thematic Review. Canadian delegates to this discussion included representatives of the Council of Ministers of Education Canada (CMEC) and Human Resources Development Canada (HRDC).

I.2 Overall Objectives and Scope of the Thematic Review

The purpose of the Thematic Review of Adult Learning is to review the adequacy of learning opportunities for adults, and to assess the participation and access to learning by adults. Through systematic cross-country comparisons, the review will examine: the patterns of participation and non-participation in adult learning; the problems associated with current patterns of involvement; adult learning policy programs and institutional arrangements; and options that can be regarded as good practices and how/whether these can be applied more widely. The review will also identify the analyses and data that are needed to ensure an informed public debate on adult learning.

Four major themes have been established for the Thematic Review:

Theme 1: How can government, social partners and other actors improve the incentives and motivation for adults to learn?

This theme is based on the premise that adults in general, and specific groups of adults in particular, do not receive enough training or the right type of training. The issues include training externalities, learning

incentives and motivation for both the firm and the individual, training outcomes and training expectations.

Theme 2: An integrated approach to the provision of, and participation in, adult learning

One crucial aspect of the Study is an examination of the degree of coordination among the institutions concerned with adult training. This includes recognition of training outcomes across institutions and sectors, the availability of information to inform decision-making, and the integration of support services such as transportation, child-care, and health-care.

Theme 3: Improving the quality, pedagogy and variety of learning provision

The central consideration under this theme is whether the content, pedagogy and methods of delivery of adult learning activities are adapted to the learning needs and styles of adults, as well as whether or not the institutional setting is appropriate.

Theme 4: Improving policy coherence and effectiveness

Fragmentation in institutional arrangements is reflected in a lack of coherence and co-ordination at the policy level. This includes both a lack of vertical integration (are adult training policies well connected with formal learning at the initial, secondary and tertiary levels?), and a lack of horizontal integration (education and training policies need to be coordinated with broader employment, social and economic policies).

Ten countries are participating in the review: Canada, Denmark, Finland, Hungary, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

I.3 Canadian Participation in the Thematic Review

The OECD requested that countries participating in the review produce a country Background Report that would provide an OECD Expert Review Team with the information needed to conduct an effective direct investigation. As in previous thematic reviews, a team of international experts visited Canada for a two-week period for interview and site visits. Four provinces agreed to host the OECD Review Team in Canada (British Columbia, Saskatchewan, Quebec and New Brunswick).

A team composed of representatives of the Province of Saskatchewan, the Council of Ministers of Education, Canada (CMEC), and Human Resources Development Canada (HRDC) provided overall direction for the development of the Canada Background Report. The actual work for the Background Report was carried out by a team of researchers composed of: Doug Giddings (team leader), Bill Ahamad, Georges Latour, Kjell Rubenson, Derek Hum and Wayne Simpson. All provinces/territories were asked to designate a contact person to provide data and information specific to their jurisdiction.

I.4 Objectives and Organization of this Report

It was decided at the outset that, in addition to providing information for the OECD Review Team, the Canada Background Report would address the information needs of the host country. A review

of adult learning policies and programs across Canada seemed to be timely since there have recently been profound changes in the organization, structure and financing of Canada's adult learning systems.

With globalization, the growing use of information and communication technologies, and the emergence of the knowledge-based economy, lifelong learning has become widely recognized as a critical element in economic and social development policies. A primary objective of the Canadian Background Report is to capture the philosophy and structural context of adult training in Canada – particularly with regard to the roles of public institutions, private enterprises and individuals. In particular it was considered essential that the Report should reflect the relative roles and responsibilities of different organizations in a federal state such as Canada.

The Report reviews available data on the economic and social benefits and costs of adult training, including an examination of available studies on training in industry. Particular attention is given to exploring whether or not Canadian employers grossly under-invest in workforce training, and to identifying the factors that might explain any market failures in training. The Report explores Canadian evidence from the Adult Education and Training Survey and other sources on the issue of how equitably adult training is distributed, addressing such questions as whether or not adult training widens the gap between the highly educated and the less educated and contributes to social exclusion.

The report is organized in six chapters:

- Chapter I: Introduction and Background;
- Chapter II: Setting the Context: the Political, Social and Economic Structure of Canada;
- Chapter III: Policy and Organization of Adult Learning Systems;
- Chapter IV: A Portrait of Adult Learning in Canada;
- Chapter V: Assessing the Effectiveness of Adult Training; and
- Chapter VI: Summary and Overall Assessment of Adult Learning in Canada.

A bibliography and a glossary of the common terms and descriptions used in the field of adult training are included at the end of the Report. There are three appendices:

- Appendix I: Provincial/Territorial programs in Adult Learning.
- Appendix II: Federal programs in Adult Learning
- Appendix III: Additional statistical tables relating to Chapter IV
- Appendix IV: Questionnaire on Adult Learning for Ministries and Departments

Chapter II sets the context for the Background Report. Canada is a federal state with legislative authority shared by the federal government, ten provincial governments and three territorial governments. Education is primarily the constitutional responsibility of the provincial and territorial governments, so that adult education and training policies and programs are complex and diverse. They are affected by social, political and economic factors.

Chapter III describes the adult education systems and policies in Canada in qualitative terms. It covers public and private training activities, training methods and technologies, and policies and practice in training related issues such as skills standards and assessment. Chapter III also outlines government adult learning policies and programs across Canada and describes how training is organized in terms of its institutional structures, including descriptions of the various players and stakeholders and the roles they play in adult training. It summarizes recent and anticipated trends in adult learning.

Chapter IV provides a portrait of adult training in Canada based on quantitative and qualitative evidence from existing surveys and studies. The principal data sources are: the Adult Education and Training Survey (AETS), New Approaches to Lifelong Learning Survey (NALLS), the International Adult Literacy Survey (IALS), and the most recent surveys and studies of training in industry (Canadian Facts, EKOS and the Workplace and Employee Survey). The portrait describes the characteristics of adult learners and explores access to adult learning by education, skill and age and the barriers to adult learning.

Chapter V explores the economic and social costs and benefits of adult training, drawing upon existing studies and public sector program evaluation studies. This chapter examines the methods used to evaluate adult training programs and summarizes the lessons learned in Canada about effective training practices, with special attention to training programs for disadvantaged and at-risk adults. It reviews what is known about the effectiveness of worker training and its rate-of-return, and evidence that firms invest too little in training. Chapter IV also examines, in broad terms, the implications of new theories of economic and social development (social capital, knowledge economy and endogenous growth theories) in determining how much society should invest in adult learning.

Chapter VI assesses adult learning systems in Canada in terms of coherence and transparency; it also summarizes recent trends in adult learning in Canada and appraises the strengths and weaknesses of the system. It addresses the question of who makes the training decision and its implications for the design of government programs. This chapter identifies the major gaps in programs, and describes exemplary/innovative practices in areas such as standards and assessment, business-education partnerships and worker-employer initiatives. Chapter V also summarizes the major knowledge gaps in adult learning.

I.5 Methodology

In preparing the Background Report, the team relied heavily on existing information from sources such as published surveys, government policy documents, research reports and program evaluation studies. Information from secondary sources was supplemented by interviews and surveys.

The participation of provincial/territorial governments in the report was essential. Information was collected by survey and from provincial documents such as policy papers, annual reports and evaluations. In order to reduce the response burden on provinces/territories and to ensure consistency in definition and concept, this study used, as much as practicable, data available from centralized sources such as surveys of training carried out by Statistics Canada, administrative data on training institutions, and national surveys of training in industry conducted by Canadian Facts, EKOS and others.

In order to ensure that the Background Report accurately captured the diversity of policy and practice in adult learning across Canada, information was collected directly from the provincial ministries and departments responsible for adult education and training. The questionnaire covered items such as: the definition and organization of adult education and training; the providers of adult education and training; support for adult education and training; the evaluation of adult education and training; and research and innovation in adult education and training. CMEC identified a senior official to act as a contact in each province and territory, and also distributed the questionnaire to the contacts.

The response to the survey was excellent. The survey was conducted in two stages: the questionnaire was distributed in the first stage, with telephone follow-up when necessary; in the second stage, a summary of responses was sent out to the provinces/territories for validation and comment. These comments and suggestions were incorporated in the final draft.

The research team also interviewed officials in Human Resources Development Canada in the following areas: the Learning and Literacy Directorate, the Labour Market Directorate, the Human Resources Partnerships Directorate (Sector Councils, Essential Skills, Prior Learning Assessment and Apprenticeship), Labour Market Policy and Federal-Provincial Relations.

II. SETTING THE CONTEXT: THE POLITICAL, SOCIAL AND ECONOMIC STRUCTURE OF CANADA

II.1 Introduction

The level and types of adult education and training in an economy depend on a variety of factors such as its political, social and economic structure. This is particularly important in Canada. The country is vast, and its population of 31 million is concentrated in a few cities and along the long border with the US. Almost one-fifth of the population lives in rural (non-farm) areas and is spread over an enormous area: this can make access to and delivery of adult education and training particularly difficult.

II.2 Political structure

Canada is a federal state with legislative authority shared by thirteen governments: the federal government, ten provincial governments and three territorial governments. The newest territory, Nunavut, was created in 1999: it covers a vast area (one-fifth of Canada's area) and consists of the central and eastern portions of the Northwest Territories as defined before 1999.

The responsibilities of the two main levels of government are specified by the Constitution. The federal government is responsible for areas such as national defence, trade, the banking and monetary system, and criminal law; the federal government also has residual powers, that is, it is responsible for areas not specified in the original Constitution (1867). Provincial governments are responsible for education, health, welfare, the administration of justice, and natural resources within their borders. Territorial governments have similar responsibilities as provincial governments: however, the territorial governments (but not the provincial governments) are required to report to the federal government.

While education is primarily the constitutional responsibility of provincial and territorial governments, the federal government has responsibility for the education of Native peoples, the population of the territories, the armed forces and inmates of federal penal institutions. In addition, the federal government has, over time, become indirectly involved in specific aspects of education, and particularly in technical and vocational education and post-secondary education.

Federal involvement in technical and vocational education dates from the early part of the 20th Century with the agriculture education program. This was followed by a number of legislative acts dealing with technical and vocational education, the most recent of which (the Adult Occupational Training Act - AOTA) was introduced in 1967. Under the AOTA, the federal government purchased training courses or seats from provincial institutions or private schools for its clients (particularly the unemployed). These course purchase arrangements remained in force until 1996 when the federal government developed new working arrangements with the provinces/territories. These new arrangements form part of the Employment Insurance (EI) Act, which establishes guidelines for the development of active employment benefits and the maintenance of employment services.

Federal involvement in post-secondary education dates from the economic depression in the 1930s: the federal government provided direct assistance to students to continue their education in post-secondary institutions. In addition, federal assistance was provided to universities to help defray the costs of education for war veterans after World War II. This program was modified during the 1950s and 1960s, and eventually became part of the block funding for the Canada Health and Social Transfer (CHST).

The federal government is also involved in post-secondary education through the funding of research and scholarship (for example through the National Science and Engineering Research Council and the Social Science and Humanities Research Council), and through loans to students. The student loan program was started at the end of the First World War, and it was modified over the years and replaced by the Canada Student Loans Program (CSLP) in 1964.

II.3 Economic and social structure

Canada is among the most developed countries in the world. In 1999, GDP was estimated to be \$957.9 billion (Can\$). This works out to about \$31,000 per capita (Can\$), which, at purchasing power parity exchange rates, is about \$25,900 (US\$): this compares with about \$33,900 (US\$) for the US.

The economy is highly industrialized, and like other developed economies most of the GDP originates in service industries. In 1998, services represented 64% of GDP; agriculture represented 3%, and other goods-producing industries represented 33%.

The various industries are spread unevenly over the country. About three-quarters of manufacturing and about two-thirds of financial service industries are located in Ontario and Quebec. Ontario has the most diversified provincial economy, and it accounts for about 90% of automobile manufacturing in the country.

In the Atlantic provinces (Newfoundland, Prince Edward Island, Nova Scotia, and New Brunswick), mining, fishing and forestry are relatively important industries; and in the Prairie provinces (Manitoba, Saskatchewan and Alberta) primary industries are relatively important: agriculture in Manitoba and Saskatchewan, oil and gas in Alberta. In British Columbia, forestry and metal mining are relatively important. In the three territories the mining industry is relatively important.

The population of Canada is highly diverse. The country has two official languages, English and French: in 1996 about 59% reported English as their mother tongue, and about 23% reported French as their mother tongue. However, about 18% reported either more than one mother tongue or a mother tongue other than English or French (these include Chinese, Italian, German, Polish, Spanish, Portuguese, Punjabi, Ukrainian, Arabic, Dutch, Tagalog, Greek, Vietnamese, Cree, and Inuktitut).

This diversity is partly due to new sources of immigration. In 1996, there were about 5 million immigrants living in Canada (17.4% of the total population). European-born immigrants still form the largest group of immigrants; but immigration from Asia and the Middle East has grown rapidly over recent years, so that European-born immigrants now account for less than half of the total immigrant population.

The age composition of the population has also changed dramatically over the past 50 years or so. The baby-boom in the late 1940s led to profound changes in Canada. The baby-boomers created a significant influx of students first in the elementary school system and then in the secondary school system, and many new schools had to be built to accommodate them; and as they aged, the post-secondary education system was modified and expanded significantly to meet their needs.

The age composition of the population has again changed dramatically over recent years (see Table II.1). The proportion of the youngest population has dropped markedly, and the proportion in the older age groups has risen as the baby-boomers have aged: the proportion of the population aged 65 and over will likely continue to rise as the baby-boomers become older.

Table II.1 Age distribution, 1996 and 2001 (%)

Age-group	1996	2001
0-14 years	20.5	18.8
15-24 years	13.4	13.5
25-44 years	32.4	31.2
45-64 years	21.5	23.9
65-74 years	7.1	6.9
74+ years	5.1	5.7

Source: Statistics Canada

The population of the provinces and territories differs considerably (Table II.2). Ontario is the largest with nearly 12 million people, and Nunavut is the smallest with only 28 thousand; Nunavut covers one-fifth of the area of Canada.

In 1996, about 3 percent (about 800 thousand people) of the total population (about 28.5 million) belonged to one or more of the three aboriginal groups recognized by the Constitution: North American Indian, Métis and Inuit. Of this percentage, about 69% were North American Indian, 26% Métis and 5% Inuit.

Table II.2: Selected indicators by province/territory

Province/territory	Total population in 2001 (000)	Aboriginal population in 1996 (%)	Unemployment rate in 2000 (%)
Newfoundland and Labrador	533.8	2.6	16.7
Prince Edward Island	138.5	0.7	12.0
Nova Scotia	942.71	1.4	9.1
New Brunswick	757.1	1.4	10.0
Quebec	7,410.1	1.0	8.4
Ontario	11,874.4	1.3	5.7
Manitoba	1,150.0	11.7	4.9
Saskatchewan	1,015.8	11.4	5.2
Alberta	3,064.2	4.6	5.0
British Columbia	4,095.9	3.8	7.2
Yukon	29.9	20.1	Not available
Northwest Territories	40.9	61.9*	Not available
Nunavut	28.2	Not available	Not available

Notes: * Includes Nunavut

Source: Statistics Canada

The proportion of aboriginal people in the total population varies considerably by province/territory (Table II.2). The proportion is nearly 62% in the Northwest Territories (as defined before 1999) and about 10% in Saskatchewan and Manitoba. These proportions have particular significance for education since the aboriginal population is among the least-educated and poorest groups in Canada.

The unemployed form another group that is among the least-educated and poorest groups in the country. Unemployment rates vary significantly among provinces (Table II.2): the rate tends to be the highest in the Atlantic provinces and lowest in the Prairie provinces. The unemployment rate also differs significantly within provinces.

II.4 Education

Since education is primarily the constitutional responsibility of provincial and territorial governments, it is not surprising that the educational system varies across the country. The various systems are broadly similar, but each reflects the history and culture of the particular province/territory. The systems generally include public schools, 'separate' or denominational schools, and private schools. All non-private education in elementary and secondary or high schools is publicly funded. In Quebec, general and vocational colleges (CEGEPs, or *Colleges d'enseignement général et professionnel*) are also publicly funded and require only a minimal registration fee. However, most Canadian post-secondary schools charge tuition fees.

Children are required by law to attend school from age 6 or 7 until age 16, and about five million children now attend public schools. Responsibility for the administration of elementary and secondary schools is delegated to local elected school boards or commissions: these boards have the responsibility for setting budgets, hiring teachers, and developing school curricula within government guidelines.

High (secondary) school programs generally aim to prepare students for post-secondary education or for entry into the labour market: preparation for post-secondary education now dominates the system. Access to post-secondary education (except for specific types of vocational education) generally depends on high school completion, as well as specified performance in certain high school courses such as mathematics. Entry requirements often vary from province to province.

It is generally recognized that preparing students for lifelong learning is a desirable outcome for high school students; but data on participation in adult education and training show that those who have only completed high school education are much less likely than those who have completed more education, to participate in adult education and training. The high school system also provides for some flexibility in the completion of high school: students can and do return to the system to complete high school. Many factors are associated with completion of high school; for example, women are more likely to complete than men.

In some provinces/territories, legislation permits the establishment of separate schools by religious groups. Separate schools account for a significant proportion of total enrolments: in 1995, enrolments in Roman Catholic separate schools accounted for about one-fifth of total enrolments in Canada. Private or independent schools are also relatively important: enrolment in such schools is about 250,000 students.

Before the 1960s, universities provided the bulk of post-secondary education in Canada: they were mainly private institutions, and many had a religious affiliation. However, factors such as the increasing demand for post-secondary education and growing recognition of the importance of education in economic growth, led to dramatic changes in post-secondary education systems. The university system was expanded to include a number of public universities, and new types of non-degree granting post-secondary institutions were created to provide greater choice for students. The latter are generally referred to as community colleges, which includes community colleges, CEGEPs, technical institutes, hospital and regional schools of nursing, and establishments providing technological training in specialized fields: in counting the number of institutions, hospital schools of radiography, medical technology and health records are included (see *Education Indicators in Canada 1999*: Statistics Canada and Council of Ministers of Education). There are now about 200 community colleges and about 100 universities in Canada: total enrolments exceed one million students.

Community colleges offer career-oriented and technical training, as well as university transfer programs and general education leading to diplomas or certificates. However, they differ significantly by province:

In Quebec, the CEGEPs provide an intermediate level of education between secondary school and university. After 11 years of elementary and secondary schooling, students in Quebec must complete a two-year CEGEP program to be eligible for university entrance. CEGEPs also offer three-year career and technical programs similar to those provided by community colleges in other provinces. Adult general education programs and vocational education programs of one to two years duration are offered by school boards at the secondary level

In Saskatchewan, Alberta and British Columbia, community colleges offer vocational and technical training, as well as university transfer programs on an optional basis. In Ontario, some colleges offer programs that allow transfer to a university.

In Ontario, Manitoba, and the Atlantic Provinces, colleges offer programs that are quite distinct from those available at universities.

In 1997-98, enrolments in community college were 551 thousand compared with 823 thousand for universities (Table II.3): Quebec and Ontario account for the bulk of enrolments.

Table II.3: Distribution (%) of enrolments in colleges and university by province/territory of study, 1997-98

Province/territory	College	University
Newfoundland and Labrador	0.9	1.9
Prince Edward Island	0.3	0.4
Nova Scotia	1.4	4.5
New Brunswick	0.9	2.8
Quebec	31.4	28.2
Ontario	39.6	36.9
Manitoba	1.1	3.7
Saskatchewan	0.6	3.8
Alberta	8.7	8.7
British Columbia	14.7	9.2
Yukon	0.1	Not applicable*
Northwest Territories	0.1	Not applicable*
Total (000)	551.2	822.8

*There are no universities located in either the Yukon or the Northwest Territories. Students from these jurisdictions attend institutions located in other areas.

Source: Derived from "Education Indicators in Canada" (1999): Statistics Canada and Council of Ministers of Education

Although the distributions for colleges and universities are not strictly comparable, there are some interesting differences between them. In Saskatchewan, the proportion for college enrolments is much lower than for university enrolments; by contrast, in British Columbia the proportion for college enrolments is much *higher* than for university enrolments. Thus, in Saskatchewan, a lower proportion of students selects college education instead of university education; by contrast, in British Columbia, a higher proportion of students selects college education instead of university education.

Looked at in a different way, these data show that only about 10% of all post-secondary students in Saskatchewan were enrolled in colleges; this compares with about 52% in British Columbia.

Although some adults take college or university programs on a full-time basis, many do so on a part-time basis. In 1997-98, 28% of all college students and 30% of university students were enrolled on a part-time basis (Table II.4).

Table II.4: Proportion (%) of part-time enrolments in total enrolments for colleges and university by province/territory, 1997-98

Province/territory	College	University
Newfoundland and Labrador	2.1	17.0
Prince Edward Island	8.0	16.4
Nova Scotia	3.6	18.9
New Brunswick	3.4	18.4
Quebec	6.4	43.5
Ontario	36.0	25.1
Manitoba	35.3	31.8
Saskatchewan	4.8	23.6
Alberta	32.2	26.0
British Columbia	56.3	29.6
Yukon	60.5	Not applicable*
Northwest Territories	71.4	Not applicable*
Total	28.0	30.3

* There are no universities located in either the Yukon or the Northwest Territories. Students from these jurisdictions attend institutions located in other areas.

Source: Derived from "Education Indicators in Canada" (1999): Statistics Canada and Council of Ministers of Education

The ratio varies considerably by province/territory, particularly for colleges. Only 2% of college students in Newfoundland and Labrador, but 71% of those in the Northwest Territories were enrolled on a part-time basis. At the university level, the lowest proportion is for Prince Edward Island (16%), and the highest is for Quebec (44%).

Data from the 1996 Census show that slightly more than one-fifth of the population aged 25-54 (the core working age population) had not completed high school (Table II.5). At the other end of the continuum, one-fifth had completed a university education.

Table II.5: Distribution (%) of population aged 25-54 by level of education, for total population and aboriginal population, 1996

	Less than High School	High School diploma	College/Trade-vocational	University
Aboriginal population	42.2	22.8	28.6	6.4
Total population	22.9	25.6	30.8	20.7
Total number (000)	5,964.6	6,666.8	8,031.3	5,382.0

Source: Derived from "Education Indicators in Canada" (1999): Statistics Canada and Council of Ministers of Education

The educational attainment of the aboriginal population is much lower than that for the total population. In 1996, slightly more than two-fifths of the aboriginal population aged 25-54 had not completed high school; and only 6% had a university education.

Table II.6: Distribution (%) of population aged 25-54 by level of education, by province/territory 1996

Province/territory	Less than High School	High School diploma	College/Trade-vocational	University
Newfoundland and Labrador	34.4	16.7	35.6	13.2
Prince Edward Island	30.8	20.1	33.0	16.1
Nova Scotia	26.8	19.3	35.0	18.9
New Brunswick	28.8	25.4	30.3	15.5
Quebec	24.5	27.2	28.1	20.3
Ontario	20.8	26.1	30.7	22.4
Manitoba	28.3	23.7	29.2	18.7
Saskatchewan	28.2	23.1	30.8	17.8
Alberta	21.9	24.5	33.9	19.8
British Columbia	19.8	26.2	33.0	21.0
Yukon	18.3	21.3	39.4	21.0
Northwest Territories	29.0	19.8	34.8	16.4
Total number (000)	5,964.6	6,666.8	8,031.3	5,382.0

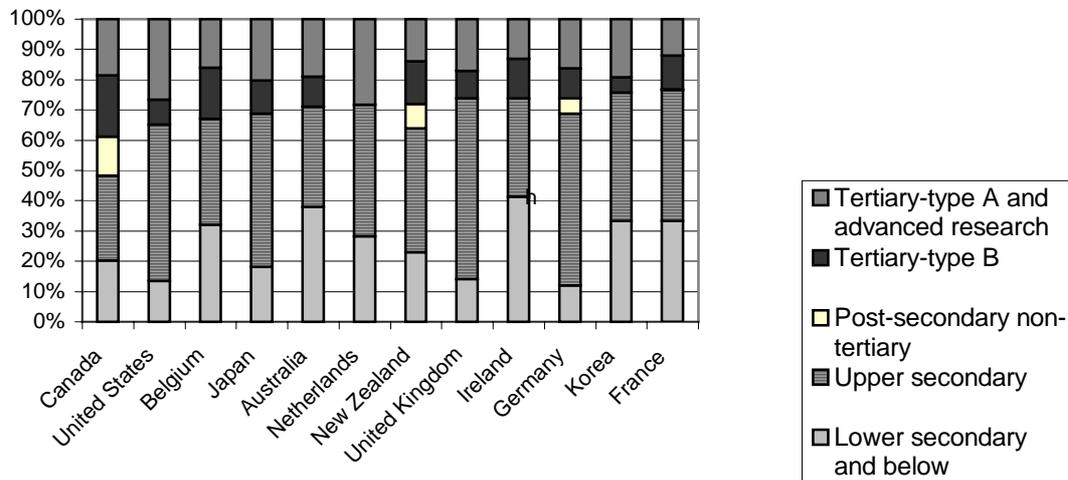
Source: Derived from "Education Indicators in Canada" (1999): Statistics Canada and Council of Ministers of Education

Educational attainment varies significantly by province and territory (Table II.6). In 1996, the proportion of those aged 25-54 with less than high school was highest for Newfoundland and Labrador and lowest for the Yukon. At the other extreme, the proportion with a university degree was lowest for New Brunswick (16%) and highest for Ontario (22%).

II.6 Post-secondary education

Comparison with other countries suggests that Canada has become a high education society. The data in Chart II.1 provide a comparison of the education levels of the adult population 25 to 64 years of age in selected OECD countries. As is evident from the chart, Canada is a high education society even by the standards of advanced industrialized nations.

