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