Chart II.1: Distribution of population aged 25-64 by level of education (1998)

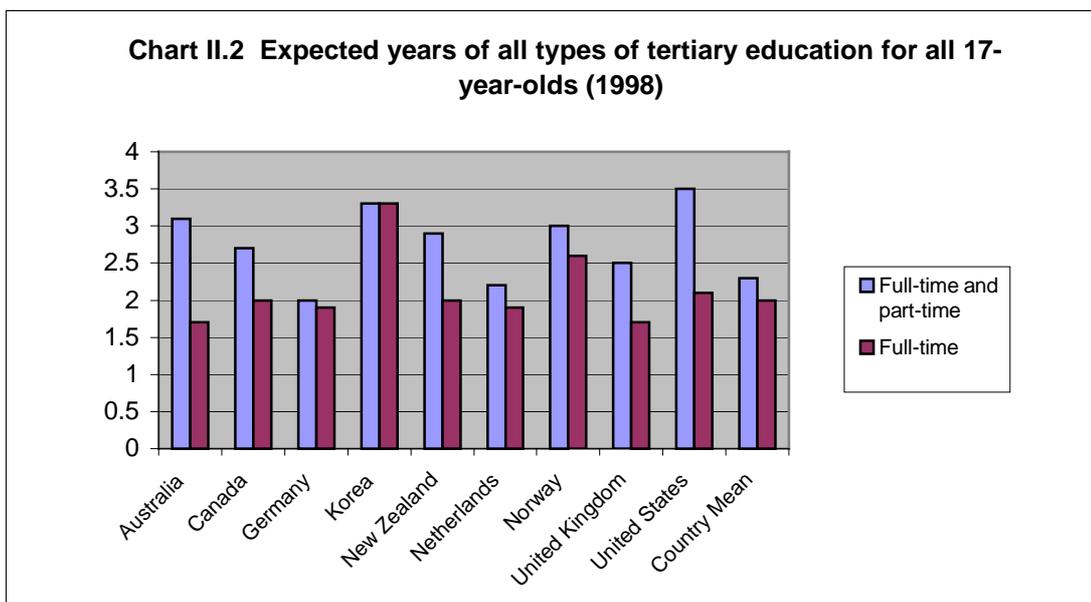


Source: OECD, Education at a Glance, 2000

In Canada combining tertiary-type A (university and advanced research), with tertiary-type B accounts for 38.8% of the population.¹ The figure is somewhat lower for the US (34.9%). The figures for the UK, Ireland and Germany somewhat lower (26%), while that for France is 23%.

The rate of education participation in Canada remains high relative to other OECD countries. Participation rates in tertiary education in Canada and the US have been relatively high compared with other nations; but many other countries are catching up. The data in Chart II.2 show enrolment rates in tertiary education based on the number of years of tertiary education that 17 year-olds are expected to experience on average over their lifetimes. The data show that in Australia, for example, 17 year-olds are expected to receive at least three years of tertiary education over the course of their lives.

¹ *Tertiary-type A programs* (ISCED 5A) are largely theory-based and are designed to provide sufficient qualifications for entry to advanced research programs and professions with high skill requirements. *Tertiary-type B programs* (ISCED 5B) are typically shorter than those of tertiary-type A and focus on practical, technical or occupational skills for direct entry into the labour market, although some theoretical foundations may be covered in the respective programs. They have a minimum duration of two years full-time equivalent at the tertiary level (OECD, "Education at a Glance", 2000). Combining type A and type B for comparison purposes is reasonable; but it must be acknowledged that the percentage with university-level qualifications is higher in the US, while the percentage completing community college in Canada is higher.



Source: OECD

Participation in tertiary education in OECD countries increased significantly in the early 1990s. The total number of students enrolled in tertiary education programs grew by more than 20% between 1990 and 1997 in all but five OECD countries – Canada, Germany, the Netherlands, Switzerland and the US. Rates in the US and Canada were already high, and they have stayed high. The rates in Germany and Switzerland were below average rates, and they have fallen even further behind. In other OECD countries, the gap has been closing.

In a recent paper, Bouchard and Zhao (2000) show that full-time university enrolment rates leveled off in the 1990s after many years of growth; by contrast, part-time university enrolment rates have fallen significantly during the 1990s. These changes in enrolments coincided with increases in university tuition fees. The authors also found that between 1986 and 1994, there was a widening in gap in enrolment by socioeconomic status. They also suggest that increases in tuition fees and debt levels may have more impact on the participation of students from families with a lower socioeconomic status.

II.7 Adult education and training

Although adult education and training is now seen to be an important component of education and training, it has from time to time been regarded as something of a marginal activity. As a result, its development over time has been mixed, and some of its components have received greater attention than others.

As in other countries, adult education and training in Canada can be formal or informal. Formal adult education and training is provided by educational institutions such as secondary schools, colleges and universities; but it is also provided by a variety of other organizations and institutions such as social agencies, unions, employers, and equipment manufacturers. Informal training can take many forms, such as: reading, radio and TV broadcasting, and on-the-job training.

Language instruction is an important component of adult education and training in Canada. It has traditionally been offered to immigrants through school boards and other agencies (such as the Y.M.C.A.);

but since the 1960s the federal government provided significant funding for language programs, so that there has been a large increase in the importance of language instruction. Extra-mural or extension courses provided by universities form another important component of adult education and training in Canada: such courses have been offered by universities for many years. These courses were initially seen as providing social and remedial education, but they also provided a basis for individuals to complete the requirements for degrees, or to upgrade their academic skills; many individuals now take such courses for personal interest or to enrich their basic knowledge.

One of the earliest efforts in adult education and training using radio broadcasts dates from World War II. The Farm Radio Forum was developed by the Canadian Broadcasting Corporation (CBC) to provide a forum for rural groups to hold discussions on current topics. The development of TV also led to experiments in the provision of new learning mechanisms for adults. The CBC was in the forefront of experiments with TV for learning, but many provincial governments also created educational TV facilities of their own: the Ontario Educational Communications Authority (TV Ontario) and Télé-Québec, with its 'Carrefour' Éducation, and educational programs such as Télé-université are examples.

The Canadian Association for Adult Education (formed in 1935) was intended to provide a basis for stimulating and coordinating interest in adult education. The members of the association were drawn from a variety of institutions and organizations including schools, universities, agricultural organizations, cultural and religious associations, and women's groups.

III. POLICY AND ORGANIZATION OF ADULT LEARNING SYSTEMS IN CANADA

III.1 Introduction

This chapter provides a summary of policies and programs in adult education and training in the various provinces and territories. The summary is based on responses to a questionnaire on adult education and training sent to provincial and territorial ministries or departments: a more detailed report is included in Appendix I. The responses to the questions show that policies and programs in adult education and training vary considerably by ministry or department, and by jurisdiction. This is not surprising given the diversity in the social, economic and demographic structure among jurisdictions. Their policies and programs in adult education and training reflect not only this diversity, but also the different priorities of their governments.

As noted in Chapter II, although education is primarily the responsibility of the provincial and territorial governments, the federal government has, over time, become indirectly involved in technical and vocational education and post-secondary education. There are two main arguments for federal involvement: the first stems from its responsibility for the national economy, and hence for economic growth and employment; the second is based on considerations of equity and social cohesion, and hence on concerns for the welfare of disadvantaged groups (such as the poor and the less educated). A brief description of federal policies and programs is included below; a more complete description can be found in Appendix II.

Public institutions, private colleges and community-based organizations provide much of the adult education and training in Canada: a brief description of the structure of these institutions is included in this chapter. The chapter also includes a description of the apprenticeship system in Canada.

III.2: Provincial/territorial policies and programs

How is adult education/training organized?

In many jurisdictions, different ministries or departments have some responsibility for adult education and training. One advantage of this approach is that programs can be directed to the needs of specific clients. But it is essential that there should be close coordination of programs to avoid duplication and to ensure efficiency. This coordination takes place in different ways. In some jurisdictions, the primary responsibility for adult education and training rests with one or two ministries or departments. In others, coordination is effected through formal arrangements among ministries or departments. Special bodies or committees have also been created to coordinate program delivery; and in some jurisdictions, the Labour Market Development Agreements with Human Resources Development Canada (HRDC) provide a mechanism for doing so.

Who is the adult learner?

Most jurisdictions do not have an official definition of an adult learner. Ministries and departments therefore use definitions that are based on the objectives of the particular program; as a result, the definition of adult learner varies by program within a government, and even within a given ministry or department in the same government.

Most jurisdictions (Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Saskatchewan, Alberta and British Columbia) do not have an official definition of an adult learner. Only four (Prince Edward Island, Quebec, Manitoba and the Northwest Territories) indicate that they do.

This variation in the definition of adult learners makes good sense: it is reasonable that training programs should be targeted to the social and economic conditions in a jurisdiction, and that they should be tailored to the needs of the clients in the particular program. However, since the supply of training places and the availability of financial resources are limited and vary by program, adult learners in different jurisdictions will face different barriers to participation in adult education and training. It follows that differences in definition may contribute to inequities in access to adult education and training, both within a jurisdiction and across the country.

Governance

Governments maintain control over the provision of education and training through legislative acts that govern the various institutions. Public institutions are generally governed by a board, which often includes a variety of stakeholders. Boards now include a variety of stakeholders and have a greater degree of responsibility. For example, the province of Quebec has recently introduced significant modifications in the sharing of responsibilities and powers between educational institutions and school boards: the governing board for each school is now made up of parents, students, teachers and members of the community, and is chaired by a parent. .

In some jurisdictions private educational/training organizations and institutions require a licence to operate; but in others, registration with a government ministry or department is sufficient. The requirements for registration vary by jurisdiction; but they usually include some reference to occupations, and they exclude courses that are free (or in some cases, below a specified minimum fee).

Most jurisdictions have a policy on the accreditation of courses for adult education/training; but this policy varies by jurisdiction. In general, governments determine the standards for secondary education, for apprenticeship programs, and for non-university programs at the post-secondary level. Accreditation at the university level is usually the responsibility of the institution.

Accreditation, Prior Learning Assessment and Recognition, Occupational Standards, and Curriculum Development

Some jurisdictions have no articulated policy on Prior Learning Assessment and Recognition (PLAR). In some of those that do, ministries/departments have this responsibility; in others, the responsibility for PLAR rests with the institutions themselves. It follows that adults who want to obtain additional educational qualifications in Canada (and especially immigrants) are likely to face barriers that are quite different in different jurisdictions.

Skill standards for some occupations have been developed in some jurisdictions. These are sometimes developed independently by the particular jurisdiction; but some are developed through

cooperation with other governments (such as the Red Seal program for apprenticeship), or with employers and other stakeholders.

Curriculum is developed in different ways for different types of institutions in different jurisdictions. In some cases, the institutions themselves have the responsibility for developing curriculum. In others, the government sets learning outcomes, while the curriculum is determined by the provider. In still other cases, the government develops the curriculum.

Support for adult education/training

All jurisdictions provide some direct or indirect support for adult education/training to institutions, employers and individuals. Institutional support is generally available for elementary and secondary education, for apprenticeship programs, and for post-secondary education. However, only a few jurisdictions have developed special programs that provide direct support (financial and non-financial) for special forms of adult education/training (such as industrial training). Employer support may take different forms, such as: training in particular sectors; skills upgrading; and the employment of social assistance recipients.

In all jurisdictions, individuals may obtain financial assistance for adult education and training under student loans programs and also directly from institutions through scholarships and bursaries. However, some jurisdictions also provide financial assistance for individuals on Employment Insurance (EI) or on income assistance. Non-financial support usually takes the form of career and education planning, and the provision of Labour Market Information.

Selection of Institutions, Programs/Courses and Clients

Various criteria are used for selecting institutions, employers and individuals for support. These vary significantly by jurisdiction and by type of education/training. Many jurisdictions use a variety of criteria such as access to training programs and labour market demand, as a basis for selecting institutions to be funded. Selection of the courses or programs to be funded is based on employer needs, labour market demands, and other factors (such as student satisfaction).

In some jurisdictions, educational attainment is often used as a criterion for selecting clients for some programs; criteria such as age and the need for remedial education/training are also sometimes considered. Some courses/programs are reserved for target groups, such as aboriginal persons, women, and recipients of income assistance; and special programs have been instituted in some jurisdictions for target groups such as aboriginal groups. Various methods (such as advertising and the use of community-based agencies) are used to try to reach hard-to-reach groups; and the Internet is being used to improve access in remote areas.

The availability of statistics and evaluation

The availability of statistics on enrolments and on hours spent in adult education/training varies considerably by province/territory, and by ministry/department in some jurisdictions. Data on enrolments are generally available for public institutions at different levels of education; but data on hours spent in adult education/training are only available for some types of institutions and in some jurisdictions. It follows that the available statistics cannot be used to provide a comprehensive picture of adult education and training in Canada.

Many sources of information are available for adults to identify and to determine how best to meet their training needs. These include: follow-up surveys of graduates; information on skills requirements; career exploration/career counselling; needs assessment and diagnostic learning assessments; and training development plans. This information is available in print and through personal interview, and sometimes in electronic format; attempts are being made to provide on-line access.

The evaluation process and techniques used vary considerably by jurisdiction. In many jurisdictions, evaluation is conducted as part of the accountability process and the monitoring of programs; the Labour Market Development Agreements with HRDC includes a process for joint evaluation of programs. Many ministries and departments in the various jurisdictions also undertake follow-up surveys of graduates, often at regular intervals. Some ministries/departments have started to conduct fairly sophisticated evaluation studies.

Changes and gaps in adult education/training

There have been many changes in adult education/training over the past five years. Some jurisdictions indicate that one of the most significant changes has been the shift from institutional support to individual support by HRDC: one important implication of this change is that the support for public educational institutions has been significantly reduced. Other major changes include some consolidation of programs and providers, and the impact of new technology (such as the Internet).

Changes anticipated over the next five years vary considerably by program and by jurisdiction; but it seems clear that technology will play an increasingly important role in adult education/training. Some provinces see the need for continuing integration and accountability, while others see a growing need for training for special groups, such as Native peoples.

Provincial/territorial government officials perceive that there are some major gaps in adult learning. These include: the provision of education/training to individuals in remote areas; access to technology; workplace-based training; and the availability of data and research, especially at the local level.

Research and innovative practices

Research priorities vary by jurisdiction. Many respondents seem concerned with developing better LMI and analysis, with access by disadvantaged groups (e.g. Native peoples, and social assistance recipients), and with the use of technology for training. Some have a special budget for R&D, but most do not.

Most jurisdictions have implemented some innovative practices. These often involve the use of technology (such as modularized learning processes, distance education, and Internet-based learning). Some use innovative approaches for training disadvantaged groups: e.g. institutions controlled by Native peoples, and self-assessment for social assistance recipients.

III.3 Federal Policies and Programs in Adult Education and Training

Federal involvement in adult education and training takes several forms: support for post-secondary education, occupational skills training, partnerships with private sector and public sector organizations, and the provision of Labour Market Information.

Support for post-secondary education

Federal support for post-secondary education includes:

- Funding under the Canada Health and Social Transfer (for post-secondary education, health care and other social programs), together with tax transfers to the provinces (instituted in 1997);
- Funding research and scholarship under the Natural Sciences and Engineering Research Council, the Social Sciences and Humanities Research Council and the Canada Institute for Health Research;
- Student loans under the Canada Student Loans (CSLP) Program currently administered by HRDC;
- Canada Study Grants (introduced in 1995) to assist students with permanent disabilities, high-need part-time students, and women in certain doctoral studies; and
- The Canadian Opportunities Strategy introduced in 1998, (which includes a Canada Study Grant for students with dependants, and scholarships based on merit and need from the Canada Millennium Scholarship Foundation), designed to reduce financial barriers and other obstacles that may restrict the acquisition of skills and knowledge.

Such support for post-secondary education has a significant impact on adult education and training: for example, many full-time students who receive loans under the CSLP (especially those in college) are over twenty-five years of age.

Occupational skills training

Federal involvement in occupational skills training dates from the mid-1960s with introduction of the Adult Occupational Training Act (AOTA), which was later replaced by the National Training Act (1980-1996). Adult training was defined so that a distinction could be drawn between education and training. The definition was based on program criteria: clients had to be at least one year above the school-leaving age, and out of school for more than one year. The training was to be job-related, and it was expected to lead to employment.

Initially the federal government purchased training courses (or seats) from provincial institutions or private schools for its clients (particularly the unemployed). However, these arrangements were changed significantly in 1996 when the federal government announced that it would withdraw from the existing arrangements, and explore new working arrangements with the provinces and territories.

The changes were embodied in the Employment Insurance (EI) Act introduced in 1996, which established guidelines for the development of active employment benefits and the maintenance of employment services that would ensure that the Canada Employment Insurance Commission (CEIC) would work in concert with provincial and territorial governments. The EI Act allowed CEIC (which became part of HRDC) to enter into agreements with the various governments to provide for the payment of contributions for all or a portion of any costs of benefits, or for measures similar to employment benefits. All jurisdictions with the exception of Ontario (and Quebec, which chose a transfer agreement in principle) have entered into a Labour Market Development Agreement (LMDA) with the federal government. A number of jurisdictions chose a co-management option in which HRDC is responsible for

implementation. Others chose an option that essentially transfers responsibility for the design and delivery of active employment benefits (including skills development and selected employment service functions) to the jurisdiction.

The active employment measures provided under Part II of the EI Act include targeted wage subsidies, targeted earnings supplements, self-employment, job creation, and skills development. Support measures include: Employment Assistance Services (EAS) such as counselling; labour market partnerships; and R&D. In order to be eligible for direct services such as skills development, individuals must have a current EI claim or one that ended in the previous three years (reach-back), or have a maternity or parental claim that began in the preceding five years.

The new arrangements for providing skills development benefits under the EI Act have been accompanied by profound changes in the overall philosophy and approach to training. One of the most important of these is that clients are now expected to play a more direct and active role in their training. Clients are responsible for:

- Preparing a return-to-work action plan and negotiating a package of grants and loans (when used) with a consultant;
- Finding training courses and making arrangements with providers; and
- Contributing financially (depending on means and circumstances).

The EI Act does not cover all HRDC supported training, and the department continues to fund some training from the Consolidated Revenue Fund. Training is often incidental to programs for groups such as youth-at-risk and persons with disabilities. Funds from the Consolidated Revenue Fund are set aside for services for aboriginal peoples provided under the Aboriginal Human Resources Development Strategy.

Partnerships with private sector and public sector organizations

During the late 1980s and the early 1990s, the federal government experimented with the use of different mechanisms for promoting private sector involvement in training and human resource development.

One such experiment was the creation (in 1991) of the Canadian Labour Force Development Board (CLFDB), together with a network of provincial and local level boards. This experiment was inspired by European models of business and labour co-management of labour market programs. Although the CLFDB provided leadership in labour standards and PLAR, and the local boards succeeded in creating effective networks between industry and the education community, the experiment was not entirely successful.

Another such experiment was the creation of Sector Councils: these councils originated from the Sector Studies activities of the Canadian Occupational Projections System (COPS) and the work of the Industrial Adjustment Service. The councils provide a mechanism for bringing together representatives from business, labour, education and professional groups: one of their key objectives is to strengthen the human resource development capacity of a critical sector, especially for small and medium enterprises.

The provision of Labour Market Information

Labour market information (LMI) is an important component of the Canadian skills agenda for the 21st century. Better information on the labour market (such as data on wages and job openings, training opportunities, and certification), is critical in identifying the skills required by the economy. LMI is particularly important under the new federal-provincial arrangements. Clients are expected to play a more direct and active role in training than they did in the past: such a client-driven system can only be effective if clients have access to high quality information on labour market opportunities and on training options.

HRDC and its predecessor departments have always devoted considerable resources to the development of LMI: for example, LMI was an important component of the active manpower policies adopted by the Department of Manpower and Immigration when it was created in the mid-1960s. HRDC investments in LMI include key surveys conducted by Statistics Canada (such as the National Graduates Surveys [NGS], the International Adult Literacy Survey [IALS] and the Adult Education and Training Survey [AETS]). Officials in HRDC and Statistics Canada work closely together in developing new surveys to meet the LMI needs of the department and its clients. LMI products range from labour market profiles of local economies to counselling products such as *Job Futures*; and they include databases at various levels of geographic and sectoral detail.

Computer technology (particularly the Internet) has had a major effect on the design and cost-effectiveness of LMI products and applications for adult learners. The CanLearn system on learning opportunities provides a good example: it differs from many other counselling products in that it includes an interactive module specifically designed for adult learners (the Adult Learner Planner).

HRDC has also been a world leader in program evaluation. Federal training programs have been subject to comprehensive evaluation since the mid 1960s, and evaluation methodologies have evolved and improved over the years. The Evaluation and Data Development (EDD) Branch in HRDC is one of the largest such groups in the federal government. Lessons learned from previous adult training programs funded by HRDC and its predecessor departments provide a valuable guide in developing and delivering new programs. Under the Labour Market Development Agreements, federal evaluators work in partnership with provincial/territorial counterparts to provide relevant, reliable, objective and timely information on skills development benefits under Part II of EI.

III.4 The institutional structure of adult education and training

Public Institutions

Post-secondary education in Canada is provided by degree-granting institutions (universities), and by non-degree granting institutions: the latter are generally referred to as community colleges or simply colleges, and they include community colleges, CEGEPs, and institutes of technology. Universities provide degrees at three levels: bachelor's, master's and doctoral. Community colleges offer career-oriented and technical training, as well as university transfer programs and general education leading to diplomas or certificates.

Most community colleges in Canada were established in the 1960s in response to a need for a vocationally oriented alternative to university study; however, two-year university transfer programs were established in some jurisdictions to allow successful students to transfer to university. The widely held conviction at that time was that Canada needed to invest much more heavily in post-secondary education to ensure a more highly trained workforce. By providing a broader variety of post-secondary learning opportunities, community colleges allowed more equitable access to post-secondary education. In some

jurisdictions church-sponsored and public technical schools, as well as hospital nursing schools, were absorbed into the college system.

The expansion of the university system also contributed to greater access to post-secondary education. Continuing education centres or extension services were established on university campuses: these focused on continuing education in fields such as business and education, and on campus-based non-credit courses.

Post-secondary education institutions derive about three-quarters of their funding from the provincial/territorial and federal governments (the largest share is provided by the provinces and territories). Other sources of funding include tuition fees, research grants, contracts with business, industry and government departments, donations, and investment income.

Government support varies widely by both level (college or university) and institution. At the university level, tuition fees account for an increasing proportion of operating income (currently about 20%), and this trend is likely to continue. At the college level, tuition fees account for a much smaller proportion of operating income, partly because tuition is free at CEGEPs for Quebec residents: tuition fees for colleges in other jurisdictions vary between about 10% and 18% of operating income. Institutions usually receive the full course costs for adults sponsored by HRDC.

As noted in Chapter II, education is mainly the responsibility of the provincial and territorial governments: as a result, colleges vary significantly in terms of mandate, management models and policy frameworks. Colleges have the responsibility of responding to the training needs of the private and public sectors, and to the educational needs of vocationally oriented secondary school graduates. Colleges usually maintain close linkages with business and industry, and these linkages form the basis for training contracts (as revenue producing activities) and industry-based curriculum development.

In most provinces/territories, community colleges form the primary vehicle for adult education and worker training; universities also provide a vehicle for lifelong learning, but this only affects a small segment of the adult population. College programs include employment-related programs, such as apprenticeship and continuing education.

Colleges offer hundreds of career-oriented programs, on a full-time or part-time basis, for secondary school graduates and for mature students who might not have completed high school. Most career-oriented college programs fall into two categories: two-year and three-year diploma programs; and certificate programs requiring 1 year of study or less. Completion of high school is not required for certificate programs: these are often referred to as trades-vocational programs and include skills development courses, apprenticeship block release and pre-apprenticeship and general educational upgrading courses (such as Basic Training for Skill Development, life skills training, work adjustment programs etc.). Institutional courses purchased by HRDC for adults since the mid-1960s were almost exclusively trades-vocational courses and were typically provided by colleges in most jurisdictions.

Although college programs are similar in most jurisdictions, some colleges have developed very specialized programs (an example is the animation program at Sheridan College in Ontario). Some specialize in industrial sectors such as forestry, marine training, fishery training and agriculture: and some serve the training needs of more than one province (for example, in the Maritime Provinces). Colleges vary in size: according to the Association of Canadian Community Colleges (ACCC), the average establishment has about 5,000 full-time and 15,000 part-time registrants, in programs such as health, business, technology, trades, academic upgrading, applied and creative arts, social services, hospitality and university preparation.

Colleges generally include both adult and youth learners, although some institutions are dedicated to adult learners; and some programs and courses in integrated institutions are targeted to adults or to specific groups of adults. In addition, there are significant differences in learning styles and approaches between adults and youth, although these differences may diminish after high school. Colleges (and universities) have also had to respond to the growth in the demand for tertiary education at a time when resources have been limited, while still meeting their traditional responsibilities for adult learning.

In recent years, provinces have tried to make optimum use of their educational resources so that the distinction between universities and colleges has become less pronounced. Cooperative programs and joint ventures involving the two groups of institutions, while still not commonplace, have become more common; and there have been calls for greater cooperation between the two types of institution.

Private Colleges

The private colleges (or schools) in Canada comprise what has been referred to as an alternative system for skills training for adults. According to the Survey of Private Schools conducted by Statistics Canada in 1993, there were 1,738 registered private vocational training schools with 640,350 enrolments at that time. Comparisons with public college enrolments are difficult to make; but Sweet and Gallagher (1997) suggest that in British Columbia, private school enrolments exceed those in public institutions in terms of full-time equivalencies for comparable courses and programs.

Private schools are generally much smaller than public colleges; but Sweet and Gallagher (*op. cit.*) point out that they use similar instructional approaches and strategies, and organize training in similar ways. Sweet and Gallagher also found little evidence that there were significant differences in the qualifications of faculty. While private providers have traditionally been more flexible and more responsive to employer needs, public institutions have become more entrepreneurial so that the differences are now less noticeable.

Most private institutions specialize in a single field or area of study. Much of their growth has been attributed to policy changes introduced in the Canadian Jobs Strategy (1984-85) that resulted in a shift to private sector training and providers. In addition private colleges have benefited greatly from the fact that their students are now eligible for Canada Student Loans.

Almost one-half of private vocational students are enrolled in business courses and programs; trades and technology training is the next most important field of study. Over 80 percent of students in private colleges are 21 years of age and over, suggesting that the private system is primarily directed to adults. Private colleges offer short intense occupational training courses that are perceived as being highly practical and job relevant. There is also a perception that many persons turn to private colleges because the admission requirements are lower than in public colleges, or because they want to avoid a long wait for admission to heavily subscribed courses in public colleges.

Community-Based Organisations

A less visible and largely undocumented contribution to adult learning is made by community-based organizations established to address special issues (such as adult literacy), or to meet the needs of special groups (such as immigrants, the rural poor, persons with physical or learning disabilities, members of specific ethnic or cultural groups, displaced workers, adults with low levels of literacy and women). Typically local agencies or advocacy groups identify an unmet need, and seek funding from the federal or provincial/territorial governments.

III.5 The apprenticeship system

Apprenticeship is an industry-based learning system that combines on-the-job experience with technical training, and leads to certification in a skilled trade. The training period for apprenticeship lasts from two to five years (depending on whether or not the apprentice can accumulate the required hours of work in the trade or receives credit for related job experience). On average, an apprentice spends 85% of the apprenticeship period in the workplace; the rest is spent at a training institution. Classroom training usually takes the form of block release in which the apprentice is released for a short period of classroom training (about 8 weeks at a time).

Provincial and territorial governments are responsible for apprenticeship training, and legislation provides for the designation of an occupation as an apprenticed trade. Designated trades are governed by regulations under an apprenticeship act outlining the standards and conditions of training for specific trades (e.g. curriculum, accreditation, certification, and methods for registering apprentices). Employers, employer associations or unions can request that an occupation be designated as an apprenticed trade.

Apprenticeship is the responsibility of a single government agency except in Quebec: in that province, occupations in the construction industry are the responsibility of the Commission de la Construction du Québec while other designated occupations are the responsibility of the Apprenticeship Directorate of the Ministère de la Solidarité Sociale. In other provinces/territories, the ministries or departments responsible for education, labour and training, are responsible for administering apprenticeship programs: the program is usually administered under the direction of a Director of Apprenticeship. Boards or commissions (made up of appointed industry management and labour representatives) are responsible for setting overall policy direction and for recommending required legislation or changes in regulations. The apprenticeship system is generally supported by a network of advisory committees composed of employer and employee representatives from each skilled trade.

The number of designated trades has been increasing in Canada. The Ellis Chart (a chart listing apprenticeship programs) included 160 trades in 1997, and 216 in 1999 (a 35% increase). Some of this expansion is the result of apprenticeship training in new sectors of the economy such as high tech, film and motion picture, and aerospace.

In many jurisdictions, designated occupations are classified as either compulsory or voluntary. Workers in a compulsory occupation must usually be certified or registered as apprentices to practise in that occupation; by contrast, workers in a voluntary occupation need not be registered or certified to practise in that occupation. A voluntary certificate may be used to indicate the competency of a worker.

The Red Seal program was established to provide greater mobility across Canada for skilled workers. In this program, apprentices who have completed their training and are certified journeypersons may obtain a 'Red Seal' endorsement on their Certificate of Qualification by successfully completing an Inter-provincial Standards Examination. The endorsement allows qualified tradespersons to practise their trade (without writing further examinations) in any province or territory in Canada in which the trade is designated. In 1999, 44 of the 216 designated occupations were included in the Red Seal Program.

Steps have also been taken to modify the apprenticeship program to meet changing economic and social circumstances. For example, governments have adopted, with varying success, initiatives to encourage greater participation of women in non-traditional occupations including key trades. And all jurisdictions have implemented formal PLAR processes for establishing equivalency to prescribed academic entrance standards. Some jurisdictions have introduced secondary school apprenticeship programs, which enable students to complete the educational requirements for graduation while acquiring paid workplace-based experience in a skilled trade or occupation. Apprentices (other than in Quebec)

typically receive the classroom training-component of the program on a block release basis. However some jurisdictions have introduced, on a pilot basis, individualized technical training as an alternative.

Apprenticeship in Canada is largely an adult program (unlike that in Europe). Most apprentices enter the program after spending some time in the labour market, and usually without formal vocational training in the trade. An analysis of the 1994 National Apprenticeship Training Survey by Rubenson and Schuetze (1996), concludes that the program remains principally an adult program, despite efforts to strengthen youth participation in apprenticeship by developing school/work programs in apprenticed trades. Only a small proportion of apprentices start the program on completion (or on dropping out) of high school; 80% or more start at a later age, and after some other education, employment, or often a combination of both. According to administrative data collected by Statistics Canada from the provinces/territories, the number of apprentices in 1996 was 132,189; the mean age of new apprentices was 28 years while that of all apprentices was 30 years.

IV A PORTRAIT OF ADULT LEARNING IN CANADA

IV.1 Introduction

This chapter provides a portrait of the involvement of adult Canadians in lifelong learning. It includes some data and discussion on the following topics:

- Participation in organised adult education and training (rate and duration);
- Characteristics of participants and non-participants;
- Characteristics of firms sponsoring adult education and training;
- Factors influencing the decision to participate in adult education and training;
- Financial support;
- Training providers;
- Educational methods;
- The perceived usefulness of adult education and training;
- Barriers to adult education and training; and
- Informal learning.

The portrait is based on quantitative and qualitative data from a variety of surveys and studies. The principal data source is the 1998 Adult Education and Training Survey (AETS): these data provide some insight on the involvement of Canadians in adult education and training. The data show the variation in participation among different population groups; they also provide information on those who had considered participating, but had not.

It is now recognised that lifelong learning is not confined to formal and non-formal education, and that much of it takes place outside the formal education system. Thus, the OECD has noticeably changed its interpretation of lifelong learning, from a narrow focus on the education and training system, to a broader perspective of learning: 'Ministers agreed to focus on how to make learning a process extending from early age through retirement, and occurring in schools, the workplace and many other settings' (OECD, 1996).

This change has major consequences on how lifelong learning for all should be addressed; it also raises significant challenges for data collection. While surveys like the AETS do a good job in portraying not only formal adult education and training but also non-formal organised learning activities, they do not include information on informal learning. The analysis here therefore draws on the Informal Learning Survey, developed by the research network for New Approaches to Lifelong Learning (NALL), which provides national data on informal learning.

Adult education and training is now closely connected with work, so that the relationship between publicly- and industry-financed adult education and training has become crucial to a strategy for lifelong learning. The EKOS Workplace and Employee Survey provides information on the training strategies of Canadian industry and it forms a useful source of data for studying this relationship. Data from the International Adult Literacy Survey, as well as other statistics and research findings, are also analysed in this chapter

IV.2 Participation in organised adult education and training

Participation rate

Data from the AETS show that during 1997, 27.7% of Canadians participated in some form of organised adult education and training. This rate is slightly lower than the rates reported in the 1991 AETS (30.8%) and in the 1993 AETS (30.3%): this suggests that participation in organised forms of adult education and training has declined somewhat after reaching a peak in the early 1990s.

In the AETS, respondents were asked to draw a distinction between participation for job or career-related purposes, and for personal interest. A distinction is also drawn between employer-supported and non-employer-supported education and training: participation rates categorised by these factors and by province are shown in Table IV.1 (note that the territories were not included in the AETS).

Table IV.1: Percentage of adult population participating in adult education and training by province, study orientation, and employer support, 1997

	<i>Overall participation</i>	<i>Job-related programs/courses</i>	<i>Personal interest programs/courses</i>	<i>Employer-sponsored programs/courses</i>	<i>Non-employer-sponsored programs/courses</i>
Province					
Newfoundland	18.6	15.3	4.5	17.8	9.1
Prince Edward Island	22.2	17.3	6.9	19.0	10.7
Nova Scotia	28.8	22.6	9.8	28.5	13.2
New Brunswick	23.4	17.1	8.4	20.2	11.8
Quebec	20.6	14.6	7.9	15.1	12.0
Ontario	30.8	23.9	10.3	27.2	14.8
Manitoba	27.6	21.4	9.5	24.9	13.3
Saskatchewan	28.0	22.6	8.8	26.3	12.1
Alberta	31.1	24.7	10.5	27.1	13.9
British Columbia	31.9	23.5	12.7	25.8	18.1
Canada	27.7	21.1	9.8	23.7	14.1

Notes: The adult population is defined by excluding individuals who were (1) 17-19 years old and enrolled full-time in a non-employer sponsored elementary or secondary program or (2) 17-24 years old and enrolled full-time in a non-employer-sponsored post-secondary program. Estimates for employer-sponsored programs/courses are based on respondents who worked in 1997.

Source: Adult Education and Training Survey, 1998.

These data demonstrate participants in adult education and training in 1997 predominantly took job-related programs/courses: three-quarters of all participants indicated that they took at least one course or program for job-related purposes, while only one in three participated for reasons of personal interest.

The data in Table IV.1 also underscore the central role that employers play in the education and training of Canadian adults. Close to 25% of respondents who worked during 1997, reported that they had participated in an employer-sponsored program/course; by contrast, only 14% had taken a program or course that was not employer-sponsored.

There are also substantive differences in the rate and distribution of participation across the provinces. The data indicate that the participation rate varies from a low of 19% in Newfoundland to a high of 32% in British Columbia. The rate is relatively low for the Atlantic provinces (except Nova Scotia), and for Quebec; and it is relatively high for Alberta, British Columbia and Ontario. The pattern is somewhat different for employer-sponsored programs/courses. In Alberta, 27% (but only 12% in Quebec) report that they participated in a program/course supported by an employer. British Columbia stands out with respect to activities not supported by employers (18%); the rate was lowest for Newfoundland (9%).

The overall participation rate of 27.7 per cent in organised forms of learning suggests that Canada still has some way to go before it will become an inclusive 'learning society'. This is further confirmed by the fact that only 13% of non-participants indicated that they wanted to enrol in some form of studies, but did not do so.

Hours of study

The participation rate is only a crude measure because it does not take account of study duration; Houtkoop and Oosterbeek (1997) stress that the impact of education is largely determined by the duration of the participation.

Table IV.2: Mean hours of study by province, 1997

Province	Mean hours of study per year
Newfoundland	307
Prince Edward Island	192
Nova Scotia	184
New Brunswick	221
Quebec	234
Ontario	207
Manitoba	180
Saskatchewan	177
Alberta	199
British Columbia	200
Canada	209

Source: Adult Education and Training Survey, 1998.

It is therefore interesting to note that while there has been a slight decrease in the participation rate during the latter part of the 1990s, the average hours of study has increased significantly: it rose from 140 in 1991 to 209 in 1997 (a jump of almost 50%). This change reflects a tendency by mainly young adults to return to longer programs in colleges and/or labour market training programs (see Table AIII.1 in

Appendix III). Interestingly, whereas Newfoundland has a relatively low participation rate, the average number of hours of study is high: 307 hours compared to 209 for Canada (Table IV.2). The average for Quebec (234 hours) is also higher than the national average. By contrast, provinces with high participation rates such as Alberta and British Columbia have averages that are slightly below the national average for hours of study. This can be explained by differences in the balance between courses and programs across provinces.

IV.3 Characteristics of participants and non-participants

Five characteristics are examined in this section for participants and non-participants: gender, literacy, educational attainment, age and employment status.

Gender

The overall participation rate is quite similar for men and women, although it is slightly higher for the latter. However, the overall rate masks problems women face in the adult education and training market: for example, women do not receive the same level of employer support for their education and training as men do, so that they have to rely on other sources of support (mainly self-financing). This is partly a result of the lower labour market participation rate and the higher rate of part-time employment for women. When these factors are accounted for there is no discernible gender difference (see Table AIII.2 in Appendix III).

Functional literacy and educational attainment

The findings of the AETS strongly support previous inferences that the readiness of adults to engage in organised learning activities 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. 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.

According to the International Adult Literacy Survey (IALS), many Canadians are only able to perform well at relatively simple literacy tasks. Forty-four percent of those aged 25-64 scored below Level 3 on the documentary literacy scale (success in processing everyday documents): experts suggest that proficiency at this level is desirable for succeeding in the knowledge society (OECD and Statistics Canada, 1995). The data in Table IV.3 show that Canada faces major challenges in encouraging the participation of those most in need of organised learning activities. While 60% of those at the highest level of literacy (Level 4/5) participated in adult education/training, only 17% at the lowest level (Level 1) did so.

The influence of family background is also visible in the strong relationship between educational attainment and participation in adult education and training. The data in Table IV.3 show that the overall participation rate varies from a low of 16% for those with less than high school completion, to a high of 59% for those with a university degree.

Table IV.3: Percentage and likelihood of adult population participating in education and training by literacy functional level (document), educational attainment, and employer support, 1995

Literacy level (document)	Overall participation			Employer-sponsored			Non-Employer-sponsored		
	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>
Level 1	17.2	1.0	1.0	6.6	1.0	1.0	14.3	1.0	1.0
Level 2	29.6	2.0*	1.5*	16.5	2.6*	2.6*	19.9	1.5*	1.2
Level 3	39.9	3.2*	1.9*	26.4	5.0*	4.8*	20.3	1.5*	1.0
Level 4/5	60.5	7.4*	3.8*	40.0	9.4*	8.4*	27.1	2.2*	1.3
Educational level									
Elementary or under	16.4	1.0	1.0	9.8	1.0	1.0	12.1	1.0	1.0
Secondary	31.5	2.3*	1.1	18.9	2.1*	1.0*	19.7	1.8*	1.0
College	51.9	5.5*	2.1*	35.1	4.9*	1.6	24.3	2.3*	1.4
University degree	59.3	7.4*	3.1*	38.8	5.8*	1.7	26.5	2.6*	2.0*

Notes: Estimates are based on respondents who had a job during 1995. Adjusted odds are derived from a multivariate statistical model that includes age, gender, literacy functional level (document) and educational level. An asterisk (*) indicates statistical significance at the level of 0.01.

Source: International Adult Literacy Survey, 1996.

It is interesting to examine the relationships between literacy, educational attainment and participation using odds ratios. The odds ratio is defined as the probability of participating in adult education and training (measured by the participation rate), divided by the probability of not participating: thus, an odds ratio of 1 indicates that the probability of participating is equal to that of not participating. A value of less than 1 indicates that the probability of participating is lower than that of not participating, while a value greater than 1 indicates that the probability of participating is higher than that of not participating (Hosmer and Lemeshow, 1989).

For ease of comparison, the odds ratios in Table IV.3 are expressed in terms of the odds ratio for a particular group (i.e. in terms of those at Literacy Level 1 for comparisons based on Literacy Level, and in terms of those with elementary education or less for comparisons based on educational level). Differences in participation rates may occur simply because of differences in factors such as age, gender, functional (document) literacy level, and education level, but their effects can be eliminated using multivariate statistical techniques. The adjusted odds ratios included in Table IV.3 are estimates of the odds ratios when differences due to age, gender, functional (document) literacy level, and education level have been eliminated: they are therefore more appropriate for some types of analysis. It should be noted that these estimates are only approximate since the multivariate statistical techniques are subject to some limitations (see Maddala, 1992). They therefore need to be interpreted with care.

The odds ratios by level of literacy (Table IV.3) show that individuals at the highest level of literacy (Level 4/5) are about 7 times more likely to participate in adult education and training as those at the lowest level (Level 1); the figure is still relatively high (3.8 times) when the adjusted odds ratios are used instead as the basis for comparison. This disparity is considerably more pronounced for employer-sponsored than for non-employer-sponsored education and training.

The results are similar when the odds ratios are examined by level of education. The data show that those with university degrees are 7.4 times more likely to participate than those without high school completion. The adjusted odds ratios are lower, but the disparity is still relatively high (3.1).

A recent study by Green and Riddell (2001) published as part of series of research monographs based on data from IALS, focused on the role of literacy and human capital in public policy. The results provide further insight into the complex relationships among literacy skills, education and labour market outcomes. They suggest that with educational attainment, estimated years of work experience and other factors held constant, an increase of 10 points on the literacy scale translates into an increase of about 3% in earnings; thus approximately one-third of the estimated return on education is due to literacy. Using simple ordinary least squares, the authors estimate that each additional year of education would raise annual earnings by approximately 8.3%: 3.1% of this increase results from the combined influences of education on literacy, and of literacy on earnings.

For many years, economists have used educational attainment and years of labour market experience as crude measures of human capital; for example, these have formed the basis of empirical studies on the effects of investments in human capital on earnings and economic growth. The results of the study by Green and Riddell suggest that educational attainment has a much larger impact on literacy than work experience. Direct and indirect evidence used in the study suggest that general labour market experience has little net effect on literacy.

Age

Other than initial educational attainment, age is generally the best predictor of participation in adult education and training (Bélanger and Valdiviselo, 1997). Since age reflects phases in the life span, it is not surprising that both the participation rate and the duration of training vary by age (Table IV.4).

Table IV.4: Percent of adult population participating in education and training and mean hours of study by age group, study orientation and employer support, 1997

Age	Overall participation		Job-related (%)	Personal interest (%)	Employer-sponsored (%)	Non-employer-sponsored (%)
	Rate (%)	Mean hours				
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

Notes: Mean hours of training refer to average per participant.

Source: Adult Education and Training Survey, 1998.

The data show that the participation rate remains fairly stable from early adulthood to the mid-fifties, but it declines sharply for those 55 years and older; only 5% of those over 64 years of age participated in adult education and training. The percentage of people receiving employer-sponsored education or training was almost identical (about 25%) for all age groups until age 64; but participation in mainly self-sponsored education and training drops off at a considerably earlier age. While it is beneficial for employers to provide support for employees of any age, middle-aged employees appear to have less incentive than younger workers to invest in continuing education of a formal kind.

A more detailed picture emerges from an analysis of the mean hours spent on adult education and training (Table IV.4). As would be expected, the youngest age group (those aged 17-24) spent the average hours (451 hours) on adult education and training. The average for those aged 25-34 is still relatively high, although it is much lower than for the youngest age group. The mean number of hours gradually declines up to age 54, after which it seems to stabilise at about 45 hours per person. This pattern is quite similar for both employer-sponsored and non-employer-sponsored education and training.

The variation in participation and hours spent on training by age is consistent with the view that, even within a framework of lifelong learning, most investments in education and training take place during the early stages of the life cycle. This makes sense from an economics perspective since younger people have a longer time period during which to recoup the costs. However, the relatively low participation and hours spent on training by older Canadians suggest that they may in fact be investing less in education than they need to. Because of obsolescence and the rapid growth in technology, it may be particularly important for older adults to upgrade their skills and to develop new skills; in addition, education and training can play an important role in preparing older adults to fully participate in society. Thus it would have been expected that the decline in participation and hours spent would have been far less dramatic.

Employment status

The data in Table IV.5 show that the participation rate is higher for the employed (36%), than for those who are unemployed or not in the labour force. However, it is worth noting that one in five of the long-term unemployed had taken job-related training in 1997: this may be due in part to the recent shift in federal and provincial support to active labour market policies. The finding begs the question of how to reach the unemployed middle-aged. Only 9% of the unemployed aged 45-54 participated in any kind of job-related activity in 1997 (see Table AIII.3 in Appendix III): this may suggest that only a minority of unemployed middle-aged people expect that further education and training will improve their employment opportunities. The data in Table IV.5 also indicate that, while there are substantial differences in adult education and training taken for job-related reasons, this is not the case for those taken for personal interest.

Table IV.5: Percentage and likelihood of adult population participating in education and training by labour force status and study orientation, 1997

Labour Force Status	Overall Participation			Job-related			Personal Interest		
	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>	<i>Rate (%)</i>	<i>Odds ratio</i>	<i>Adjusted odds ratio</i>
Not in labour force	12.7	1.0	1.0	6.1	1.0	1.0	7.5	1.0	1.0
Employed	36.2	3.9*	1.7*	29.4	6.4*	2.4*	11.3	1.6*	1.0
Unemployed 0-6 months.	23.5	2.1*	1.0	19.2	3.6*	1.5*	5.4	0.7**	0.5*
Unemployed 7-12 months	28.8	2.8*	1.3	22.7	4.5*	1.8*	9.1	1.2	0.8
Unemployed one year or more	28.6	2.7*	1.4*	20.0	3.8*	1.8*	9.8	1.4	1.0

Notes: Variables included in the adjusted odds model are age, gender and educational level. Statistical significance: 1 asterisk indicates a level of 0.01; 2 asterisks indicate a level of 0.05.

Source: Adult Education and Training Survey, 1998.

In summary, the analyses of characteristics of the participants in adult education and training reveal distinct patterns. Women participate slightly more frequently than men, particularly in personal-interest related courses. Participation rates and study duration decrease with increasing age. Finally, there is a strong relationship between level of functional literacy, previous educational attainment and participation.

IV.4 Adult education and training and the world of work

There has been a shift towards job-related and employer-sponsored education and training over the past fifteen years (Belanger and Valdivielso, 1977). As a result, adult education and training has become closely linked with employment; it follows that strategies for lifelong learning need to recognise the importance of the factors associated with work and with the human resources strategies of employers.

Characteristics of firms sponsoring adult education and training

The Workplace Training Survey (WTS) carried out in 1995 and 1996 by EKOS Research Associates and Canadian Policy Research Networks (CPRN) found that 70% of establishments undertook some training over the preceding 12-month period (Betcherman, McMullen, Davidman, 1998). This training was exclusively informal in many firms: slightly more than 40% of firms sponsored some organised training (that is, training with predefined objectives, a structured format, and a defined curriculum). An attempt was made in the survey to collect evidence from participating firms on the relative frequency of formal versus informal activities in their overall training effort. The results suggest that almost three-quarters of the overall training effort in a typical Canadian establishment take the form of informal-training; informal training was also the dominant form of training in companies that undertook formal training. However, the authors argue that formal training is particularly important since, as their research suggests, formal training tends to have a higher return than informal training (especially for the employee). Furthermore, employees who received most of the formal training also received the most training overall.

Five findings stand out in the comparisons of formal training by the characteristics of establishments:

1. The strongest determinant of training is firm size: 86% of establishments with 100 or more employees, but only 38% of those with less than 20 employees, reported that they provided some type of formal training. The authors estimate that the cost per trainee in small companies could be as much as twice that in large firms. The total training effort (including informal training) was 96% for establishments with 100 or more employees, and 68% for those with less than 20 employees.
2. There are large industry and regional differences in training. The results show that the incidence of training was highest in non-market service industries such as health and education.
3. Training activity was high for companies competing in global markets.
4. Companies undergoing significant technological change and/or changing work practices reported the highest training activity: this suggests that training intensity is strongly associated with innovation.
5. The presence of a union was linked with a more formalised approach to training.

The study, which includes a longitudinal component, presents some tentative evidence suggesting that some polarisation is taking place in Canadian workplace training. Data for 1993 and 1995 suggest that firms with a strong commitment to formal training have deepened this commitment; by contrast, those that had been less inclined to train showed a weakening commitment.

Employee participation in adult education and training and workplace characteristics

Data from the AETS show that workplace characteristics are closely linked with participation in adult education and training. The data in Table IV.6 show that workers in large companies (where training processes are often formalised) may be at an advantage in terms of training. Workers in small firms are at a disadvantage in terms of training: because of the limited internal labour market and a high turnover rate, employers are more reluctant to fund the costs of developing portable skills in their employees. Thus, only 16% of those working in small firms (less than 100 employees), but 34% of those working in large firms (more than 500 employees) received employer-supported education or training. It is interesting to note that proportion was much the same for medium-sized firms (100-500 employees) as for large firms. These results thus provide confirmation of the findings in the Workplace Training Survey discussed above.

AETS data also show that the self-employed (a group that has increased during the 1990s) are under-represented in adult education and training. Because the self-employed mostly work in small-scale operations, they may be faced with poor 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 (see Table AIII.4 Appendix III).

Employees in the public sector are more likely than those in the private sector to have their education supported by employers (35% compared with 20%). Part-time workers generally have fewer benefits than full-time workers, and education and training are not an exception in this respect: the participation rate for full-time workers was 27%, and this compares with 20% for part-time employees. As pointed out previously, this is mainly a disadvantage for women, who are more likely to work part-time than men.

The highest participation rates in employer-sponsored education and training occur for utilities (44%), public administration (41%) and finance (38%). Workers in these sectors were between 2.5 and 3.5 times more likely to receive employer-supported education than those in construction. Part of this difference is due to differences in occupational status, firm size and ownership conditions; however, even after controlling for these factors, those employed in the three sectors are still 1.5 to 2 times more likely than those working in construction to receive employer-support. The participation rate in employer-sponsored education and training is relatively low in the other sectors of the economy.

Table IV.6: Percentage and likelihood of the employed adult population participating in employer-sponsored education by workplace characteristics, 1997

	Participation rate (%)	Odds ratio	Adjusted odds ratio
Type of Job			
Part-time	19.9	1.0	1.0
Full-time	26.9	1.5*	1.2*
Occupation			
Blue collar	15.7	1.0	1.0
Professional, managerial	35.1	2.9*	2.6*
Clerical, sales, service	19.4	1.3*	1.3*
Job status			
Employee without supervisory roles	21.1	1.0	1.0
Employee with supervisory roles	37.9	2.2*	1.9*
Self-employed without employees	11.3	0.5*	0.6
Self-employed with employees	18.2	0.9	1.2
Firm Size			
Less than 20	16.4	1.0	1.0
20 – 99	21.2	1.4*	1.2*
100 – 500	33.6	2.6*	2.1*
Over 500	33.9	2.6*	2.0*
Ownership			
Private sector	20.0	1.0	1.00
Public sector	35.2	1.9*	1.30
Industry			
Construction	13.7	1.0	1.0
Agriculture	10.1	0.5**	0.5**
Other primary	24.2	2.2*	1.5
Manufacturing	19.4	1.1	0.8**
Utilities	44.1	3.4*	2.0*
Transportation	29.1	1.8*	1.3
Trade	20.0	1.1	0.8
Finance, insurance & real estate	37.7	2.7*	1.6*
Education, health & welfare	33.9	2.3*	1.1
Business, personal & misc. services	18.5	1.1	0.7 **
Public Administration	41.0	3.3*	1.7*

Notes: 1. Variables included in each of the adjusted model are main occupation, firm size, type of job, age and gender in addition to the variables presented in the table. 2. Statistical Significance: one asterisk indicates a level of 0.01; two asterisks indicate a level of 0.05.

Source: Adult Education and Training Survey, 1998.

Not surprisingly, workers in professional and managerial positions are about two and one-half times as likely as blue-collar workers, to benefit from employer support. Clerical employees received support slightly more often than blue-collar workers.

Factors like firm size, industry sector and occupational status provide a proxy for work situations that influence training decisions; but they do not say much about the nature of jobs and the training needs associated with them. Thus, the estimated adjusted odds ratios suggest that workers with a supervisory role were twice as likely as non-supervisors to participate in employer-supported education and training. In this context, it is worth noting that in IALS there was a direct relationship between the 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).

Nature of employer support for adult education and training

The AETS contained a special section on the nature of employer support: some of these data are shown in Table IV.7.

Table IV.7: Percent of workers receiving various types of employer-supported education and training, by type of program and course orientation, 1997

	Paying for fees & tuition	Paying for materials	Paid time-off leave	Unpaid time-off leave	Providing premises	Providing accommodation	Organizing the training	Other
Program								
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
Course								
Job-related	86.3	80.6	75.7	14.9	67.4	34.5	64.8	14.9
Personal-interest related	79.7	61.3	50.1	24.1	45.6	25.5	41.1	13.3
Total	84.9	77.9	72.4	15.8	64.6	33.3	61.8	14.6

Source: Adult Education and Training Survey, 1998.

The data suggest that it is common practice for employers to provide more than one type of support. Employers paid or subsidised tuition fees for 85% of those who received employer support to attend a course, and for 55% of those who received employer support to take a program. Employers also often provided learning materials, premises and logistical and administrative support in organising the training. It was less common for workers to receive support in the form of unpaid time off.

There are significant differences (see Table III.5 in Appendix III) in the level of employer support full-time and part-time employees. Full-time workers enrolled in an educational program were more likely than part-time workers to have their fees paid (73% versus 20%), and to receive time off (44% versus 18%). Part-time workers were more likely than full-time workers (62% compared with 24%) to receive support in the form of the less attractive option of unpaid time off.

IV.5 Influence on decision to participate in adult education and training

Respondents to the AETS were asked if their decision to participate was made on their own, or at the suggestion of someone else. Some of the data are shown in Table IV.8.

Table IV.8: Percent of respondents by origin of suggestion for training decision, program, course orientation and employer support, 1997

		Origin of suggestion for training decision (% of respondents)							
		<i>Self</i>	<i>Friends or family</i>	<i>Employer</i>	<i>Other employee</i>	<i>Collective agreement</i>	<i>Union</i>	<i>Professional requirement</i>	<i>Other</i>
All programs	Employer-supported	61.6	6.7	29.2	2.0	0.3	0.4	4.0	4.3
	Non-employer-supported	72.9	20.5	0.5	0.1	0.0	0.3	0.2	14.0
	Total	72.3	10.3	13.3	1.1	0.2	0.3	2.4	6.4
Course									
Job-related purpose	Employer-supported	29.7	1.3	59.0	13.3	0.7	1.6	5.2	3.4
	Non-employer-supported	61.8	11.8	9.5	2.0	0.0	1.0	5.7	13.6
	Subtotal	34.4	2.8	51.7	11.6	0.6	1.5	5.3	4.9
Personal-interest purpose	Employer-supported	37.1	4.2	46.2	7.7	0.4	2.0	6.4	6.0
	Non-employer-supported	74.6	19.1	0.3	0.2	0.0	0.6	1.4	11.0
	Subtotal	63.0	14.5	14.5	2.5	0.1	1.0	2.9	9.4
All courses	Employer-supported	30.2	1.5	58.0	12.8	0.7	1.6	5.3	3.6
	Non-employer-supported	68.5	15.6	4.7	1.1	0.0	0.8	3.5	12.2
	Total	39.8	5.0	44.6	9.9	0.5	1.4	4.8	5.8

Source: Adult Education and Training Survey, 1998.

The data show that employers played an important part in such decisions: 45% of all courses reported during 1997 were taken on the initiative of the employer, and 40% were taken on their own initiative. Employers also played an important part in decisions on apprenticeship and trade/vocational programs as do friends/family in elementary/high school programs. But in general, the decision to take longer studies is based mainly on personal initiative (see Table III.6 in Appendix III). Thus the decision to take a program (which involves study over a longer period and higher investment) was based almost exclusively on personal initiative. The data in Table IV.8 also suggest that unions and collective agreements play a very minor role in the decision to participate in adult education and training.

IV.6 Financial support

Respondents to the AETS were asked questions regarding various sources of financial support for adult education and training. However, the survey did not address the considerable public financial resources devoted to the support of educational institutions. In 1995, Canada spent 7% of GDP on education: this is one of the highest rates of expenditure among OECD countries (OECD, 1998). Public expenditures on education occur two main forms: direct expenditures for education services, and public subsidies to individuals in the form of government scholarships, bursaries, loan subsidies and forgiveness. In Canada, most public expenditure is direct (11.9%), and only 1.7% takes the form of public subsidies (Statistics Canada and Council of Ministers of Education, 1999).

Table IV.9: Percent of respondents by source of financial support for education and training, by gender, 1997

		Source of financial support						
		Employer	<i>(Employer only)</i>	Self/family	Government	Union or professional association	Other	No fees
All programs	Male	27.9	13.5	55.5	20.2	1.3	2.6	4.1
	Female	16.9	7.6	68.6	15.8	0.8	2.3	4.7
	Total	22.1	10.4	62.3	14.1	1.1	2.5	4.3
Course								
Job-related	Male	75.9	58.1	17.4	6.0	4.1	4.1	9.7
	Female	70.8	52.9	23.5	6.9	2.3	3.6	10.5
	Subtotal	73.1	55.5	20.5	6.4	3.2	3.8	10.2
Personal-interest related	Male	23.1	15.4	64.9	10.0	1.2	5.3	4.3
	Female	11.7	7.0	79.4	2.7	1.3	2.9	7.0
	Subtotal	15.7	9.9	74.4	5.2	1.3	3.7	6.0
All courses	Male	61.8	46.7	29.5	7.0	3.4	4.4	8.3
	Female	45.5	34.1	45.6	5.1	1.9	3.2	9.0
	Total	53.2	39.8	38.4	6.0	2.5	3.7	8.7

Source: Adult Education and Training Survey, 1998.

The data in Table IV.9 indicate that employers and self-financing are the two main sources of financial support for adult education. Participants received financial support from the employer for slightly more than half of all courses; 38% used self-financing or family contributions. Self-financing was the most common source for programs.

Only 7% of participants in courses received direct financial aid from government. However, the figures vary considerably for different types of participants: 24% of the unemployed, 17% of those not in the labour force, and only 5% of the employed received direct financial assistance from government (see Table AIII.7 in Appendix III). These figures reflect the role of adult education and training as an instrument in the active labour market policies of governments.

It is also worth noting that employers seldom provide financial assistance for basic programs, such as elementary or high school programs. Only 6% of participants received such assistance from

employers; but 36% received such assistance from government (see Table AIII.8 in Appendix III). Moreover, 21% of participants in university programs received direct financial support from employers; but only 14% received financial support from government.

IV.7 Providers

Data on the providers of adult education and training are shown in Table IV.10.

Level of program	Providers of adult education and training						
	<i>Educational institution</i>	<i>Commercial school/private training provider</i>	<i>Employer</i>	<i>Non-profit organization</i>	<i>Supplier of equipment</i>	<i>Someone else</i>	<i>No Instructor</i>
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	1.5	1.2
Total	75.3	9.7	4.7	1.9	1.5	2.8	1.4
Course orientation							
Job-related	25.3	20.4	31.6	6.2	10.7	12.3	1.5
Personal interest & other	28.3	19.7	4.5	15.5	5.5	27.5	1.6
Not stated	2.1	0	0.2	0.7	0	0	0
Total	26.1	20.0	22.3	9.2	8.9	17.3	1.5

Table IV.10: Percentage of respondents taking adult education and training by different providers, by program level and course orientation, 1997

Source: Adult Education and Training Survey, 1998.

The data indicate that educational institutions play a crucial role in human resources development. Three-quarters of all programs and one-quarter of all courses were provided by an educational institution in 1997; even more remarkably, educational institutions provided one in four job-related courses. Employers also play an important role as provider of job-related courses (providing one in three courses), and are involved in apprenticeship programs. Commercial schools and private training providers play a significant role; they provided one in five courses. It is interesting to note that commercial schools and private training providers provided about the same share of personal interest-related courses as for job-related courses. Non-profit organisations were major providers of personal interest-related courses (they provided 16% of these courses). Producers and suppliers of equipment also provide a significant amount of job-related courses (10%).

IV.8 Medium of instruction

The data in Table IV.11 show that the traditional medium of classroom instruction still plays a dominant part in adult education and training in Canada. Even when an employer provided a course, 88% of the events retained an element of classroom instruction. Reading materials are still important and are

used frequently (regardless of the course provider). Somewhat surprisingly, only 34% of courses directly provided by employers contained an element of on-the-job training. And recent developments in instructional technology, such as educational software and particularly the Internet, are still used sparsely.

Table IV.11: Percent of respondents who took courses, by medium of instruction and by provider, 1997

Course provider	Total in course		Medium of instruction								
	N (000)	%	Classroom instruction	Educational software	Radio or TV	AV media	Reading materials	On-the-job training	Correspondence	Internet	Other
Educational institution	1702.7	26.1	94.2	13.8	1.0	10.8	30.9	10.4	5.0	0.4	5.6
Commercial school	1301.5	20.0	87.9	13.5	2.9	23.9	43.4	18.7	4.2	0.3	9.9
Employer	1451.2	22.3	87.9	14.8	1.3	23.6	37.8	34.0	2.6	0.4	3.5
Non-profit organization	600.8	9.2	90.4	4.5	2.0	19.7	36.8	12.4	2.3	0.1	10.6
Supplier of equipment	577.9	8.9	98.5	14.8	1.1	18.0	33.0	21.4	3.2	0.9	5.9
Someone else	1125.8	17.3	80.8	4.9	0.8	14.0	25.4	11.6	3.3	0.1	19.5
No instructor	98.2	1.5	9.5	14.5	0.0	18.5	56.8	6.3	50.8	2.1	19.8
All providers	6517.5	100.0	86.3	10.6	1.3	16.8	32.7	16.6	4.2	0.3	8.8

Source: Adult Education and Training Survey, 1998.

IV.9 Perceived usefulness of adult education and training

The perceived usefulness of adult education and training was measured in the AETS by responses to two questions:

1. To what extent are you using the skills or knowledge acquired in this training or education at work?
2. To what extent are you using the skills or knowledge acquired in this training or education in your personal life?

Respondents could choose between four response categories: (a) to a great extent; (b) somewhat; (c) very little; or (d) not at all. The distribution of responses is shown in Table IV.12, for programs and courses.

Table IV.12: Distribution (%) of responses on use of skills and knowledge acquired through education and training, for programs and courses 1997

	Skills or knowledge used at work				
	<i>To a great extent</i>	<i>Somewhat</i>	<i>Very little</i>	<i>Not at all</i>	<i>Total</i>
Programs					
Job-related purpose	45.5	28.5	10.0	15.8	100.0
Personal-interest-related purposes	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-related purposes	22.4	28.9	15.4	33.4	100.0
	Skills or knowledge used in personal life				
	<i>To a great extent</i>	<i>Somewhat</i>	<i>Very little</i>	<i>Not at all</i>	<i>Total</i>
Programs					
Job-related purpose	23.5	38.4	18.9	19.3	100.0
Personal-interest-related purposes	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-related purposes	33.8	38.7	15.6	12.0	100.0

Source: Adult Education and Training Survey, 1998.

Participants generally perceived that their studies were useful. However, a few patterns are evident from the data. As would be expected, respondents who participated for job-related reasons used the acquired skills or knowledge to a greater extent than those who participated for personal interest; the reverse is the case for the use of skills or knowledge in personal life. It is also interesting that the skills or knowledge learned in one context are often used in another context; for example, for half of the courses taken for personal reasons, the acquired skills or knowledge were reported as being greatly or somewhat useful at work. A similar finding, albeit to a lesser extent, applies for courses taken for job-related reasons: participants used them in their personal life. In addition, the general usefulness of education and training is higher for programs than for individual courses; this is reasonable considering the difference in study duration and given that many programs taken for job-related purposes are of a general nature.

There are no major differences in the reported usefulness of education and training by different providers (see Table AIII.9, Table AIII.10 and Table AIII.11 in Appendix III). Those who participated for job-related reasons and received their education from an employer, a producer or a supplier, used their knowledge or skills at work to a higher degree than those who received their education either from an institution or from a non-profit organisation. But the opposite is partly true when it comes to using the acquired skills or knowledge in personal life: participants in non-profit organisations reported the greatest practical application. It should also be noted that there are no meaningful differences amongst providers in terms of the extent to which the expectations of the participants have been met.

IV.10 Barriers to Participation

Survey research tends to show that situational factors (e.g. lack of time because of work or family responsibility) and institutional factors (e.g. fees, lack of evening courses, entrance requirements or limited course offerings) are the main barriers to participation in adult education and training (Rubenson and Xu, 1997). However, these results are due in part to the design of the questionnaire. Most questionnaires only obtain information on barriers to participation from those who had planned to take education and training (but did not); but no information is obtained from those who did not plan to participate. As a result, other barriers, such as psychological barriers, are not directly addressed in surveys: this was the case in the AETS.

Data on barriers obtained in the AETS are shown in Table IV.13: the data indicate that respondents identified institutional barriers slightly more often than situational barriers (71% *versus* 64%).

Looking at the situational barriers, lack of time due to responsibilities in daily life is a major barrier in taking education and training. Being too busy at work was the main reason for not taking some adult education and training (59%); but only a small group (8%) indicated that lack of employer support was a barrier. Family responsibility (not including a lack of childcare) was mentioned by about one in five as the reason they did not participate. There is a clear gender difference here: 26% of women, but only 15% of men, identified family responsibilities as a barrier. Gender differences are also evident in terms of childcare, which was identified as a barrier by 17% of women but only 4% of men.

In terms of institutional barriers, an inconvenient time or location for the program was identified as a barrier by a large proportion of respondents (41%) who wanted to participate but did not. It is likely that this response refers to the time and responsibility pressures of their daily situation rather than to a lack of availability of programs and courses in the evenings or on weekends. In Canada, where part-time students constitute approximately 45% of overall student enrolment, inconvenient scheduling is rarely a hindrance to participation in education. Too expensive/lack of money was reported as a major barrier by 40% of respondents who wanted to participate but did not. This may be part of the explanation for the low enrolment in personal interest-related adult education and training. Women mentioned money slightly more often than men (43% compared with 37%).

Table IV.13: Percentage of respondents identifying barriers that prevented from them from taking some adult education or training, 1997

Barriers	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

Source: Adult Education and Training Survey, 1998.

Cost may only reflect one aspect of financial barriers: qualifications for financial assistance and financial mechanisms in support of learning opportunities may also be barriers for lifelong learners. In general, financial mechanisms are specific to the sector, program or institution in which a student is enrolled. For educational institutions, this means that revenues depend on factors such as full-time or part-time study, and on whether or not a student belongs to a specific group targeted for support. For the lifelong learner, the fragmentation of educational finance means that 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 may be determined in many cases by the availability of financial support. This is especially so when students forgo income from work in order to undertake organised education or training.

Other institutional barriers were seldom identified in the AETS. Neither language nor health seems to be a significant barrier, except for the elderly.

Although the AETS does not directly address barriers of a psychological nature, it is possible to get a sense of the important role they play the Canadian 'learning society'. Data from the AETS show that 63% of respondents neither took, nor even contemplated taking, organised education or training during 1997. This suggests that a large group of the population does not relate structured learning activities to their everyday lives as citizens, workers, or family members. Those who do not see participation in adult education as a means of satisfying their needs and/or who do not believe that they would be capable of completing their studies, rarely participate in adult education and training unless forced to do so. This is partly confirmed in a study based on the *New Approaches to Lifelong Learning Survey* (NALL).

In NALL, (unlike other surveys), the questions on barriers were also addressed to those who did not plan to take any courses in the foreseeable future (see Livingstone, et.al., 2002). The results show that nearly half of those who did not plan to enrol in any form of education or training indicated that lack of

time was the main reason they did not plan to enrol; and one in three stated that the main reason was lack of money. However, the study also reveals that psychological factors play a major part in plans to enrol in organised learning activities: 35% indicated that they did not need more education, and 20% mentioned that studying is boring.

IV.11 Informal learning

Building on a rich Canadian research tradition in estimating the extent and distribution of self-directed learning projects (see Tough 1971, 1978), the research network for New Approaches to Lifelong Learning (NALL) has conducted a national survey on the participation of Canadians in informal learning in 1998.

In a representative telephone survey of 1562 adults aged 18 and over, who speak English or French, reside in a private home (not in an old age home, a group home, or in a penal or educational institution), and with a telephone, were asked to talk about informal learning *from their own standpoint*. The survey reported participation in four types of informal learning: employment-related, community volunteer work-related, household work-related and other general interest-related. Respondents were asked about informal learning activities on several specific themes.

The interview started with the following information and question:

Everybody does some informal learning outside of formal classes or organized programs. You may spend a little time or a lot of time at it. It includes anything you do to gain knowledge, skill or understanding from learning about your health or hobbies, household tasks or paid work, or anything else that interests you. Please begin to think about any informal learning you have done during the last year outside of formal or organized courses.

First, let's talk about any informal learning activities outside of courses that have some connection with your current or possible future paid employment. This could be any learning you did on your own or in groups with co-workers, that is, any informal learning you consider to be related to your employment.

In subsequent sections of the interview schedule, respondents were asked about informal learning related to community work, to household work and to general interests. The main findings of the survey are show in Table IV.14. These data are interesting, but they must be interpreted with care. It is clearly difficult to define and measure informal learning. Some informal learning is conscious in nature and has clearly defined goals; but some informal learning is entirely incidental to ongoing activities in the workplace and elsewhere. Survey respondents may overestimate their involvement in informal learning by assuming that *all* activities include some informal learning. As a key to the labour market, there is clearly a difference between the learning gained through watching television and reading the newspaper, and that gained through focused and intentional instruction from a colleague. Both types of learning are included in the NALL estimate.

Table IV.14: Rates and distribution of average hours per week of Canadian adults participating in informal learning by age and educational attainment, 1998

	Type of informal learning								Overall participation	
	<i>Employment-related</i>		<i>Community activity</i>		<i>Home-related</i>		<i>Other</i>			
	Rate (%)	Hours per week	Rate (%)	Hours per week	Rate (%)	Hours per week	Rate (%)	Hours per week	Rate (%)	Hours per week
Age										
18-24	87.8	8.6	53.0	3.0	88.9	5.7	97.8	8.1	100.0	24.9
25-34	79.6	6.2	54.5	1.8	85.1	5.0	95.0	4.9	99.1	16.7
35-44	85.4	5.9	53.4	1.8	86.3	4.6	92.3	5.1	98.0	16.6
45-64	62.4	3.1	39.0	1.4	75.5	4.3	87.8	4.8	95.3	12.7
65+	5.4	0.2	29.9	1.6	65.1	3.6	87.1	6.2	91.3	9.9
Educational level										
No diploma	41.8	4.1	28.1	1.5	68.0	5.4	83.7	6.1	92.6	15.2
High school diploma	77.2	5.2	50.5	1.9	86.4	4.4	95.6	5.1	98.8	15.8
Community college	77.1	3.7	51.0	1.8	86.8	4.8	94.1	5.0	97.9	14.6
University degree	81.8	5.1	58.4	2.2	86.4	2.7	97.7	5.5	100.0	14.9
Total	65.3	4.5	43.9	1.8	79.9	4.6	91.4	5.5	96.6	15.4

Source: New Approaches to Lifelong Learning Survey (NALL), 1998.

Recognizing this qualification on the data, four findings stand out in Table IV.14. First, the data on informal learning provide a very different picture (from the AETS) on how far Canada has come towards being an inclusive learning society: it would seem that almost all adults (over 96%) were involved in some form of explicit informal learning activities.

Second, the duration of informal learning activities far surpasses the time spent in organised learning activities. The mean hours per adult spent in organised forms of adult education and training is, according to the AETS, just over 1 hour per week; this compares with 15 hours per week for informal learning activities (based on NALL).

Third, while every study conducted on participation in organised forms of adult education and training have found that social background and age strongly affect readiness to participate in adult education and training, the NALL survey provides a very different picture. According to NALL, those without a diploma or with a high school diploma spent as much time in learning activities as those with a university degree.

Fourth, participation in informal learning does not show the same sharp decline with age as participation in organised forms of learning.

IV.12 Concluding comments

Two very different portraits of the Canadian Learning Society appear from the data. As noted above, the overall participation rate of 27.7% in organised forms of learning (based on the AETS) suggests that Canada still has some way to go before it becomes an inclusive 'learning society'. However, the information on informal learning paints a very different picture: the results from NALL seem to indicate that more or less every Canadian is involved in some form of learning.

If informal learning were a universal activity, we would be back to the observation made by Betcherman, McMullen and Davidman (1998) about workplace training. The authors suggest that the distribution of organized training varies, but that informal training is more or less even across firms. However, more detailed information would be needed on the competencies gained from informal learning activities if policy conclusions were to be drawn from the results.

The analyses of organised learning activities contain some clear messages about the readiness and opportunities adults in Canada to participate in structured learning activities:

- Cultural traditions in the family during childhood, in combination with early schooling, strongly govern later readiness to engage in lifelong learning.
- Employers play a central role in the education and training of adults.
- The workplace and the demands it makes on the use of skills and knowledge are crucial in determining the readiness of adults to actively engage in adult education and training.
- The perception that further learning is of little or no practical use may be the most important barrier for a large segment of the population.

These data reveal that governments face major challenges in extending lifelong learning to the least qualified. With skills and knowledge becoming increasingly important in recruitment and screening practices, adults with low-skill (young as well as old) are at risk of being routinely excluded from the labour market (Holzer, 1996). Disadvantaged groups do not participate in the adult education and training that could improve their situation; they also often find themselves in a situation (at, or outside work) that does not stimulate a readiness to engage in learning.

An important issue with regard to these broad findings is whether or not the same people receive education and training year after year, or if, over a period of time, a majority of the workforce is involved. Evidence from longitudinal research suggests that the inequalities observed in the 1997 AETS data become more pronounced and serious over time (Rubenson, 1996). What happens can best be described as 'second creaming', whereby those who participated before will participate again.

The message that emerges from the portrait in this chapter is that a fruitful strategy for lifelong learning for all is as much an issue of labour market policy as of educational policy. Interplay is a key word here; with the changing nature of work, the long-established division of roles between the public and private sectors has become antiquated. Another distinction that is disappearing is that between adult education for personal development, and for job-related training: one contributes to the other. The findings on the perceived usefulness of participation show a blurring of the boundaries between company/industry-specific training and general education.

Finally, the information on barriers suggests that ultimately the development of lifelong learning for all in Canada will depend on the extent to which the society actively engages and makes demands on

the skills and knowledge of *all* its citizens. Lifelong learning for all is conditional on a working life organised in a way that promotes the use of an individual's competencies, and on a society in which people are encouraged to think, act, and be engaged.

V. ASSESSING THE EFFECTIVENESS OF ADULT TRAINING

V.1 Introduction

Canada has had a long history in assessing and evaluating training programs. In 1977, the federal Treasury Board was given a mandate to evaluate training programs in the federal government, and with the introduction of the Policy and Expenditure Management System in 1980, evaluation became a formal part of the planning process. The role and responsibilities of the Office of the Auditor General were expanded in new legislation. These include value-for-money or performance audits, which focus on how well the policies and programs have been implemented.

Human Resources Development Canada (HRDC) and its forerunner, Employment and Immigration Canada (EIC), have carried out a number of evaluation studies since the institution of the evaluation function in 1977. Initially, the evaluation studies conducted by the department were fairly unsophisticated, but the quality has been greatly improved over time. The OECD has recognized that the department has been a world leader in evaluating active labour market programs, and OECD studies on the effectiveness of active labour market programs have relied heavily on evaluation studies carried out by the department.

The majority of evaluation studies of training programs in Canada have been conducted by EIC and HRDC, and the provincial and territorial governments have had a much shorter history of involvement in this area. As noted in Chapter III, the evaluation process and techniques used by provincial and territorial governments vary considerably by jurisdiction. Many of the evaluation studies conducted by provincial/territorial governments have been relatively unsophisticated; but some jurisdictions are now conducting fairly sophisticated evaluation studies.

This chapter describes the evaluation and assessment of the effectiveness of adult training in Canada. It draws on existing studies and program evaluation studies and covers the following topics:

- The evolution of the evaluation of federal training in Canada;
- Recent evaluation studies of some federal training programs;
- Some examples of the evaluation of provincial training programs;
- Evaluation of training in industry;
- A summary of lessons learned about effective training practices; and
- Other social and economic perspectives.

V.2 The evolution of the evaluation of federal training programs in Canada

Introduction

Evaluation studies carried out by EIC and HRDC have usually been conducted by private consultants in close consultation with the Evaluation Branch in the department. Some studies have been produced in conjunction with provincial governments, particularly since the federal government embarked on a series of labour market development agreements transferring responsibility for the design and evaluation of training programs to the provinces. Unlike evaluation research in the US, the evaluation effort in Canada has largely been an internal government process with limited involvement from the social science community.

Two types of evaluation are conducted by HRDC: process (or formative) evaluations, and summative (or impact, outcome or effectiveness) evaluations. A process evaluation focuses on the extent to which a program reaches its intended clients, and whether or not the delivery of the program is consistent with its design and resources; it also provides information on how well the program is operating and how its operation can be improved. One of the main objectives of a process evaluation is to provide feedback to managers and to assist them in modifying a program to better meet its objectives.

By contrast, a summative evaluation focuses on the overall impact of a program and on how well it meets its objectives. A summative evaluation provides guidance to program managers and policy makers on modifications that would make the program better suited to meet client needs and to improve its cost effectiveness. Most of the evaluation studies carried out by HRDC have, until recently, been summative evaluations using a non-experimental (or quasi-experimental) design: in this approach, the outcomes of participants are compared with a similar group that did not participate (a comparison group) to provide estimates of the impact of the intervention. With the new arrangements with provinces and regional offices for evaluation of programs and services delivered under Employment Insurance (Part 2), HRDC has published a technical guide for evaluators describing the advantages and disadvantages of the quasi-experimental approach (see HRDC, 1998).

It is convenient to categorize the evaluation studies carried out by HRDC/EIC into three separate groups defined by time-period: studies carried out between 1981 and 1985, studies carried out between 1986 and 1994, and studies carried out since 1995.

Studies carried out between 1981 and 1985

EIC responded to the introduction of the Policy and Expenditure Management System in 1980 by carrying out a series of summative evaluations between 1981 and 1985, including evaluations of the Canada Manpower Industrial Training Program (CMITP) and the Critical Trade Skills Training Program (CTST). As might be expected because of the state of evaluation research at that time, there were significant flaws in the design of these early studies. In particular, benefits were measured by simply comparing the pre-program and post-program earnings of training participants; thus there was no comparison group, and no attempt was made to control for factors other than the program that might have affected outcomes. These evaluation studies nevertheless provided a promising beginning in evaluating adult public training programs in Canada.

Studies carried out between 1986 and 1994

Many of the flaws in the early evaluation studies were eliminated in a series of evaluation reports issued between 1985 and 1994. Beginning with the *Project Report of the Evaluation of the National Institutional Training Program (NITP)* in 1985, the outcomes for participants in training programs were compared with those for non-participants in a comparison group: an attempt was made to ensure that participants and non-participants were generally reasonably comparable in terms of other factors likely to affect outcomes. The impact of the program was estimated using a “difference in differences” estimator, which compared the differences between outcomes (such as earnings, or employability defined as the proportion of time spent in employment) for participants and non-participants. A variety of control factors, including factors designed to correct for sample selection bias arising from the non-random selection of the participant and comparison groups, was also usually included to test the sensitivity of the estimates. The estimated benefits in these studies were therefore likely to be more reliable than those in earlier studies.

An important limitation of the studies conducted at that time is that they followed participants and non-participants for a relatively short period of time, never exceeding two years. As a result, little is known about the permanence of the benefits that were estimated. In some cases, the estimated positive benefits of training might have declined over time. In others, the estimated negative or zero benefits of training could have occurred simply because of the relatively short time period between graduation from training and the follow-up survey. It is therefore difficult to know if the estimated effects of the programs were temporary or long-term, or if they could not be identified in the short-term, or both.

Studies carried out since 1995

Several of the evaluation studies conducted since 1995 were process or formative evaluation studies and hence contain no assessment of outcomes. Some summative evaluation studies were planned but have not been completed as yet.

V.3 Recent evaluation studies of some federal training programs

The Canadian Jobs Strategy (CJS)

The Canadian Jobs Strategy (developed by EIC in 1985) was broadly directed at providing assistance for those most in need. It was made up of six programs: Job Development; Job Entry; Skill Shortages; Skill Investment; Community Futures; and Innovations. The various programs were evaluated in the late 1980s or early 1990s.

The evaluation studies of the CJS programs were much better than those of previous programs, since they included the use of comparison groups in an attempt to isolate the effects of the program; statistical techniques were also used to correct for factors such as selection bias.

The evaluation studies of CJS programs suggest that the effectiveness of federal programs has improved significantly over time. In many of the recent programs, the positive impact on clients has outweighed the cost of the programs so that they have been cost-effective. The positive impact includes gains in wages and employability. The increase in wages after the program was usually due to an increase in time employed, rather than to an increase in hourly wages.

CJS Evaluation: the Job Development Program

The Job development Strategy was intended to improve the employability and earnings of the long-term unemployed as well as the employment-disadvantaged. The Program included four options: the General Projects option; the Individually Subsidized Jobs option; the Severely Employment Disadvantaged (SED); and the Direct Purchase Option. The evaluation study (Goss, Gilroy & Associates, 1989) covered the first three options: its primary focus was to assess the impacts (employability, earnings and UI utilization) that could be directly attributed to the Program.

The evaluation included an econometric model used to determine the incremental impact of the Program. The model was designed to correct for the selection bias that occurs when Program participants are not randomly selected. The data included: a survey of program participants; a survey of members of a comparison group of non-participants; a survey of employers/sponsors; and on-site interviews with employers/sponsors of selected projects.

The evaluation study found that the Severely Employment Disadvantaged option had a very positive impact on participants and significant gains in hours worked. Sponsors attributed these improvements largely to a marked increase in self-confidence, self-esteem and motivation. However, there were some negative impacts: participants were often employed in entry-level jobs, and there were no gains in earnings.

The study also concluded that the Individually Subsidized Jobs option had a positive impact on the employment and earnings potential of participants. However, the General Projects option was less successful than the other options and was successful for females but not for males.

CJS Evaluation: the Job Entry Program

The Job Entry Program was targeted at individuals facing difficulties in making the transition from school or home to the labour market. It included five options: Entry; Re-entry; Direct Purchase of

Training; Cooperative Education; and Challenge. An Evaluation Study of the Program by Abt Associates of Canada (1989) covered the first three options.

The evaluation of the impacts of the program was based on a sample of participants in each of the three program options and a statistically matched sample of non-participants. The effects of selection bias were eliminated using a multiple regression equation to standardise for differences between participants and non-participants (in the comparison group). The equation was used to estimate a probability of participation variable that was used in a second stage equation on outcomes to control for selection bias.

The data for the evaluation study were obtained from a variety of sources, including: administrative records; data on unemployment rates for various demographic groups; and telephone interviews of a sample of participants and non-participants.

The main conclusion of the evaluation study was that the Entry and Re-Entry options contributed substantially to the improved employment outcomes of trainees; but this was not the case for the Direct Purchase option. The analysts concluded that the design of the Entry and Re-Entry options explained the difference. In particular, Managing Coordinators in the Entry and Re-Entry options played a central role in screening participants, arranging training, and in monitoring the progress of trainees. In terms of labour market impacts, the gains varied by group and by program. The results suggested that the program helped many of those most in need of assistance (such as those on social assistance).

CJS Evaluation: the Severely Disadvantaged (SED) Option of the Job Entry Program

The Severely Disadvantaged Program option (initially part of the Job Development Program but later transferred to the Job Entry Program) was designed to focus on those facing formidable barriers to employment. Such barriers included: functional illiteracy, histories of incarceration, poor work habits, attitudinal and motivational problems, low education attainment, substance abuse, and inability to communicate in either official language.

The evaluation study (Employment and Immigration Canada 1993) was based on an analysis of labour market data for a participant group and a comparison group. An econometric model, using a regression-based comparison group methodology, was used to control for differences in participation. This provided quantitative estimates of the extent to which changes in employability, earnings and dependence on income support could be attributable to participation in the program. The data included: a survey of participants; a survey of a comparison group of non-participants; and a survey of project managers. The analysis included: case studies of a sample of projects; focus groups of participants; and in-depth interviews with EIC staff.

The evaluation study found that both wage and allowance projects were successful in reaching and improving the employment situation of participants compared with non-participants. The analysts concluded that this was due in large part to the design of the program, which focused on the training and skills development that would meet the labour market demands of the local economy. It was also concluded that employment counselling was an important element in post-program success.

The Employability Improvement Program

The evaluation of the *Employability Improvement Program* (EIP) is among the best evaluations of training programs carried out since 1995. The EIP was a client-centred program offering a choice of training programs and services to improve the prospects of those experiencing difficulties in finding and retaining employment. The three largest components in EIP were: Job Opportunities (which provided wage

reimbursements to employers who gave participants on-the-job training and work experience); Project-based Training (which provided integrated classroom and on-the-job training); and Purchase of Training (which taught participants new skills in a classroom setting).

The follow-up survey for the EIP evaluation was considerably better than that for previous programs, both in coverage and in the length of the follow-up period (on average 66 weeks from the end of the program). A control group was constructed from a random sample of the administrative files of individuals who were potential clients for EIP, based on contact with a Canada Employment Centre or a UI claim during the pre-program period.

In the first year, the estimated change in annual earnings of graduates of the training programs (compared with the control group) was 54% for Job Opportunities, 42% for Project-Based Training, and 39% for Purchase of Training. These estimates are based on regression models which include socio-demographic characteristics, labour force history and contextual variables (involving the timing of programs and data collection), and which tested for selection bias arising from non-random program participation.

There were substantial positive training benefits for participants in all components of the program. There were gains in employment following the program, and these ranged from 10 to 13 more weeks more employment for participants compared with non-participants; there were also gains of between \$3700 to \$5200 in annual earnings, for participants compared with non-participants. Participants in two of the components of the programs became less reliant on EI than non-participants: the gains ranged from 3.4 to 4.6 fewer weeks per year for participants compared with non-participants. In all three components, there was reduced reliance on social assistance (from 1.5 to 2.6 fewer weeks per year) for participants compared with non-participants.

All client groups benefited from the program in terms of their subsequent employability and earnings, relative to similar non-participants. Social assistance recipients gained the most, followed by the disabled and visible minorities. Youth and those with the least formal education fared the worst, although they made gains. Men and women benefited to the same extent except from classroom training, in which women had larger gains than men.

V.4 Some examples of the evaluation of provincial training programs

Evaluation of programs for Social Assistance Recipients in Ontario

A recent study by Porter (1991) has assessed the longer-term effects of three employment programs in Ontario: Employment Support Initiatives (ESI); Youth Employment Preparation Program (YEP); and Social Services Employment Program (SSEP). Two of these (ESI and YEP) included a training element. ESI was a pre-employment program designed to assist sole support parents on social assistance in achieving financial self-sufficiency through employment. Clients were provided with financial assistance to cover the costs of employment, as well as some skills training. YEP provided youth, aged 16-24 and on welfare for three months or more, with job-readiness training, job search and job placement assistance, job-related expenses and referral to other training programs.

The main objective of the two programs was to assist clients find full-time employment and independence from social assistance. Administrative data were used for developing three outcome measures: the number of individuals who left social assistance; the length of time on assistance during the evaluation period; and the rate of recidivism to social assistance if the person had left. Comparison groups were selected so that non-participants were as similar as possible to participants. The analysis compared

the outcome measures for the program and comparison groups: a multivariate discriminant analysis was used to rank the importance of various factors on outcomes.

Several conclusions emerged from the evaluation study of ESI:

- Over the four-year follow-up period, only slightly more ESI clients than those in the comparison group left social assistance.
- More ESI clients than in the comparison group left social assistance by December 1989 (i.e. by the end of the evaluation study). But more also returned to social assistance: 44.9% of those who left social assistance had returned within the follow-up period.
- ESI cases left social assistance for an average of 18.3 months over the period to December 1989; by contrast, non-participants were off social assistance for an average of 16.8 months. In other words, ESI cases were on social assistance an average of 1.5 months less than those in the comparison group.
- ESI seemed to help clients leave social assistance, but the impact of the program was quite small after four years; 57.6% of ESI clients (compared with 54.3% for non-participants) left social assistance by December 1989. Thus the net impact was + 3.3%.
- The most important factors affecting the success of clients in leaving social assistance were: the length of time on assistance prior to ESI, the health of clients, the number of dependants, education, client age, and attendance in the ESI program.

YEP had no effect, over the four-year follow-up period, in reducing the dependence on social assistance of participants compared with non-participants. Of the YEP clients who left assistance, 71.1% returned during the follow-up period. YEP did not help clients leave social assistance in the long-term; in fact, there was evidence that being in the program increased the likelihood of receiving social assistance. For example, over the follow-up period to December 1989, YEP cases were off social assistance an average of 32.6 months; but those in the comparison group were off assistance for an average of 34.2 months. In other words, clients in YEP cases were on social assistance an average of 1.6 months more than non-participants (-13.6% relative to the comparison group). The factors that seemed to affect success in leaving social assistance were: number of dependants, length of time on assistance prior to YEP, client health, and gender.

Three general conclusions emerged from the study: even when the benefits were positive (e.g. in ESI) the effects of the program seem to decline over time; the long-term effects were small and definitely smaller than expected when the programs were started; the programs did not reduce recidivism to social assistance.

The study also concluded that policy experimentation should be considered for social policy issues such as employment and training. It notes that evaluation in areas such as labour supply and income maintenance includes analytical complexities that make it difficult to evaluate them with non-experimental data. This suggests that evaluation may benefit from well-conceived social experimentation. The cost of social experimentation is high, but the costs of repeated non-experimental research, and the ill-advised social policy decisions that follow, may be more expensive.

The effectiveness of employment and training programs for Income Assistance Recipients in British Columbia.

This report (Warburton1992) evaluated the effectiveness of several employment and training programs in British Columbia, designed to enable welfare recipients to improve their employability and return to the workforce:

- The Employment Opportunity Program (which provided half of the wages of welfare recipients hired by private employers for on-the-job training);
- Three public employment job training programs, Community Tourism Employment Training, Environment Youth Corps, Forest Enhancement Program (which funded the employment of welfare recipients by government agencies on public projects);
- A group of educational, vocational and technical classroom training designed to improve skills and employability; and
- A job search program that combined classroom training in job skills with job search.

The report includes an interesting discussion of three approaches for estimating the impact of the programs: random assignment; comparison groups; and cell-matching. In random assignment, individuals are randomly allocated to participant and non-participant groups: thus the only consistent difference between the groups is participation/non-participation in the program. This is the ideal way to test the effectiveness of a program. However, its disadvantages include: cost (because of the need for a special demonstration project); unfairness (since some individuals are excluded); validity (with respect to sub-groups); and corruptibility (because of the difficulty of strict adherence to random assignment).

The use of comparison groups is based on the division of participants and non-participants after the completion of a program. This approach is cheaper than random assignment since it uses data from the actual program rather than from a demonstration project. The major disadvantage is that participants and non-participants may differ because of selection bias (that is, bias introduced because of unknown differences between participants and non-participants). Regression analysis can be used to reduce the effects of selection bias. However, regression analysis is highly sensitive to the judgement of the analyst (in the selection of variables and structure of the equation); and because of the technical complexity of regression analysis, the results are not always easy to interpret.

In cell-matching, the population of welfare recipients less the program participants, is divided into a large number of cells based on the characteristics that are likely to affect outcomes (e.g. age, sex, marital status, employment, and welfare experience). Participants are matched in these cells, and average dependence is calculated for each cell for participants and non-participants. The averages are weighted by cell size to provide overall estimates for participants and non-participants. Cell-matching has the advantage that it is relatively easy to understand, and unlike regression analysis, assumptions about the mathematical relationships in the model are not necessary. Although some regression analysis was used in the report, most of the analysis was based on cell-matching.

The report draws several conclusions about the Employment Opportunity Program:

- Participants moved off Income Assistance more quickly than non-participants.
- The program resulted in increased dependence on Unemployment Insurance.

- Survey results showed that the program: helped participants find employment; did not raise wages on average; and helped those with longer welfare histories more than those with shorter welfare histories. In addition, most employers benefited from the program.
- The author argues that even if each subsidized program employee were to displace an unsubsidized worker, the overall level of employment would have been higher since the displaced employees would have found jobs more easily than the subsidized employees who replaced them.
- The unemployment rate had no clear effect on the impact of the program.
- Government expenditures on the program were lower than the savings that resulted from the reduction in Income Assistance payments.

The conclusions about Public Employment Job Training Projects were:

- The programs helped reduce welfare dependence while they were underway, and during the following 12 months during which participants were eligible for Unemployment Insurance. But they had little or no positive effect after that.
- The programs enabled participants to rely on Unemployment Insurance to a much greater extent than non-participants.
- There was no clear survey evidence that the programs helped participants find employment when the programs were completed.
- The wages paid did not differ significantly between participants and non-participants.

With respect to Classroom Training Programs:

- They had had a modest positive impact on welfare assistance.
- Analysis of data for Camosun College in Victoria indicated that Career Technical and Vocational training courses had the most impact. Academic training courses had a modest positive impact. And Adult Basic Education training had the least positive impact: and some had no positive impact.

V.5 Evaluation of training in industry

The importance of on-the-job-training

According to Davies (1986), informal or on-the-job training in the US is as important in dollar terms as formal schooling. The same may be the case in Canada: since firms need workers with skills, they must invest in training their own workforce. But there is an element of risk in the prospective returns to training, and firms may choose to avoid such investment if they believe that the returns would be too low or could not be captured by them.

While firms often put greater emphasis on investment in physical capital or R&D, rather than on investment in human capital, the latter is equally important for growth and productivity. Moreover, it is difficult to separate the effects of physical and human investment since they are usually complements in the production process. On the basis of a number of case studies in Canadian industry, Betcherman et al. conclude that:

‘... the processes of technological and organizational innovation and human-resource development constitute a complex and continuing challenge. Change is uneven, disruptive, costly, but nonetheless, unceasing. People and organizations, no less than machinery and equipment, need constant care and upgrading...It is regrettable, therefore, that in too many enterprises there is still relatively greater emphasis on the husbanding of financial and physical – as opposed to human and institutional – capital’, (Betcherman et al 1990, p. 5).

Since employees may leave a firm at any time, why should individuals not pay for their own training? If payment for training were the only issue, it could be addressed in a number of ways, such as: lower wages during the training period, making employees pay for their own training, or requiring workers to undertake the necessary training at schools or training institutes before applying for jobs. But the issue may be more complex. The implicit assumption underlying the human capital model is that workers who acquire skills for their own benefit (i.e. to improve employment and earnings) can bid for jobs from employers who require these skills and who offer competitive market wages. Thus the emphasis in the human capital model is on the supply of skills that workers have to offer.

An alternative model emphasizes the demand side of the market for training. Thurow suggests that workers do not bring fully developed job skills into the labour market; instead, job skills are acquired after a worker finds an entry job and the associated promotion ladder (Thurow 1975). Citing U.S. surveys, Thurow reports that 60% of workers indicate that all of their job skills were acquired through informal on-the-job training. This supports the view that training and production are complementary activities so that most job skills can probably best be taught on-the-job; in fact, on-the-job training from a co-worker may be the cheapest method of training. In short, ‘... the labor market is not a market where fully developed skills bid for jobs. Rather, it is primarily a market where supplies of trainable labor are matched with training opportunities that are in turn directly associated with the number of job openings that exist’, (*ibid*, p. 79).

This does not imply that formal training is unimportant; but it simply indicates that general education may be no guarantee for job-preparedness and hence for employability. Employers hire workers based on their perception of the costs of training recruits. And educational preparation (i.e. success in completing previous training) is simply one of the many background characteristics (such as age, gender and experience) that employers use to select trainees. In short, employers allocate training opportunities-cum-jobs to those with the desired characteristics and educational credentials. In other words, the labour

market may reflect not competition among employers to hire skilled workers through wage offers, but instead competition among job-seekers to obtain training opportunities.

The upshot of Thurow's argument is that education is a defensive necessity rather than a guarantee of employability. Formal education merely secures a place in the queue of workers demanding a training opportunity; it does not, by itself, represent skills that can be translated into economic productivity or competitive advantages. It follows that employment-relevant training may be particularly important for a nation's economic prosperity. In a sense, the requirement to provide training is identical to the need to create jobs, and government policy to expand employment is necessarily linked to the need to assist private sector employers to deliver training. This perspective emphasizes the demand on the part of firms for those willing to train, rather than the supply of skills that workers have to offer. Job creation and growth are an indispensable prelude to delivering adult training: this would seem to put the onus on training agents rather than on the workers themselves.

Thurow's argument raises additional questions, but the answers require detailed empirical analysis, which is not available. Why do firms not offer the right amount and the right type of training to their workforce and new recruits? What government policies can be used to stimulate firms to offer more training? What is the role of private training institutions not aligned with firms? Is on-the-job training equivalent to training acquired outside the firm? What opportunities exist for outsiders who are unemployed, functionally limited, lacking in basic literacy and numeracy skills, absent from the workforce for an extended period, recent immigrants, and the like?

The profile of firms providing training indicates that they are generally large and mature, particularly those undergoing technological change (Betcherman and McMullen 1986). There is some evidence that training is stimulated by favourable regional labour market conditions (Picot 1986; Simpson 1984), although the pattern of training by firms over the business cycle remains unclear. There is also evidence of a sectoral pattern in training. Firms in industries with an older and less educated workforce, inadequate investment, outdated technology and unstable growth tend to conduct less training. Such firms are likely to be in industrial sectors that are in decline, such as tobacco, leather, furniture and clothing (Hum and Simpson, 1993). This is consistent with the results of more recent studies, including the Ekos Workplace Training Survey (Canadian Policy Research Network, 1997; Statistics Canada, 1998).

The profile of trainees suggests that younger workers, men, full-time workers, and workers with more education and previous training, are more likely to be involved in firm-sponsored training. Workers, especially men and those with post-secondary education, tend to find full-time employment, which offers a succession of training opportunities and advancement within the organization and the profession. As workers age and achieve a certain level of proficiency within the profession, training and advancement level off at a fairly high level of earnings.

Data available for evaluating training in firms

Firms in the private sector make investment decisions on a regular basis and often rely on a formal assessment of the costs and benefits or rate-of-return associated with prospective investment opportunities. This suggests that the information base needed to evaluate investment in workplace training and adult education would be readily available in the private sector. However, this does not seem to be the case in Canada.

Ekos Research Associates has recently conducted a Workplace Training Survey (WTS) of 2,584 Canadian employers that went beyond the simple measurement of training activities: an attempt was made to assess 'the incentives and disincentives facing employers and employees in terms of investing in

training' (Ekos Research Associates, 1996, p.19). The survey focused not simply on describing the characteristics of training, trainees and employers providing training, but instead on the more complex issues associated with the costs and impacts (or benefits) of training in industry. The term 'impact' is often used to emphasize that the benefits of training are only measured in the short term; however, the firm's training profile should ideally track the benefits of training as long as the worker remains with the firm. The results suggest that much needs to be done before a systematic evaluation of training in the private sector can be conducted.

The WTS found that 30% of firms reported no training; and only 28% of those reporting training provided formal training (defined as 'training that has predefined objectives, a structured format, and a defined curriculum' *ibid*, p.52). At the same time, 57% had a system for tracking training expenditures and 78% of those with at least 100 employees kept track of training costs. The report indicates that only about one in eight firms in the survey reported a high commitment to training; but it concludes that data on training costs are likely to be unreliable, even for firms with a high commitment to formal training. The latter are 'in a better position to document the obstacles involved in estimating valid training expenditures than to make . . . estimates with any confidence' (*ibid*, p.73).

The WTS included 18 case studies covering 412 employees, which were used to assess the impact of training in the private sector. The results of a model, which controls for sex, age, education, training with the previous employer, current job tenure, and establishment characteristics, indicate that employee wage growth was 15% greater for those receiving skill training from their employer. However, the specific effects of employee training on revenue and productivity in the firm were not assessed: note that the links between firm performance and training activity were analyzed (based on self-assessment of firm performance rather than on actual financial and productivity data), but such analysis provides no reliable evidence of the benefits of particular training activities. Moreover, the '...case studies revealed that most [firms] do no systematic training evaluation, relying instead on very subjective perceptions. Very few used evaluation methods that could be considered formal or rigorous in any sense' (*ibid*, p.136). The report argues that linked employer-employee data are essential in future research to provide a better understanding of training decisions.

The research available in Canada includes no direct estimates of the benefits and costs of training in the workplace that can be used to estimate the rate-of-return of investment in skill development in industry. Such estimates could be developed if company records showing training costs and worker performance before and after training were accessible. Bartel (1995) used the personnel records of a large manufacturing firm in the US to study the cost of on-the-job training and its effect on wages and job performance. The records provided both direct training costs (salaries of trainers, the cost of materials and tuition and accommodation costs), and indirect training costs (salaries of trainees). Bartel estimated that between 1986 and 1990, direct and indirect training costs were \$1,440 on average per employee per day. But the salary gains on a day of training all exceeded 2%, and they were highly statistically significant. If company productivity gains were at least as large as wage gains (although evidence suggests that they may be larger), and skills were to depreciate at 20% per year, these salary gains would imply rates of return on company-sponsored training of 26%. Bartel's results are consistent with other estimates of the returns to workplace training in the US, based on longitudinal household survey data (Mincer, 1991).

Rates of this magnitude are attractive compared with the international benchmark rate-of-return of 10% for post-secondary education suggested by Psacharopoulos (1981), with the estimated rates of between 7% and 14% for university education in Canada (Vaillancourt and Henriques, 1986), and with estimates of social rates-of-return of between 12% and 14% for higher education in the US (Paulsen, 1998; see Stager, 1989, for a discussion of the variation in Canada). On the basis of these benchmarks, the rates estimated by Bartel suggest an under-investment in workplace training.

Is it reasonable to use the rate-of-return estimated by Bartel as an indicator of the rate in industry in Canada? Can it provide a good indicator of the rate for all firms (large and small), over the long run, and irrespective of the training culture? Or is it only applicable to the particular firms and programs analyzed? There are also interesting policy questions involving the nature and distribution of the returns to training, which cannot conveniently be summarized in a single rate-of-return. This suggests that research to verify and extend the US results to Canada should be encouraged: such research could be improved if accounting systems to track training expenditures were in place (Canadian Labour Market and Productivity Centre, 1993).

Estimates of the benefits and costs of training in the workplace can also be obtained from surveys of employers. Promising research in the US has used employer surveys to establish that there is a strong relationship between training, wage growth, and productivity growth within firms. Barron et al. (1989), for example, found that a 10% increase in training expenditures increases the value of trainees' output by 3% per year, divided roughly evenly between the worker (about a 1.5% wage increase) and the firm. Survey research is clearly needed to develop estimates for Canada.

Partners in training

Workplace training primarily involves a partnership between business and labour. There seems to be scope for cooperation between management and organized labour to devise effective and profitable training programs, introduce new technology and upgrade skills. But there is also a danger that excessive regulation and wage compression will tend to discourage training, the introduction of new technology and organizational change. The available evidence suggests that the role of labour organizations in the training process is unclear. Ekos Research Associates report only moderate involvement by unions in training, even in firms strongly committed to training (1996, p. 117). Even when other factors are taken into account, union membership seems to have no significant effect on the incidence of training (Simpson, 1984; Hum and Simpson, 1993).

Although workplace training is provided by businesses, the federal government has provided some funding, either through educational and vocational institutions, or through incentives to industry. General support of workplace training by the federal government is less than a decade old, and although it remains quite modest in financial terms, it has increasingly become a major objective of the government. Federal involvement in training started with the Canada Manpower Training Program (CMTP), which provided training to adults no longer in formal schooling. This was followed by the National Training Program (NTP), which shifted emphasis from low-level to high-level skills. In the 1980s, there was a gradual shift towards on-the-job training with a view to alleviating critical skill shortages (through the Canada Manpower Industrial Training Program [CMITP] and Critical Skill Trades Skill Training [CTST]: See Davies 1986).

The focus in these programs was on the training needs of those less prepared for market employment, and this was achieved through government training programs rather than through financial support for on-the-job training. Even the Canada Jobs Strategy (CJS) initially emphasized training for the disadvantaged (the unemployed and the hard-to-employ, including special needs groups such as those with disabilities). However, the strategy of the federal government changed significantly in the 1990s in response to concerns that training in Canada may be inadequate to maintain its competitive position with respect to other industrialized countries. Employment and Immigration (EIC), for example, argued that '...the private sector in Canada spends about \$1.4 billion on formal training – less than half that of the United States on a per-employee basis' (EIC, 1989, p.2). Other international comparisons also suggest that Canadian effort may be inadequate (Adams et al 1978; Simpson and Stambrook 1990), although there is some evidence to the contrary (Kapsalis 1993). Such comparisons are informative, but little can be learned

from them because the relevant surveys differ considerably in their definition of training, in the reference period for measuring training activity, and in other important factors (Hum and Simpson 1996a). In the absence of a standardized international survey of workplace training activities, the best strategy is to focus mainly on Canadian research.

As noted above, workplace training in Canada is mainly a partnership between business and labour. Survey estimates indicate that on average about one-quarter of workers and at least one-quarter of firms participate annually in formal training programs (Hum and Simpson 1996a); and the incidence of training seems to be rising (Ekos Research Associates 1996). However, the amount of training taking place may be underestimated in surveys: much employer-based training is informal on-the-job training and this is unlikely to be captured in surveys. It follows that investment in workplace training may be higher than suggested by available estimates.

Recent federal initiatives

When the federal government allocated a portion of surplus Unemployment Insurance revenues towards workplace training in 1989, new funds were also allocated to training for workers. Training expenditures continued to grow rapidly (reaching \$3.4 billion by 1992-93) as the federal government shifted emphasis from income support for the unemployed and hard-to-employ, towards provision of training for the employed, (Hum and Simpson, 1996b).

HRDC was created in 1993 to provide a more integrated (training and income support) approach to Canada's national investment in people. In November 1995, the federal government announced its withdrawal from labour market training and the devolution of delivery of active employment measures to the provinces. Active employment measures funded through the Employment Insurance (EI) account include targeted wage subsidies, self-employment, job creation partnerships, and employment assistance services. HRDC focused on national programs (such as disseminating labour market information), but it continued to be involved with labour market training until 1998-99: the goal was that there would be no federal spending on training by 2000.

The budget for the Human Resources Investment Fund (HRIF), created in 1995 to help people find and keep jobs and to combat poverty, was \$12.62 billion in 1994-95, and was estimated to be \$2.5 billion in 1997-98 (HRDC 1997-98 Estimates Part III). The HRIF includes EI funds as well as monies from the Consolidated Revenue Fund (the Canada Assistance Program [CAP] and Established Programs Financing [EPF], which have been replaced with the Canadian Health and Social Transfer [CHST]), so that it is now difficult to identify training expenditures. The upshot has been that the federal government now recognizes the importance of training for all Canadians, not just the disadvantaged; but this responsibility is increasingly being transferred to the provinces/territories.

V.6 Summary of lessons learned about effective training practices

Background

The Evaluation and Data Development Branch in HRDC has recently released a series of reports (*“What Works for Whom?”*, HRDC, 2000), summarizing the lessons learned in human resource policies, programs and services. The report covers Canadian as well as relevant international studies: it describes the findings of research and evaluation studies and their implications for designing and implementing effective policies and programs. Most reports in the series include a background section, a summary of the findings, a synopsis of the key lessons learned and a video. The reports published to date include:

- *Adult Literacy Policies, Programs and Practices;*
- *Effectiveness of Employment-Related Programs for Youth: Lessons Learned from Past Experience;*
- *Disability Policies and Programs: Innovative Workplaces: Lessons Learned;*
- *Own-Account Self-Employment in Canada; and*
- *Older Worker Adjustment Programs Lessons Learned.*

This section provides a summary of the major findings in “*What Works For Whom?*” for the following groups: adults in the labour market; adults moving from welfare to work; adults with literacy problems; and older workers.

Classroom training

As described in Chapter I of this Report, HRDC and its predecessor departments have provided financial support for occupational training and educational upgrading for adults since the mid 1960s. As in most other major industrialized nations, this support has traditionally focused on publicly-funded classroom training. The “*What Works For Whom?*” series shows that even though evaluation studies of classroom training have had mixed results, some useful conclusions can be drawn:

- Programs targeted to a general clientele have been ineffective in comparison to those tailored to specific groups and occupations.
- Classroom training has worked better for those entering the labour force after a prolonged absence and improved both employment and earnings for adult women.
- Training in shortage occupations produced better results, especially when it was linked to employers’ needs and when employers were involved in identifying those needs: it was also more effective when combined with on-the-job training such as apprenticeship.
- Finally, classroom training has worked better when combined with other measures, such as job search assistance.

The series concludes that:

- Training is least likely to work for prime-aged men and older workers with low levels of initial education.
- Training for workers displaced as a result of industrial downturns have had a marginal impact in the short-run, but virtually no impact over the longer run.
- General training programs appear to do a poor job of meeting the specific needs of participants: they may even harm employment prospects by removing a person from active job search and lengthening the period of unemployment.

It is important to note that the outcome of classroom training has generally proved to be more positive in Canada than in many other countries. This is particularly the case for more recent evaluations,

suggesting that improvements in program design and delivery in Canada have had a positive effect. The impact on employment has generally been greater than the impact on earnings, which has often been quite limited. But there are important exceptions: programs geared to skill shortages (Skill Shortages Program) and to the re-entry of women into the labour force have produced significant gains in both employment and earnings.

Little is known about the ‘dead weight’ effects of training programs, that is, about how many participants would have undertaken training without such programs. Nor are there any known studies on the displacement effects of classroom training, that is, on the extent to which government-sponsored trainees restrict other candidates from participating in the same training. In Canada, course purchases by HRDC included the full costs of classroom training so that displacement was likely to be less of an issue, especially over the longer term: training institutions could probably readily expand capacity to meet any additional demand. However displacement is likely to be an issue in fee-payer arrangements in which the trainee pays the regular tuition (less than actual costs in public institutions) and HRDC pays the income support.

Enterprise-based training

Enterprise-based training in private firms has generally produced positive gains in both employment and earnings, particularly for single mothers, women re-entering the labour force, and the long-term unemployed. However, there are significant dead weight and substitution effects from wage subsidies generally associated with this type of training. Of course, these effects may not pose a serious problem from a policy perspective if the purpose of training were simply to ‘shuffle the queue’ and provide opportunities for disadvantaged groups.

In Canada, enterprise-based training in shortage occupations has resulted in increased employment and earnings in almost all cases. Individually subsidized jobs, in which a wage subsidy was combined with on-the-job training, provided significant impacts on both employment and earnings. Evaluation studies carried out by HRDC also show that a significant proportion of federally-funded enterprise-based training programs was incremental, and would therefore not have taken place without the training subsidy. Another positive effect of federal programs of support for enterprise-based training was that it frequently resulted in the hiring of disadvantaged persons who would not otherwise have been employed. While subsidization of jobs produced positive gains for women generally, there were no gains for women with pre-school children.

The “*What Works For Whom?*” series observes that since employment in subsidized enterprises causes unemployment in non-subsidized firms, there are probably significant displacement and distortion effects in business as well as in the labour market. This is a serious and unintended effect that skews the competition in favour of subsidized firms.

Careful targeting of both trainees and training firms may provide a basis for avoiding the negative effects of on-the-job training. Directing training to those employed for longer periods can probably help to reduce dead weight losses (that is, training conducted without subsidy); however, the benefits would need to be assessed against the generally higher cost of a successful intervention. Displacement effects can be reduced by focusing training on shortage occupations, on firms and areas with few competitors, and on economic sectors enjoying increased product demand. Note, however, that wage subsidy programs are prone to abuse and hence need careful controls. Employers must be monitored to ensure that they do not use subsidies to fill recent vacancies or to replace subsidized workers who have been dismissed because the subsidy has ended.

Project-based training

The “*What Works For Whom?*” analysis also examines ‘project-based’ training: this is generally associated with projects like job creation in which unemployed persons develop work experience in publicly-funded projects. Project-based training has produced generally poor results, leaving participants with few, if any, longer term benefits: public sector experience does not necessarily lead to private sector employment. Despite the poor evaluation results, job creation projects have nevertheless provided benefits for specific groups of individuals in both Canada and elsewhere. Typically, such projects are aimed at individuals who are hardest to place and for whom other forms of intervention have failed. Such individuals are sometimes most in need of the social skills and attitudes normally viewed as the basic requirements for getting and holding a job. Project-based training may yield some benefit in this regard.

Literacy training

The “*What Works For Whom?*” series also examines what has been learned about literacy programs aimed at families and workers. Social policy research has been successful in providing a better understanding of the nature and extent of the adult literacy problem. A great deal is now known about who has, or is likely to have, literacy problems, classified by age, gender, geography, education level, first language and other identifiers. Such information is invaluable for targeting literacy programs to those most in need and for tailoring the programs to fit the specific literacy problems of these groups. In addition, much has been learned about the importance of literacy for economic success and social well-being. In particular, data from the International Adult Literacy Survey (IALS) show that adult literacy is highly associated with critical outcomes such as employment and incomes, and that in economies such as Canada there is a substantial reward for workers with higher levels of literacy.

However, little is known about the effectiveness of adult literacy programs. The series concludes that although some individual programs have been evaluated, adult literacy policies, programs and practices have not been consistently evaluated, and many critical issues do not appear to have been evaluated: in particular, little is known about the actual impact of programs on learners and the rewards for improved literacy skills for adults. Poor program retention is a common problem in literacy training. Nevertheless, much has been learned through innovation and pilot projects about how to design and deliver good quality literacy programs tailored and targeted to particular client categories, such as family literacy and workplace literacy.

The National Literacy Secretariat and its partners have been successful in promoting an awareness of literacy and an understanding of its importance to Canadian society. And IALS (and the research it has generated) has been integral to the communications and public awareness activities in adult literacy. But despite the application of these practices and strategies, the level of adult literacy training remains small in comparison with the number of adults at risk.

V.7 Other social and economic perspectives

Recent developments in economic theory raise questions about the reliability of existing estimates of the returns to investment in education, and hence about the available assessments of the effectiveness of training programs. Many economists support the ‘new’ growth theory (endogenous growth theory), which implies that the benefits of human capital investment may be greater than assumed in traditional growth theory. For many years, economists have accepted the view that technological change has a major impact on long-term economic growth; but in the new growth theory, economic growth is also seen as one of the factors that affects technological change. Thus the returns to education and training may be greater than suggested by the available estimates.

There have also been significant improvements in the measurement of human capital. Education has generally been measured in terms of level of education or number of years of schooling. However, it is now widely recognized that knowledge and skills are critical for the development and diffusion of new technologies and for technical innovation; attempts are therefore being made to develop measures of the skills and knowledge of workers.

This section explores how the development of endogenous growth theory and better measures of human capital are likely to affect current assessments of training programs.

Endogenous growth theory

The traditional model of economic growth assumes that output grows because of increasing inputs of the two main factors of production – capital and labour. The growth unaccounted for in this model (the ‘residual’ factor) is assumed to represent the effects of technical progress (treated as an exogenous factor). Empirical analysis in the early 1960s showed that the residual factor was substantial, and attempts were made to reduce its size by including the effects of factors such as labour quality and technical know-how. The most common proxy for labour quality has been educational attainment, and using it has reduced the size of the residual in some countries but not in others. Some authors argue that the traditional growth model, modified to take account of labour quality, is satisfactory for explaining cross-country differences in growth; but others do not agree (see, for example, Mankiw et al 1992, Jones, 1992, and Romer, 1998).

Over recent years, many attempts have been made to identify and measure the precise contribution that human capital makes to economic growth. Different theories have been proposed for separating out the contributions of the quantity of physical capital, the quantity of labour, the quality of labour (defined, say, in terms of educational level), and changes in technology. But it is difficult to separately identify the effects of education and changes in technology since the two factors are highly interdependent.

The new growth theory treats technological change, or the generation of new knowledge, as an endogenous factor rather than as an exogenous factor; in other words, economic growth itself creates technical progress. Many reasons for such a relationship have been suggested. They include: externalities, learning-by-doing, the intergenerational transmission of opportunities to acquire human capital, imperfect competition, and the distribution of income (see the symposium articles by Grossman and Helpman, Solow, Romer, and Pack in *The Journal of Economic Perspectives*, vol. 8, no. 1, 1994; also see Osberg 1995, and Lipsey 2000).

Although the many authors differ in terms of their emphasis and attribution of importance to different factors, the following seem to be the main general conclusions:

1. Small differences in growth rates can lead to large differences in living standards even in one generation (Lipsey, 1996). Hence, even if adult education and training policies have a small positive effect, the long run social benefits of the increase in economic growth can be substantial.
2. If technical progress were indeed endogenous, there need not be diminishing returns to capital, and increasing returns would be possible (Romer 1996, p. 136). In other words, if adult education and training led to new ideas (perhaps, through externalities), new processes (perhaps through learning-by-doing), or scale economies (perhaps because of more workers networking), then economic growth without a limit may be possible.

3. It is generally acknowledged that technical progress is rarely a smooth or continuous process, or that it is diffused immediately without a time lag; moreover, its productive effects may not be confined to a short period (e.g. to part of an individual's working-life). Nevertheless, there are always likely to be short-term painful adjustments for many workers, especially for those who cannot be easily retrained or for those without access to education opportunities.

These conclusions suggest that it is difficult to reliably estimate, not only the social rate-of-return on human capital investment, but also the private rate as well. Thus while the rate-of-return is clearly an important consideration, other factors are also important in examining the effects of a training program. These include factors that are relatively easy to measure (such as unemployment), but also factors that are not easy to measure (such as improved self-confidence). It follows that existing assessments of the effectiveness of training programs must be interpreted with care.

Measuring human capital

When the theory of human capital was first developed in the early 1960s (see Becker, 1964), economists paid little attention to its definition and measurement. It was generally assumed that human capital could readily be measured in terms of educational attainment (e.g. using level of education or number of years of schooling), or in terms of the market value of an individual's attributes (e.g. income or earnings).

Over recent years, factors such as increasing globalization and the effects of rapidly changing technology have generated considerable interest in the definition and measurement of human capital. The general view is that knowledge, skills, abilities and competencies make up what is thought of as human capital. For example, Miller (OECD, 1996, p.22), describes human capital as: '...the knowledge that individuals acquire during their life and use to produce goods, services or ideas in market or non-market circumstances'. The OECD (1998, p.9) defines it as: 'the knowledge, skills, competences, and other attributes embodied in individuals that are relevant to economic activity'.

These factors cannot be easily measured. As Miller (op. cit., p.21) points out: 'When it comes to assessing the returns on human capital investment, the process breaks down at the very first step of establishing some measure of the individual's knowledge. There are currently few methods for accurately measuring either the existing capacity of an individual's knowledge or the increase in the productive capacity due to the knowledge acquired by investing in additional competences'.

Data on educational attainment have been the main source of information on human capital. But they have several limitations (OECD, 1998, p.21-22):

- The completion of a given level of education does not guarantee the existence of any particular competences. Although there is a correlation between educational attainment and skill, the wide variation in country specific requirements to obtain any given level of certification does not provide a consistent method for comparing knowledge and skill attainment.
- Educational attainment includes only education in the formal education system that provides some sort of certification. It does not include knowledge/skills that may have been obtained elsewhere in less formal settings or non-certified learning.

- Educational attainment measures are somewhat static in that they do not allow for the depreciation or appreciation of skills. The skills of adults are usually measured with reference to their educational qualifications obtained decades earlier; and these qualifications take account of neither the loss of skills nor the gains in knowledge/skills over time.

Educational attainment by economic category is difficult to compare. When such data cannot be broken down by industry, occupation or other such categories, an alternative is to use data on the percentage of persons holding positions at various skill levels in particular occupations (measured by occupation classification standards such as ISCO-88). This raises the issue of comparability because of variation in the application of coding standards to national occupation codes.

In the past, interest has focused on formal learning and educational attainment, with much effort directed to measuring education inputs such as expenditures and training duration. The recent emphasis on *learning* shifts attention to outcomes and what happens in the mind of the learner. Skill measures, as opposed to educational attainment measures, will therefore allow measurement of the accumulation of skills (see Giddings and Barr-Telford, 2000).

VI. SUMMARY AND OVERALL ASSESSMENT OF ADULT LEARNING IN CANADA

The major findings of the Background Report are discussed under three broad categories:

1. Coordination;
2. Learning pathways and learning outcomes; and
3. Incentives and motivations for adults to learn.

VI.1 Coordination

System cohesion

The survey of the provinces and territories included a number of questions dealing with how the respective jurisdictions organize and coordinate their adult training responsibilities and activities, and with how the federal and provincial governments work together. The interviews with federal officials dealt at some length with federal relationships with provincial/territorial governments and with the private sector. This information provides the basis for much of the discussion here.

Adult learning responsibilities are widely diffused in Canada so that it appears on the surface, that the adult learning system in Canada lacks cohesion. There are thirteen separate and highly diverse provinces and territories, and within each jurisdiction, several ministries or departments (depending on the size and complexity of the public service) are involved in adult learning. In most provinces/territories, significant adult learning responsibilities in areas such as curriculum development, accreditation, Prior Learning Assessment and Recognition (PLAR) and certification have been delegated to post-secondary institutions (which are generally governed by a board as set out in provincial legislation). Unlike initial education (where public institutions dominate), commercial colleges, trade schools, employers and non-profit agencies provide much of the formal adult learning available in Canada. At the federal level, while Human Resources Development Canada (HRDC) is currently responsible for many of the key federal programs and activities, other departments, in particular Industry Canada, also have important roles.

It follows that adult learning systems in Canada are complex, with many players and with multiple decision-making points.

Coordination mechanisms

Given Canada's geographic size and its economic and cultural diversity, it is understandable that a monolithic approach or a single set of policies on adult learning would be inappropriate. Adult learning systems must be complex in order to meet the various objectives, and it is inevitable that significant variations will exist across jurisdictions. It is therefore critical that effective mechanisms be in place to coordinate the activities of the various stakeholders, and to promote effective partnerships.

Most jurisdictions have created formal mechanisms to coordinate adult training activities: these are described in the summary of the responses to the questionnaire completed by provinces/territories (Appendix I). The Council of Ministers of Education Canada (CMEC) has served, since 1967, as the vehicle through which provincial/territorial ministers of education consult and act on matters of mutual interest, and cooperate with national education organizations and with the federal government. Working through CMEC, provinces/territories have developed statistics on the performance of education systems, have encouraged the mobility of post-secondary students through credit transfer agreements among jurisdictions, have developed a report on public expectations on post-secondary education in Canada, and have developed a pan-Canadian protocol on the transferability of university credits. At the national level, the Forum of Labour Market Ministers (FLMM) promotes inter-jurisdictional cooperation, notably through inter-provincial occupational standards and labour mobility.

Labour Market Development Agreements

There has been some discussion, in previous years, about jurisdictional responsibilities in adult learning and the apparent duplication of services between the federal and provincial/territorial governments. Some analysts argue that the public has not always been sure about which level of government and which agencies provide which services. Thus the withdrawal of the federal government from the course purchase arrangements and the signing of Labour Market Development Agreements (LMDAs) with provinces and territories promise a more cohesive system and more effective partnerships. Note that the federal government still funds training for aboriginal persons and persons with disabilities, and training for its youth programs, under the Consolidated Revenue Fund (i.e. general revenues), which do not fall under the LMDAs.

Some jurisdictions suggest that the LMDAs indirectly serve a very useful purpose in bringing together the various agencies and ministries involved in adult education and training. Some also argue that the withdrawal of the federal government from the course purchase agreements is one of the most important developments in adult learning in the last five years.

Engaging stakeholders

Engaging business and public interest groups in issues connected with human resource development is not new. For decades governments have sought the advice and participation of stakeholders in activities such as setting occupational standards, developing curriculum, and identifying training needs: and stakeholders participate on numerous boards and commissions.

Several innovations in social partnerships for training were introduced in the late 1980s and early 1990s. In 1991, the federal government launched the Canadian Labour Force Development Board (CLFDB) and attempted to establish a network of provincial and local level boards. Quebec established the Société québécoise de la développement de la main-d'oeuvre in the early 1990s; this was replaced in the late 1990s by Emploi-Québec and the regional employment and development centres, Centre local d'emploi (CLE) and Centre local de développement (CLD), along with sectoral training committees and regional committees. In addition, the provincial Comité national des programmes d'études professionnelles et techniques (CNPEPT) was created to monitor the development of vocational and technical education programs and their implementation throughout the province. Ontario developed the Ontario Training and Adjustment Board with sectoral training committees and regional committees. HRDC also funded the development of sector councils during these years: sector councils have proved to be very effective in strengthening the human resource development capacity of some sectors, and they have been active in developing standards, training, labour market information and career information.

Definition of adult learners

There is a lack of an agreed definition of adult learning or of an adult learner across jurisdictions, and frequently within jurisdictions. Most definitions are essentially administrative, and designed to specify eligibility for particular programs such as training for unemployed workers, or to assign individuals to specific education levels and systems (post-secondary education versus high school education). The definitions typically combine age and the number of years since leaving school. In the Canada Student Loans Program, applicants are considered financially independent of their parents when they reach a certain age, or have spent a specified number of years out of school.

Defining adults as those 25 to 64 years of age (as the OECD does) creates some problems since so many young people are now pursuing post-secondary education and graduate studies. Although the results of the School Leavers Follow-up Survey show that many youth (particularly those pursuing college diploma programs and trade vocational courses) complete their first degree/diploma/certificate before they reach 25 years of age, some continue their studies afterwards. And data from the National Graduates Survey show that 43% of university graduates in 1995 (45% of bachelor's, 30% of master's and 15% of doctorate graduates) had taken an additional qualification some 2 years later (i.e. by June 1997). Thus some individuals make the transition from initial education to work in their mid- to late- twenties; as a result, the eligibility for certain programs under the Youth Initiatives Program has been extended to 29 years of age. However, many others finish their initial education by their mid-twenties, or they switch to part-time studies; and many enter college or university after being out of school for some years.

VI.2 Learning Pathways and Transparent Learning Outcomes

In Canada, initial education is conducted largely in public educational institutions (although significant numbers of students attend private elementary and secondary schools in Quebec), and this usually leads to an outcome in the form of a credential (diploma, degree, or certificate). However, the transitions and pathways through the public system are neither well understood nor well documented.

The Council of Ministers of Education Canada (CMEC) is undertaking studies of the following transitions and pathways:

- The transition from compulsory education (Kindergarten to Grade 12), to the first post-secondary level (college, university, or an equivalent program);
- The transition through post-secondary education;
- The transition from a post-secondary program to work; and
- In a separate study, the transition among post-secondary education programs and providers.

These studies form only part of formal adult learning: employers, commercial institutions and other organizations (including non-profit organizations and producers and suppliers of equipment) provide about two-thirds of job-related adult education and training (as defined by the AETS). In addition, learning pathways become even more complicated when informal learning is included.

CMEC has also funded a series of challenge papers and held a workshop to discuss them. The following enhancements (suggested in the roundtable discussions at that workshop) would likely make current systems more learner-friendly:

- Better labour market information (LMI) on learning opportunities and skills needs;
- Mentoring and counselling;
- Improved credit and skills recognition;
- Occupational and skill standards;
- Greater cohesion in teaching styles and learning environments;
- Better data and research on learning pathways; and
- Learner preparedness.

The discussion in the text and in Appendices I and II of this Report show that governments in Canada have recognized the importance of enhanced LMI: LMI is one of the strategic elements in the Skills Agenda (see Appendix II of this Report for details) discussed by the Forum of Labour Market Ministers (FLMM). Recognition of the importance of LMI is not new: it formed an element in the active manpower policies adopted by OECD members in the 1960s. In Canada, LMI was one of the initial services of the National Employment Service when it was created. But LMI is now becoming a preferred means of assistance to individuals because of the growing complexity of the job market, and because of the importance of policies that place greater responsibility on individuals for job search and for assessing

learning needs. Moreover, developments in Information Technology (IT) have led to more innovative and highly cost effective applications of LMI.

As pointed out by the OECD, greater transparency of learning outcomes (acquired formally and informally) would tend to encourage optimal levels of adult learning. Two important components of transparency are the development of occupational and skills standards and Prior Learning Assessment and Recognition (PLAR). Provincial/territorial and federal initiatives in these areas are outlined in Chapter 1 and in Appendices I and II in this Report. With few exceptions, occupational skills standards and certification practices fall under the jurisdiction of provinces and territories: provincial/territorial legislation (such as apprenticeship acts and acts defining professional licensure) establishes or enables an agency to set standards.

The development of occupational and skills standards usually involves the cooperation of employers or employer groups, workers, government, training providers and, increasingly, equity groups. Employers support occupational standards because they believe that standards will ensure that training institutions teach the required skills, and hence that this will result in a pool of suitably qualified workers. Occupational standards also make it easier for employers to assess the skills and competencies of job applicants; and they are likely to lead to improved product quality and public and worker safety. The development of national occupational skills standards has been one of the most important activities of the sector councils in Canada: this suggests that the private sector is interested and committed to the development of standards.

Differences in occupational and skills standards across provinces and territories tend to impede worker mobility, so that national standards may also facilitate the mobility of workers. Under the Labour Mobility Chapter of the Agreement on Internal Trade, governments have agreed that the qualifications of workers from one part of the country must be recognized in another, and that differences that impede mobility must be removed or accommodated. For many years, the Canadian Council of Directors of Apprenticeship has promoted the use of common provincial standards for the apprenticed trades.

Differences among learning providers may also restrict mobility. CMEC has been working with its partners on an action plan to increase accessibility, equity, and mobility for post-secondary students. The Pan-Canadian Protocol on the Transferability of University Credits provides for the transfer of first and second year courses. The articulation of college and university programs would also allow college students to receive credit for their courses if they wanted to transfer to a university. This practice is quite common in Western Canada; but in other parts of the country it is restricted to relatively few programs.

The recognition of post-secondary credits and the articulation of college and university programs are clearly important advances. However, learning acquired through other providers and through less formal channels also needs to be recognized. Properly designed PLAR practices encompass all experiential learning, including the knowledge and skills acquired from non-accredited courses and programs. PLAR should be defined in terms of what individuals have learned and their competencies, and not simply on the basis of the length of time they have worked or the type of work experience they have had. The methods of assessment used for PLAR in Canada include the following: standardized tests; review of transcripts, licences and certificates, demonstration methods; performance observation; oral exam and discussion; skills demonstration; product assessment; and program review (i.e. comparison of private-sector sponsored training programs with those offered by an educational institution).

As indicated in Appendix I of this Report, several provinces have adopted formal guidelines and policies on PLAR. In some provinces/territories, the responsibility for PLAR rests with educational institutions; in others, it rests with ministries or departments; but a few jurisdictions have no policy on PLAR. Province-wide implementation of PLAR at the college level is in place in Quebec, Ontario, New

Brunswick, British Columbia and Newfoundland, and pilot projects are underway in several community colleges in Manitoba and Alberta. The use of PLAR is not common at the university level, but interest is growing in Ontario, British Columbia, Newfoundland and the Northwest Territories.

In the apprenticed trades, there has been a greater effort to integrate and link apprenticeship with the larger education system. PLAR, Apprenticeship Program Accreditation and processes for establishing equivalency to prescribed academic entrance standards have been implemented in all jurisdictions.

A range of companies, including those in the automobile manufacturing, telecommunications, retail and petroleum refining industries, is involved in PLAR projects. And the Canadian Steel and Employment Trades Congress and the Logistics Sector Council have implemented training programs with a PLAR component.

VI.3 Incentives and motivations

Gaps in labour market programs

In a survey of senior officials in provincial/territorial governments and in the regional offices of HRDC conducted in 1999, information was collected about the groups that seem to be most in need of assistance, and that seem to have the greatest difficulty qualifying for active labour market programs and services. Those that seemed to have the greatest difficulty in finding and keeping appropriate employment were the long-term unemployed, youth, persons with disabilities, and aboriginal persons. The analysis in the report presented to FLMM did not include responses from the governments of Quebec and Ontario; however Ontario has identified immigrants as the group most requiring service. The interviews and survey of provinces/territories conducted as part of this Report confirm this finding.

The groups identified in the report presented to FLMM share a number of characteristics that may prevent individuals from obtaining and keeping employment. The main problems seem to be lack of basic education and job skills; but personal characteristics, such as disabilities and language, may also create important barriers.

The results of the survey also suggest that training capacity and limited resources constitute important barriers. Major program gaps include programs for basic skills training and for training employed workers.

Targeted Programs

Programs targeted to special population groups are common at both the federal and provincial/territorial levels. These have taken two forms: the first includes setting targets and creating special measures to increase the participation of specific groups in regular programs; in the second, courses and programs are designed specifically for particular groups.

Targets and special measures can be instituted by reserving a certain proportion of seats for particular groups or by introducing special measures such as educational upgrading. As an example, special measures have been used to attract more women into specific programs such as apprenticed trades and applied technologies, engineering and science. In the Canada Manpower Industrial Training Program (CMITP), the percentage of reimbursement for training costs varied by category of training, and the unemployed and special-needs clients received the highest levels of reimbursement.

Courses and programs are frequently specifically designed to meet the needs of groups such as aboriginals, social assistance recipients, persons with disabilities, and at-risk youth. In the case of aboriginals, the province of Ontario has instituted dedicated training centres.

As program evaluation studies have shown, a major advantage of programs for particular groups is that specific measures or combinations of measures may be better than standard programs for some groups and in some circumstances. For example, employment and adjustment services requiring active client involvement may be more effective than skills development programs for promoting the re-employment of older workers. At the same time, there is some risk in a targeted approach since some groups and individuals may fall between the cracks.

A New Approach to Adult Learners

The new arrangements for employment benefits under the LMDAs include fundamental changes in the role of the client. Prospective trainees must often prepare (with the assistance of a consultant or employment counsellor) a return-to-work plan; and they must choose (from a bundle of possible employment services) the services that best suit their needs and the needs of the local economy. In the case of Skills Development, this includes finding a training provider and negotiating a price: local approval is contingent upon the availability of funds, the appropriateness of the training, and whether or not the training matches the skill needs of the economy. The use of loans or repayable grants is intended to encourage some trainees to bear part of the training costs.

The role of the adult learner under Skills Development has become much closer to that of other learners, and particularly to those in the post-secondary sector. Because of the range of adult learning courses, programs and providers, and because of less reliance on intermediaries (such as the employment counsellor), clients must now have the motivation and skills required to access good information on available courses and on skills trends.

Training Incentives

Several questions are appropriate in designing government interventions to encourage adult training and to foster equitable access to training: Who makes training decisions? Should incentives be targeted to individuals or to employers, or should they be targeted to providers? How do institutions (particularly publicly-supported institutions) allocate seats if there are too many qualified applicants? How do institutions ensure equitable access for target groups?

Governments attempt to influence (through the funding of institutions and incentives to individuals and employers) how much training is provided, who is trained, and to a somewhat lesser extent, the type of training provided. Governments also have the means to influence the quality and content of training programs through the accreditation of courses and programs, the licensing of schools, the use of occupational standards and licensing, curriculum development and credentials recognition; however, the responsibilities for these areas are often delegated to institutions, professional associations or boards.

Governments in Canada are not generally overly prescriptive about field of study choices or course selection in the public system, particularly in the universities and colleges. However, the availability of adult education courses and programs in public institutions, especially in vocational training and in applied technologies, is based to varying degrees on an assessment of employer needs and labour market demand: these factors are generally taken into consideration in selecting courses or programs to be funded. Individuals must also satisfy the established course prerequisites and admission standards set by institutions.

The analysis in this Report shows that the principal instruments used by the federal government to fund education and training (loans, grants and tax incentives) have generally been targeted to individuals rather than to employers. However, since the withdrawal by the federal government from the course purchase arrangements, federal support for employer training has been increasing: but it now focuses on process, promotion and capacity building through sector councils, rather than on direct training incentives. The preferred tools are LMI, the development of occupational standards, PLAR, research, fostering business/education partnerships, and pilot and demonstration projects.

Most provinces/territories also provide some financial and non-financial support for employers to train employees. This is generally available to employers in particular sectors, for skills upgrading, or for the employment of recipients of social assistance.

The Adult Education and Training Survey (AETS) provides some data on the sponsorship of formal education and training for adults. However, the AETS is a household survey, and it is not clear that the data can be used provide a good estimate of the proportion of support provided by governments. For example, it is unlikely that respondents would realize that federal and provincial funds for post-secondary institutions form a component of government support, or that tuition fees often cover only a small share of the actual cost of their education and training. In addition, respondents may not be aware of the existence of government support provided indirectly through employers.

Nevertheless, data from the AETS provide some useful insights into the relative roles of individuals and employers. Data from the 1998 AETS (see Chapter IV of this Report) show that employers sponsored 53% of education and training courses: and they were the only source of financial support for 40% of education and training courses. Employers are generally more inclined to support specific rather than general or academic education or training.

Data are also available in the AETS on who suggested the training. The results (at least for employer-sponsored training) tend to confirm the old adage that 'He who pays the piper calls the tune'. Not surprisingly, employers suggested the training for most employer-supported courses; but about 40% of courses were undertaken because of a suggestion or joint decision with others. By contrast, decisions about programs are based mainly on the choice and initiative of individuals.

Do employers invest enough in training?

There has been some concern in Canada that employers do not provide enough training. As a result, the Labour Force Development Strategy (1989) focused on establishing greater private sector participation in and responsibility for training. The policy debate at the time dealt mainly with questions of how much employers spent. Some argued that the private sector in Canada invested only about half as much (relatively) as that in the US: the argument was based on comparisons between results from the Human Resource Development and Training Survey conducted in Canada and from a similar survey in the US conducted by Lakewood Research. However, there were no really convincing arguments that the investment by the private sector was too little: at that time researchers did not have the information required to resolve the issue.

The human capital literature on training includes many reasons that explain why private markets may fail to yield a socially optimal level of training. Externalities, such as third party benefits and spillover effects, are often used to explain socially sub-optimal investments. Workers may under-invest in general skills because of financial barriers (such as the failure of banks to loan money on the basis of future earnings). In the case of both firms and individuals, imperfect knowledge of the costs and benefits of learning could result non-optimal investments.

The work of Lowenstein in the US and limited evidence in Canada show that when increases in workers wages are taken as a measure of increased productivity, improvements in formal training result in a relatively high rate-of-return. But if the returns are so high, why do employers not provide more training? One reason is that wage gains may reflect the benefits to workers, but not to employers.

The American Society for Training and Development (ASTD) suggests that firms do not invest sufficiently in learning because of lack of information on the benefits of training. According to ASTD, companies still know little about how to invest effectively in human capital. Investments such as training and development are difficult to measure and evaluate, and they are therefore often treated simply as costs on the corporate balance sheet. ASTD is therefore promoting the use of rate-of-return analysis to assess training investments. However, Canadian experience in the collection of data on training expenditures in industry suggests that most firms do not have the systems for keeping the records required for this type of analysis.

Information on the social benefits and costs of industry training, as well as on the macroeconomic and broader social impacts (such as the achievement of the policy goals of growth and social equity), is also required for effective policy-making. Recent surveys of industry training in Canada provide interesting insights on how training is related with organizational change, innovation, globalization and technological change, and on how learning is combined with other workplace practices and corporate strategies. These are all important aspects of the social and economic costs of industry training. However, they do not directly address the issue of whether or not firms are investing wisely in learning: this issue may need to be addressed using analytical methods other than survey analysis.

Learning and Social Inclusion

The discussion in Chapter IV of this Report suggests that adults with higher levels of education, greater levels of functional literacy, and higher incomes are more likely to participate in formal learning. In addition, participation in formal learning appears to fall rapidly after 55 years of age (some care must be taken in interpreting these statistics since older Canadians tend to be less educated than younger Canadians). Thus it appears that formal adult learning tends to increase the gap between the less educated and the highly educated.

Policy makers have expressed concern that many low skilled workers will be unable to compete in the changing workplace in the future. Despite some controversy about the precise effects of technological change on skills, it is clear that in countries such as Canada the occupational composition of the labour force is shifting towards more highly skilled occupations requiring higher levels of education. The factors contributing to this change include globalization, the emergence of the knowledge economy, the impact of new technologies (particularly information and communication technologies), and fundamental changes in the way that work is organized. Another trend affecting the skill requirements of workers is the emergence of new forms of workplace organization, with a shift towards more flexible and innovative approaches to work organization and to human resource management practices. These trends have profound effects on the types of skills required (such as teamwork and problem solving), and on worker traits such as flexibility and adaptability.

Similar changes are occurring on the supply side with the transition to what may be described as high education societies: this is demonstrated by the substantial and growing investments in initial education in OECD countries. Individuals entering the labour market now are much more highly educated than those in previous generations. It is not clear if the increase in educated workers is greater than the increase in jobs requiring highly educated workers; but there is still a fundamental question about the impact of these changes on workers with low levels of education and low levels of literacy.

Despite the extensive discussion about 'lifelong learning' and the 'learning society', many Canadians are still not convinced that they need to further their education. Data in Chapter 2 of this Report indicate that 63% of Canadians took no formal education or training during 1997 and did not even contemplate doing so. And according to data from NALLS, 35% of adults report that they see no need for further education.

Part of the explanation for the apparent lack of interest in adult learning by so many workers may be due in part to the type of jobs available: many jobs do not require highly skilled or highly educated workers. Moreover, Livingstone and others argue that there is substantial and widespread underemployment in the Canadian workforce. This finding is based on three measures of underemployment: on workers perceptions of how well qualified they are for their jobs; on a comparison of the education of workers and the entry requirements for jobs; and on a comparison of the skill requirements of jobs and the qualifications of workers, based on General Educational Development (GED) and Specific Vocational Preparation (SVP). Krahn and Lowe arrive at a similar conclusion using data from IALS: these data show that many workers do not adequately use their current literacy skills in their jobs.

The measurement of underemployment can be criticized for a number of reasons. For example: comparisons between workers and jobs on the basis of level of education are hazardous since a given level of education does not guarantee the existence of particular competences; education levels are not a perfect proxy for skill (this is demonstrated by the variation in literacy levels within education levels); measures of educational attainment are somewhat static in that they do not allow for depreciation or appreciation of skills; and jobs often require specific skill sets that are not measured by level of education or by SVP. However, as data from IALS on the use of skills suggest, many workplaces and jobs do not provide sufficient challenge for workers to maintain their existing skills; and there is little incentive to acquire new skills.

Demand side issues related to skills (for example, job quality) are apparently not being discussed among federal and provincial governments. Should governments be concerned by the apparent shift in industry away from the deskilling approach to work organization adopted in an earlier industrial age (Fordism and Taylorism), and towards more flexible approaches to work organization?

There is more reason to be optimistic on the supply side. As suggested in Chapter IV of this Report, the outcomes of government training programs in Canada (particularly classroom training) have been generally positive. Furthermore, program designers and policy makers have access to a wealth of accumulated knowledge on what works and for whom.

VI.4 Knowledge Gaps in Adult Learning

This section provides a summary of the major knowledge gaps in adult education and training in Canada. The summary is based on several sources of information: the knowledge of the project team, which included recognized experts on different aspects of adult education and training; interviews, which provided many insights into the information needs of policy makers and program administrators; and a conference on information gaps in adult education and training (conducted by HRDC in February 2001) attended by experts from Canada and abroad.

The discussion here focuses mainly on the knowledge gaps, but it also includes suggestions about the means and approaches for meeting information needs. Some of the many approaches (surveys, case studies, administrative data, quasi-experiments and experiments) work better than others in some instances. The appropriate approach depends on the type of information to be collected: it should be selected with great care, and only after a thorough review of the options. Thus the suggestions outlined below are intended only to illustrate the possible approaches, rather than to identify specific recommendations.

Many information needs can be met by exploiting existing sources of information such as the AETS. In addition, the distribution of existing information can also be improved: for example, it became clear at a recent meeting of the Forum on Policy Research that the generally positive results of recent evaluation studies of adult training programs are not widely known. Better dissemination of available information would therefore likely lead to wider use.

Learning Pathways

The analysis in this Report suggests that there is a lack of data on education transitions and lifelong learning pathways, and on the factors that influence them. Data from the AETS provide only cross-sectional data on formal adult learning: while such data are useful for measuring the level of participation, they are not useful for studying access for individuals in different population groups.

Some existing surveys include longitudinal information, but they cover only a small part of the working lifetime of individuals. For example, the School Leavers Follow-up Survey provides longitudinal data on the initial transitions from high school to post-secondary education; similarly, the National Graduates Survey provides data on the flows of graduates into employment and into further studies, 2 and 5 years after graduation. The Youth in Transition Survey (which is a relatively recent survey) will provide longitudinal data on learning pathways and on the transitions from formal education; but data on the pathways of adult learners will not be available for some time.

Data systems based on student records in university, college and trades vocational institutes provide a useful source of longitudinal data, and Statistics Canada is in the process of linking these records. Initially the linked database will include only students in public institutions; but the inclusion of commercial colleges and non-traditional providers is being considered.

It may also be possible to modify other longitudinal surveys so that they can be used to analyze the benefits and costs of adult education and training programs. For example, one possibility is to add a module of training questions to the Survey of Labour and Income Dynamics (SLID). This may provide a

cost-effective way of modifying this rich database so that the effects of training on earnings can be examined.

Informal Learning

There is a broad consensus that policy makers need data on informal learning for proper decision-making. However it is also clear that, from a policy research perspective, the definition and measurement of informal learning presents numerous challenges. The main difficulty is that it is not easy to distinguish between informal learning that is conscious in nature and has clearly defined goals, and informal learning that is entirely incidental to ongoing activities in the workplace and elsewhere. From a rate-of-return perspective, it is difficult to measure the training costs and opportunity costs of investment in informal learning that is incidental.

Another challenge from the perspective of a policy researcher is to determine what can be done to increase informal learning. Is informal learning a substitute or a complement for formal learning? As an example, if workers could learn the same or similar skills and knowledge through informal learning in one firm and through formal learning in another, then informal learning and formal learning could be considered to be substitutes. However, if informal learning and formal learning were complements, then firms that provide formal training would also tend to provide informal training.

Barriers and motivations that affect learning

Policy researchers need better information and analysis on the barriers that affect learning. These include: situational barriers (which arise from the situation in an individual's life, such as lack of time due to work or family-related responsibilities); institutional barriers (which arise from institutional practices and procedures such as course fees and location); and dispositional barriers (which arise from an individual's attitudes and disposition to learning).

Some research on barriers can be undertaken with the existing AETS. For example, the AETS includes time-series data that could allow researchers to explore the impact of economic circumstances on the level and distribution of formal training. However, little information is collected in the AETS on individuals who do not take training and on dispositional barriers.

More detailed research is also required on the personal motivation for training, especially on the part of apparently under-served groups such as the poor and long-term unemployed. Barriers and motivations may also be an appropriate subject for a social experiment.

Learning Outcomes

The private rate-of-return to investments in education is generally well understood and well documented. However, it is more difficult to estimate the rate-of-return for employers because of the lack of reliable data on direct and indirect training expenditures, and because of detailed data on improvements in worker productivity (the wages of workers are not a good proxy for the productivity gains to employers).

Another crucial knowledge gap is the lack of data on social costs and benefits. The argument for government intervention implies that detailed information on the private and social costs and benefits (and hence rates-of-return) of adult education and training is available. This is not the case in Canada: there are

no recent evaluation studies that provide estimates of the private or social rates-of-return on public training programs.

Evaluation studies of government training programs should include detailed information on all the benefits and costs of a training program. Pre-program and post-program data for trainees and for a comparison group are also necessary to identify the benefits attributable to the program. Private benefits are measured by the gains in after-tax earnings, while social benefits are measured by the gains in before-tax earnings: hence, pre-program and post-program earnings data should be gathered both on a before-tax and after-tax basis. Data on the private and social costs of the program are also necessary: The indirect costs of program participation (in terms of foregone earnings) may be estimated from the earnings of a comparison group during the program period.

However, calculating rates-of-return is not enough: policy makers also need to know what factors affect the rates-of-return, and how government policies and programs can be used to ensure that participants gain the benefits associated with investments in adult learning. A supportive infrastructure would include a nationally accepted system of credentials recognition, or an inter-provincial and inter-institutional system of credit accumulation and transfer. In addition, aggregate information alone is not sufficient for proper analysis: the information and analysis must reflect the heterogeneous nature of adult learning systems, of adult learners, and of the adult learning process itself. This includes the skill and learning needs/outcomes of population sub-groups, such as people with disabilities, immigrants, the long-term unemployed, and individuals re-entering the labour market after a period of absence.

In addition to improvements in program evaluation, there is a strong argument for the selective use of social experiments such as those conducted by the Social Research Demonstration Corporation. However experiments should be reserved for strategic situations in which evaluation studies using non-experimental data fail to reach a consensus, or in which a major program initiative is under serious consideration. The benefits of experiments include providing clear and credible answers to important policy questions, such as the private and social rates-of-return to a specific training program or funding mechanism. In particular, experiments are designed to answer specific questions and, as such, have clearly defined research objectives.

GLOSSARY

Accreditation	Process for recognizing a training institution, a program of study or a service, which meets pre-determined standards.
Adult education/training	Educational/training processes followed by adult learners, whatever the content, level and method of instruction.
Adult learner	Individuals above a given age, or who have been out of the regular school/college/university system for a minimum length of time.
Apprenticeship	A specified term of substantially on-the-job supervised training during which the apprentice works under supervision of a qualified tradesperson, and learns the knowledge, skills, tools, and materials of the trade, occupation, or craft. Apprenticeship may be regulated by statutory law or custom according to an oral or written contract, which imposes mutual obligations on the two parties concerned. Occupations or trades subject to regulation may require a term of apprenticeship as a condition for application for licence.
Assessment	The process of reviewing and evaluating credentials and other forms of qualifications as well as competencies, for the purpose of determining whether or not an applicant has fulfilled entry requirements for educational or occupational purposes, and which can include testing or examinations.

Basic skills	<p>Basic skills are skills that provide the foundation for learning other, more specific, occupational skills. The way in which new skills are taught often assumes competence in such skills as reading, writing and problem solving, for example.</p> <p>Basic skills may also be viewed as "enabling" skills; they enable an individual to perform the tasks required in the job, though they are not necessarily "the job". (See also Essential Skills)</p>
Certificate	<p>The document attesting to the completion of courses of formal, academic, or practical training and education, or to competencies as demonstrated through practice and examination, as well as a commitment to professional values. May also qualify its holder for entry into the occupation requiring the certificate.</p>
Certification	<p>The issuance of a formal document recognizing that a person has attained a standard of proficiency in a set of skills, knowledge, and abilities in a designated trade or occupation.</p>
Commercial school	<p>These are private schools licensed or registered by a province, which provide professional and vocational training for profit.</p>
Community colleges	<p>Post-secondary non-degree granting institutions, such as colleges of applied arts and technology in Ontario, general and vocational colleges (collèges d'enseignement général et professionnel, or CÉGÉP in Québec), and technical institutes or other institutions that provide specialized training in some fields. Enrolment in these programs normally requires successful completion of secondary school.</p>
Competency	<p>The ability to perform a task, or to demonstrate the possession of a skill, according to specified standards.</p>
Competence-based-modules	<p>Discrete sets of associated task-based skills and knowledge that, in combination, make up the performance requirements of an occupation, profession, or trade. Used for training and evaluation purposes.</p>

Course	A training or education event that attends to one specific area of study. It may be part of a larger program of study that is leading to a certificate, diploma or degree or it may represent a complete learning event on its own.(i.e. second language).
Credential	Documented evidence of competency based on completion of a recognized program of study or training, apprenticeship, work experience, or prior learning assessment.
Credit	A credential indicating formal completion of a unit of study or training as documented in an academic record; credential indicating a defined competency has been established through prior learning assessment.
Curriculum	List of subjects composing a structured training and/or education program "organized into a course, courses, or work experiences which develop the knowledge, skills, and abilities of learners." The curriculum has an implicit or explicit set of goals and objectives with respect to learning outcomes.
Designated trades	Each province and territory has the responsibility for apprenticeship training. The legislation permits each jurisdiction to designate occupations for apprenticeship. Designated trades are governed by regulations under the Provincial and Territorial Apprenticeship Acts. These regulations outline the standards and conditions of training for specific trades (e.g. methods of registering apprentices, curriculum, accreditation, certification).
Education	Any activities whose purpose is to develop the knowledge, moral values and understanding required in all walks of life rather than to only the knowledge and skills relating to a limited field of activity. In Quebec, it is an activity consisting of giving a value to the results from a measurement established by comparing them to a criterion or to a standard.

Equivalency

The relationship of parity between one jurisdiction or institution and another with respect to the value and significance of diplomas, certificates, licences, and/or degrees. Ideal relationships of parity are reciprocal, and generally speaking require an exact match in functions and general level of academic qualifications or other types of formal training. The granting of equivalency indicates that in principle the holder of the diploma, certificate, licence, or degree has the same educational and occupational access as an individual holding an "equivalent" diploma, certificate, licence or degree from outside the jurisdiction.

Essential skills	Essential skills (sometimes called basic skills) are enabling skills that help people perform the tasks required by their occupation, provide workers with a foundation to learn skills that are occupation-specific and enhance people's ability to adapt to workplace change.
Field of study	The specific subject area of the program of studies (e.g. medicine, economics, architecture, social work).
Formal education	Education which is formally structured and sequentially organized, in which learners follow a program of study planned and directed by a teacher and generally leading to some formal recognition of educational performance.
Formal training	Structured and organized training that is provided at work or in an establishment designed or designated specifically for training and staffed for that purpose. It includes basic training given in specially equipped workshops, simulated training, any formal training offered throughout an apprenticeship program, and any structured training program offered by employers.
<i>Functionally illiterate</i>	The inability to read or write well enough to carry out everyday tasks.
<i>Informal education</i>	Education that is not formal.
Job-related education or training	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.
Licence	Document entitling its holder to practice a trade or profession, and signifying that the licence-holder meets competency and other requirements for practice. Although generally used within a regulatory system prohibiting practice without a licence, there are occupations for which a licence can be obtained but is not required.

Lifelong education	The concept that education is a process that continues throughout the entire life cycle and responds to different requirements throughout the working and life cycles, and not a once-and-for-all experience confined to the initial cycle of full-time formal education commenced in childhood
<i>Literacy</i>	The ability to understand and employ printed information in daily activities, at home, at work and in the community, to achieve one's goals and to develop one's knowledge and potential.
Method of instruction	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. the like, which receive no public funding.
<i>Modular learning methods</i>	Learning methods organized in units or discrete sections.
Occupational skills standards	Skills benchmarks for measuring the requirements of occupations.
Portability	The condition of transferability and recognition of a credential between one jurisdiction or institution and another.
Postsecondary education	Refers to the kind of education generally obtained in community colleges or universities.
Prior Learning Assessment and Recognition (PLAR)	Prior Learning Assessment and Recognition involves the identification, documentation, assessment and recognition of competencies (skills, knowledge and abilities) that have been acquired through many means of formal or informal learning, e.g. work experience, training, independent study, volunteer activity, travel or hobbies.
Public sector education or training	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), or the education and training taken in other institutions but funded by a public body

Private sector education or training	Education/training provided by institutions outside the jurisdiction of a Provincial Ministry of Education.
Recognition	Acknowledgement and/or acceptance of prior academic, professional or vocational training, work experience, or credentials, and the granting of full or partial credit for it with respect to entry into an academic institution, trade, or profession.
<i>Recognition of foreign credential</i>	Establishing the equivalency between an educational qualification/credential obtained outside Canada, and inside Canada.
Red Seal Trades	Trades for which common interprovincial standards have been established, allowing opportunity of portability of credentials as related to the designated trades. These trades are designated by the Interprovincial Standards Program under the authority of the Canadian Council of Directors of Apprenticeship, the body which is also responsible for setting standards in the trades.
Standard setting	The process of identifying the pertinent tasks, knowledge and/or skills within an occupation, profession, trade, sub-specialty, etc., and establishing the required achievement levels in performance of those tasks.
Trade/vocational training or education	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	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.

BIBLIOGRAPHY

- Abt Associates of Canada (1989): Evaluation of the Job Entry Program, Ottawa, Program Evaluation Branch, Employment and Immigration Canada.
- Adams, Arvil. (1978). "The Stock of Human Capital and Differences in Post-School Formal Occupational Training for Middle-Aged Men." *Southern Economic Journal* 45, 929-936.
- Adams, R., P. Draper, and C. Ducharme. (1978). *Education and Working Canadians: Report of the Commission of Inquiry on Educational Leave and Productivity*. Ottawa: Labour Canada.
- American Society for Training and Development (2000): Measurement Kit.
- Ashenfelter, Orley (1987) "The Case for Evaluating Training Programs with Randomized Trials," *Economics of Education Review* 6, no.4, 333-8
- Barron, John, Dan Black, and Mark Loewenstein. (1989). "Job Matching and On-the-Job Training." *Journal of Labor Economics* 7, 1-19.
- Bartel, Ann (1995) "Training, Wage Growth, and Job Performance: Evidence from a Company Database," *Journal of Labor Economics* 13 no.3, July, 401-25
- Becker, Gary. (1964). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*. New York: Columbia Press.
- Belanger, P. and Valdivielso, S. (Eds.) (1997). *The Emergence of Learning Societies: Who Participates in Adult Learning?* Oxford: Pergamon Press.
- Betcherman, Gordon. (1982). *Meeting Skill Requirements: Report of the Human Resources Survey*. Ottawa: Economic Council of Canada.
- Betcherman, Gordon and Katherine McMullen. (1986). *Working with Technology: A Survey of Automation in Canada*. Ottawa: Economic Council of Canada.
- Betcherman, Gordon, Keith Newton, and Joanne Godin. (1990). *Human-Resource Management in a High-Tech World*. Ottawa: Economic Council of Canada.
- Betcherman, Gordon, Leckie, Norman and McMullen, Kathryn (1997): *Developing Skills in the Canadian Workplace: The Results of the Ekos Workplace Training Survey*, Ottawa: Canadian Policy Research Network.

- Betcherman, G., McMullen, K. and Davidman, K. (1998). *Training for the New Economy: A Synthesis Report*. Ottawa: Canadian Policy Research Network.
- Betts, J. (1998). *The Implications of Technological Change for Human Resource Policy*. Ottawa, Industry Canada.
- Bjorklund, Anders (1987) "What Experiments are Needed for Manpower Policy?" *The Journal of Human Resources* 23, no.2, 267-77
- Borjas, George. (1981). "Job Mobility and Earnings Over the Life Cycle." *Industrial and Labor Relations Review* 34, 365-376.
- Bouchard, Brigitte and John Zhao (2000): "University education: Recent trends in participation, accessibility and returns", *Education Quarterly Review*, Ottawa, Statistics Canada, Catalogue no. 81-003.
- Burtless, Gary (1995) "The Case for Randomized Field Trials in Economic and Policy Research," *Journal of Economic Perspectives* 9, no.2, 63-84
- Burtless, Gary, and Orr, Larry (1986) "Are Classical Experiments Needed for Manpower Policy?" *The Journal of Human Resources* 21, no.4, 606-39
- Canadian Information Centre for International Credentials, *Postsecondary Education Systems in Canada*. produced in collaboration with CMEC, <http://www.cicic.ca/postsec/index.stm>.
- Canadian Information Centre for International Credentials, Guide to terminology Use in the Field of Credentials Recognition and Mobility.
- Canadian Information Centre for International Credentials, Current Practices in Accreditation and Recognition of Postsecondary Institutions and Programs in Canada, 1995-96.
- Canadian Labour Market Productivity Centre. (1993). *1991 National Training Survey*. Ottawa: CLMPC, February.
- Canadian Policy Research Networks. (1997). "Developing Skills in the Canadian Workplace – The Results of the Ekos Workplace Training Survey." Work Newsletter, no.1, September.
- Card, David; Michalopoulos, Charles; and Robins, Phillip K. (1999) *SSP Applicant Study: When Financial Incentives Pay for Themselves: Early Findings from the Self-Sufficiency Projects Applicant Study*, Social Research and Demonstration Corporation, May
- Conference Board of Canada (2000): Report Prepared for the Office of Learning Technologies, March 15.
- Council of Ministers of Education, Canada; *Learner Pathways and Transitions*
- An Overview of the CMEC Project*, Postsecondary Education Project, January 1999.
- Council of Ministers of Education, Canada, Report of the Canadian delegation to the UNESCO Fifth International Conference on Adult Education (CONFINTEA V) Hamburg, Germany July 14-18, 1997.

Council of Ministers of Education, Canada, Survey of Trends in Adult Education and Training in Canada (1985-1995): Report of Canada for CONFINTEA V, 1997.

Council of Ministers of Education and Statistics Canada, Education Indicators in Canada, *Report of the Pan-Canadian Education Indicators Program 1999*, Canadian Educational Statistics Council, February 2000.

Davies, James. (1986). "Training and Skill Development" in Craig Riddell (Research Coordinator) *Adapting to Change: Labour Market Adjustment in Canada*. Toronto: University of Toronto Press.

Dennison, John D. and Gallagher, Paul: *Canada's Community Colleges: A Critical Analysis*, published by University of British Columbia Press, ISBN 0774802499.

Doeringer, Peter, and Michael Piore. (1971). *Internal Labor Markets and Manpower Analysis*. Lexington, Mass.: D.C. Heath.

Drewes, Drewes and O'Heron, Herb; *The part-time enrolments: where have all the students gone?* Association of Universities and Colleges of Canada, Research Series, May 1999.

Duncan, Greg and Saul Hoffman. (1979). "On-the-Job Training and Earnings Differences by Race and Sex." *Review of Economics and Statistics* 61, 594-603.

Ekos Research Associates Inc. and Lyndsay Green & Associates, *The Impact of Technologies on Learning in the Workplace*, Final Report March 1999 Prepared for: The Office of Learning Technologies.

Ekos Research Associates. (1996). *Developing Skills in the Canadian Workplace: The Results of the Workplace Training Survey*. Ottawa: Ekos Research Associates, June.

Ekos Research Associates Inc.(1997): *Final Evaluation Report on the Sectoral Partnership Initiative*, Evaluation and Data Development Strategic Policy Human Resources Development Canada, November.

Employment and Immigration Canada. (1981). *Evaluation of the Canada Manpower Industrial Training Program*. Program Evaluation Branch, Strategic Policy and Planning.

Employment and Immigration Canada. (1985). *Evaluation of the Critical Trade Skills Training Program: Final Report*. Report Prepared by Abt Associates for the Program Evaluation Branch, Strategic Policy and Planning.

Employment and Immigration Canada. (1989). *Success in the Works: A Policy Paper*. Ottawa: Employment and Immigration Canada.

Employment and Immigration Canada (1993): "Evaluation of the Severely Disadvantaged (SED) Option of the Job Entry Program", Program Evaluation Branch, (January).

Expert Panel on Skills, Stepping Up, Skills and Opportunities in the Knowledge Economy Report of the Expert Panel on Skills, Advisory Council on Science and Technology Industry Canada 2000.

Finnie, Ross and Schwartz, Saul: *Student Loans in Canada: Past Present and Future*, C. D. Howe Institute, 1996.

- Friendlander, Daniel, David Greenberg, and Philip Robins. (1997). "Evaluating Government Training Programs for the economically Disadvantaged." *Journal of Economic Literature* 35, 1809-1855.
- Gallagher, Paul; *Changing Course: An Agenda for the REAL Reform of Canadian Education*, published by O I S E Press 1995.
- Gallagher, Paul, and Robert Sweet; *Private Training Institutions in Canada: New Directions for a Public Resource*. *Journal of Educational Administration and Foundations* Vol. 13, No 2, 54-77. (1999).
- Giddings, D. and L. Barr-Telford (2000). *Skill Development and Public Policy*. Ottawa, Statistics Canada, National Center for Education Statistics.
- Glick, Henry, and Michael Feuer. (1984). "Employer-Sponsored Training and the Governance of Specific Human Capital Investments." *The Quarterly Review of Economics and Business* 24, 91-103.
- Goss, Gilroy & Associates (1989): "Evaluation of the Job Development Program", Ottawa, report prepared for the Program Evaluation Branch, Employment and Immigration Canada.
- Green, David A. and Craig Riddell (2001): *Literacy, Numeracy and Labour Market Outcomes in Canada*, Statistics Canada and Human Resources Development Canada.
- Grossman, G. and E. Helpman (1994). "Endogenous Innovation in the Theory of growth." *Journal of Economic Perspectives* 8(1): 23-44.
- Gunderson, Morley. (1973). "Determinants of Individual Success in On-the-Job Training." *Journal of Human Resources* 8, 472-484.
- Haddow, Rodney; Hommen, Leif; Johnson, Andrew F.; McFadyen, Craig; Peck, Jamie; Sharpe, Andrew and Wolfe, David A. *Social Partnerships for Training, Canada's Experiment with the Labour Force Development Boards*, Edited by Andrew Sharpe and Rodney Haddow, Centre for the Study of Living Standards, Caledon Institute of Social Policy Studies and the School of Policy Studies, Queen's University, 1997.
- Harvey, Edward. (1980). *Barriers to Employer Sponsored Training in Ontario: Results of a Field Survey* prepared for the Ontario Ministry of Education, Colleges and Universities.
- Hashimoto, Masanori. (1981). "Firm-Specific Human Capital as a Shared Investment." *American Economic Review* 71, 475-82.
- Heckman, J., and Robb, R. (1985) "Alternative Methods for Evaluating the Impact of Interventions" in J. Heckman and B. Singer (eds.) *Longitudinal Analysis of Labor Market Data* London: Cambridge University Press
- Heckman, James, and Hotz, Joseph (1989) "Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training," *Journal of the American Statistical Association* 84, no.408, Applications and Case Studies, 862-74
- Heckman, James, and Smith, Jeffrey (1995) "Assessing the Case for Social Experiments," *Journal of Economic Perspectives* 9, no.2, 85-110

- Holmes, Richard. (1996) "The Economic Information Base for Canadian Education and Training Investment Decision." In Hum, Derek and Wayne Simpson. (1996a) *Maintaining a Competitive Workforce*. Montreal: Institute for Research on Public Policy.
- Holzer, H. (1996). *What Employers Want*. New York: Russell Sage Foundation.
- Hosmer, D. W. & Lemeshow, S. (1989). *Applied Logistic Regression*. New York: John Wiley and Sons.
- Houtkoop, W and Oosterbeek, H (1997), Demand and Supply of Adult Education and Training. In: Bélanger and Tuijnman (Ed.) *New Patterns of Adult Learning: A Six-Country Comparative Study*, Oxford: Pergamon Press.
- Hum, Derek and Wayne Simpson. (1993). *Which Employers Train? Sectoral Evidence on Employer-Based Training in Canada*. Report Prepared for the Employment Program Analysis Branch, Strategic Policy and Planning, Employment and Immigration Canada, Ottawa.
- Hum, Derek, and Simpson, Wayne (1993) "Economic Response to a Guaranteed Annual Income: Experience from Canada and the United States," *Journal of Labor Economics* 11, no.1, part 2, January, S263-96
- Hum, Derek, and Wayne Simpson. (1996a). *Maintaining a Competitive Workforce: Employer-Based Training in the Canadian Economy*. Monograph Series on Education no.6. Montreal: Institute for Research on Public Policy.
- Hum, Derek, and Wayne Simpson. (1996b). "Can Training Reduce Unemployment?" *Policy Options*, vol.17, no.6, July/August, 59-64.
- HRDC. (1994). *Training Outcomes Study: An Examination of Findings Related to Federally-Sponsored DPO Training*. Final Draft, Human Resources Development Canada, Employment Program Analysis (EPPA/PPA), (February).
- HRDC. (1998). *Quasi-Experimental Evaluation*, prepared by Robert Power (Power Analysis Inc., London, Ontario) and W. Craig Riddell, Department of Economics, University of British Columbia, for Human Resources Development Canada, Evaluation and Data Development, Strategic Policy, (January).
- HRDC. (2000) *What Works for Whom?*, Human Resources Development Canada, Evaluation and Data Development.
- Human Resources Development Canada, *Employment Insurance: 1999 Monitoring and Assessment Report*, Canada Employment Insurance Commission, 2000.
- Human Resources Development Canada, *The Profile of Full-Time Canada Student Loan (CSL) Recipients in 1995-96 (updated) and in 1996-97* <http://www.hrdc-drhc.gc.ca/hrib/learnlit/cslp/profil/toc.shtml>
- Human Resources Development Canada, *Review of the Government of Canada's Student Financial Assistance Programs, Loan Year 1996-1997*, <http://www.hrdc-drhc.gc.ca/hrib/learnlit/cslp/publications/review97/report97.shtml>
- Human Resources Development Canada, Focus/Le Point, *Human Resource Partnerships*, March 2000. <http://www.hrdc-drhc.gc.ca/hrp/>

Human Resource Development Canada, *Quasi-Experimental*

Evaluation, Evaluation and Data Development, Strategic Policy, January 1998. <http://www11.hrdc-drhc.gc.ca/edd/toolkit.list>

Human Resources Development Canada, *What Works for Whom?* Evaluation Services, Evaluation and Data Development Branch, 1999.

Human Resources Development Canada, *Lessons Learned on Employment, Labour Market, and Economic Development Policies, Programs, and Services for Aboriginal Peoples, Lessons Learned, Background Report*, Evaluation and Data Development, Strategic Policy, March 1999, SP-AH091E-03-99

Human Resources Development Canada, *Adult Literacy "Lessons Learned" Project, Technical Report, January 30, 1999* prepared for: Evaluation and Data Development Human Resources Development Canada prepared by: Kathryn Barker, PhD. FuturEd

Human Resources Development Canada, *Disability Policies and Programs, Lessons Learned, Final report*, Evaluation and Data Development, Strategic Policy, October 1997, SP-AH038E-06-97.

Human Resources Development Canada, *Effectiveness of Employment-Related Programs for Youth: Lessons Learned from Past Experience*, Final report, Evaluation and Data Development, Strategic Policy, June 1997, SP-AH027E-06-97.

Human Resources Development Canada and Statistics Canada, *The Evolving Workplace: Findings for the Pilot Workplace and Employee Survey*, May 1998.

Human Resources Development Canada and Statistics Canada, *Report of the 1994 Adult Education and Training Survey*, <http://www.hrdc-drhc.gc.ca/arb/publications/books/class90/aete.shtml>

Human Resources Development Canada and Statistics Canada, *High School May Not Be Enough - An Analysis of Results from the School Leavers Follow-up Survey*, 1995.

http://www.hrdc-drhc.gc.ca/arb/publications/books/notenough/toc_e.shtml

Hunter, John; *The Employment Challenge: Federal employment policies and programs 1900-1990*, Government of Canada, 1994.

Jones, C. (1998). *Introduction to Growth Theory*. New York, W.W. Norton & Company.

Kapsalis, Constantine. (1993). "Employee Training in Canada: Reassessing the Evidence," *Canadian Business Economics*, Summer, 3-10.

Katz, Eliakim, and Adrian Ziderman. (1990). "Investment in General Training: The Role of Information and Labour Mobility." *The Economic Journal* 100, 1147-11.

Keeley, Michael (1981) *Labor Supply and Public Policy*. New York: Academic Press.

Lalonde, Robert (1986) "Evaluating the Econometric Evaluations of Training Programs with Experimental Data," *The American Economic Review* 76, no.4, 604-20.

- Lipsey, R. (1996). *Economic Growth, Technical Change, and Canadian Economic Policy*. Vancouver, C.D. Howe Institute.
- Lipsey, R. (2000). New Growth Theories and Economic policy for the Knowledge Economy. *Transition to the Knowledge Society*. K. Rubenson and H. Schuetze. Vancouver, Institute for European Studies, UBC.
- Livingstone, D.W. (1999). Exploring the Icebergs of Adult Learning: Findings of the First Canadian Survey of Informal Learning Practices. *Canadian Journal for the Study of Adult Education*, 13:2, 49-72.
- Livingstone, D.W., M. Raykov and S. Stowe. (2002): *Interest in and Factors Related to Participation in Adult Education and Informal Learning*, Applied Research Branch Research Paper R-01-9-3E. Ottawa: Human Resources Development Canada.
- Maddala, G. S. (1992): *Introduction to Econometrics*, Toronto: Macmillan.
- Mankiw, G., D. Romer, and D. Weil (1992) "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of economics*, 07: 407-38.
- McMahon, Walter W.; *The Impact of Human Capital on Non-Market Outcomes and Feedbacks on Economic Development: Techniques for Measurement and Estimates of Impacts of Education in OECD Member Countries*, Conferences
- International symposium on The Contribution of Human and Social Capital to Sustained Economic Growth and Well-being March 19-21, 2000.
- Mincer, Jacob (1991) "Job Training: Costs, Returns, and Wage Profiles" in David Stern and Jozef Ritzen, eds., *Market Failure in Training? New Economic Analysis and Evidence on Training of Adult Employees* (Berlin: Springer-Verlag)
- Murray, Debbie, *Keen for the Screen: Canadian Employers Turn to E-Learning for Employee Skill Development*, Conference Board of Canada, September 2000.
- Murray, Debbie and Bloom, Michael; *Solutions for Employers: Effective Strategies for Using Learning Technologies in the Workplace*, Knowledge Review
- OECD and Statistics Canada (1995). *Literacy, Economy and Society: Results from the First International Adult Literacy Survey*. Paris and Ottawa: Authors.
- OECD (1996). *Lifelong Learning for All: Meeting of the Education Committee at Ministerial Level*. Paris: Author.
- OECD (1998). *Education at a Glance: OECD Indicators, 1998*. Paris: Author.
- OECD, HRDC and Statistics Canada (1997). *Literacy Skills for the Knowledge Society: Further Results of the International Adult Literacy Survey*. Paris, Hull and Ottawa: Authors.
- Ontario Ministry of Skills Development. (1989). *The Training Decision: Training in the Private Sector*. Toronto: OMSD.

- Osberg, L. (1995). "The Equity/Efficiency Trade-off in Retrospect." *Canadian Business Economics* 3(3): 5-19.
- Pack, H. (1994). "Endogenous Growth Theory: Intellectual Appeal and Empirical Shortcomings." *Journal of Economic Perspectives* 8(1): 55-72.
- Paulsen, Michael. (1998). "Recent Research on the Economics of Attending College: Returns on Investment and Responsiveness to Price" *Research in Higher Education* 39, 4, 471-89.
- Picot, W. Garnett. (1986). "The Participation in Training by Women, the Unemployed, and the Educationally Disadvantaged." Research Paper 24, Social and Economic Studies Division, Statistics Canada, Ottawa.
- Porter, Errol (1991): *The Long-Term Effects of Three Employment Programs for Social Assistance Recipients*, Toronto, Ministry of Community & Social Services, Government of Ontario.
- Psacharopoulos, George. (1981). "Returns to Education: An Updated International Comparison," *Comparative Education*, vol.17, no.3.
- Romer, D. (1996). *Advanced Macroeconomics*. New York, McGraw-Hill.
- Romer, P. M. (1994). "The Origins of Endogenous Growth." *Journal of Economic Perspectives* 8(1): 3-22.
- Rosen, Harvey. (1982). "Taxation and On-the-Job Training Decisions," *Review of Economics and Statistics* 64 .
- Rottenberg, Simon. (1961). "The Irrelevance of Union Apprentice/Journeyman Ratios." *Journal of Business* 34, 384-386.
- Rubenson, K. (1996). The Role of Popular Adult Education: Reflections in Connection to an Analysis of Surveys on Living Conditions, 1975 to 1993. *Parliamentary Commission on Popular Adult Education. Three Studies on Popular Adult Education*. Stockholm, Fritzes.
- Rubenson, Kjell and Schuetze, Hans G. (1996): *Learning in the Classroom and at the Workplace: Elements of a Framework for the Analysis of Apprenticeship Training and other Forms of "Alternation" Education and Training in Canada* Centre for Policy Studies in Education University of British Columbia, June, submitted to Human Resources Development Canada Standards, Planning and Analysis.
- Rubenson, Kjell and Schuetze, Hans G., (editors) (2000): *Transition to the Knowledge Society: Policies and Strategies for Individual Participation and Learning*, Institute for European Studies, University of British Columbia.
- Rubenson, K. and Xu, G. (1997). Barriers to Participation in Adult education and Training: Towards a New Understanding. In: Bélanger and Tuijnman (Ed.) *New Patterns of Adult Learning: A Six-Country Comparative Study*, Oxford: Pergamon Press.
- Scott, Sue M.; Spencer, Bruce and Thomas, Alan M: editors, *Learning for Life, Canadian Readings in Adult Education*, Thompson Educational Publishing, Toronto, 1998.
- Selman, Gordon; *Adult Education in Canada: Historical Essays*, published by Thompson Educational Publishing, 1995.

- Selman, Gordon and Dampier, Paul; *The Foundations of Adult Education in Canada*, published by Thompson Educational Publishing, 1998.
- Sharpe, Andrew, *Sector Councils in Canada: Future Challenges*, Applied Research Branch, Strategic Policy, Human Resources Development Canada,
R-97-6E, February 1997.
- Simpson, Wayne, and David Stambrook. (1990). "Employer-Based Training Policy in Canada." Mimeo, University of Manitoba.
- Simpson, Wayne. (1984). "An Econometric Analysis of Industrial Training in Canada." *Journal of Human Resources*, vol.19, no.4, 435-51.
- Simpson, Wayne. (1988). *Employer-Based Training in Canada: A Survey of the Information and Issues*. Study prepared for Strategic Policy and Planning, Canada Employment and Immigration.
- Solow, R. (1994). "Perspectives on Growth Theory." *Journal of Economic Perspectives*
- Stager, David. (1989) *Focus on Fees: Alternative Policies for University Tuition Fees*. Toronto: Council of Ontario Universities.
- Statistics Canada (1998a). *The Evolving Workplace: Findings from the Pilot Workplace and Employee Survey*. Cat. No. 71-583-XPE , Ottawa.
- Statistics Canada (1998b): *Education in Canada 1998*.
- Statistics Canada and Council of Ministers of Education, Canada (1999): *Education Indicators in Canada. Report of the Pan-Canadian Education Indicators program 1999*. Ottawa: Toronto: Statistics Canada.
- Thurow, Lester C. (1975). *Generating Inequality: Mechanisms of Distribution in the U.S. Economy*. New York: Basic Books Inc.
- Tough, A. (1971). *The Adult's Learning Projects: a Fresh Approach to Theory and Practice in Adult Learning*. Toronto: OISE Press.
- Tough, A. (1978). Major Learning Efforts: Recent Research and Future Direction. *Adult Education*, 28:4; 250-263.
- Vaillancourt, François, and Irene Henriques. (1986). "The Returns to University Schooling in Canada." *Canadian Public Policy*, vol.12, no.3, 449-58.
- Van der Kamp, M. & Schreeren, J. (1997). New Trajectories of Learning across the Lifespan. In Bélanger and Tuijnman (Eds.) *New Patterns of Adult Learning: A Six-Country Comparative Study*. Oxford: Pergamon Press.
- Warburton, William (1992): *Routes to Independence: The Effectiveness of Employment and Training Programs for Income Assistance Recipients in British Columbia*, Ministry of Social Services, Government of British Columbia.

Web Sites

Prior Learning Assessment and Recognition: The PLAR site of the Canadian Labour Force Development Board <http://www.plar.com/english.html/Provincial/Territorial> PLAR Sources: http://www.plar.com/web_sources/index.html#provincial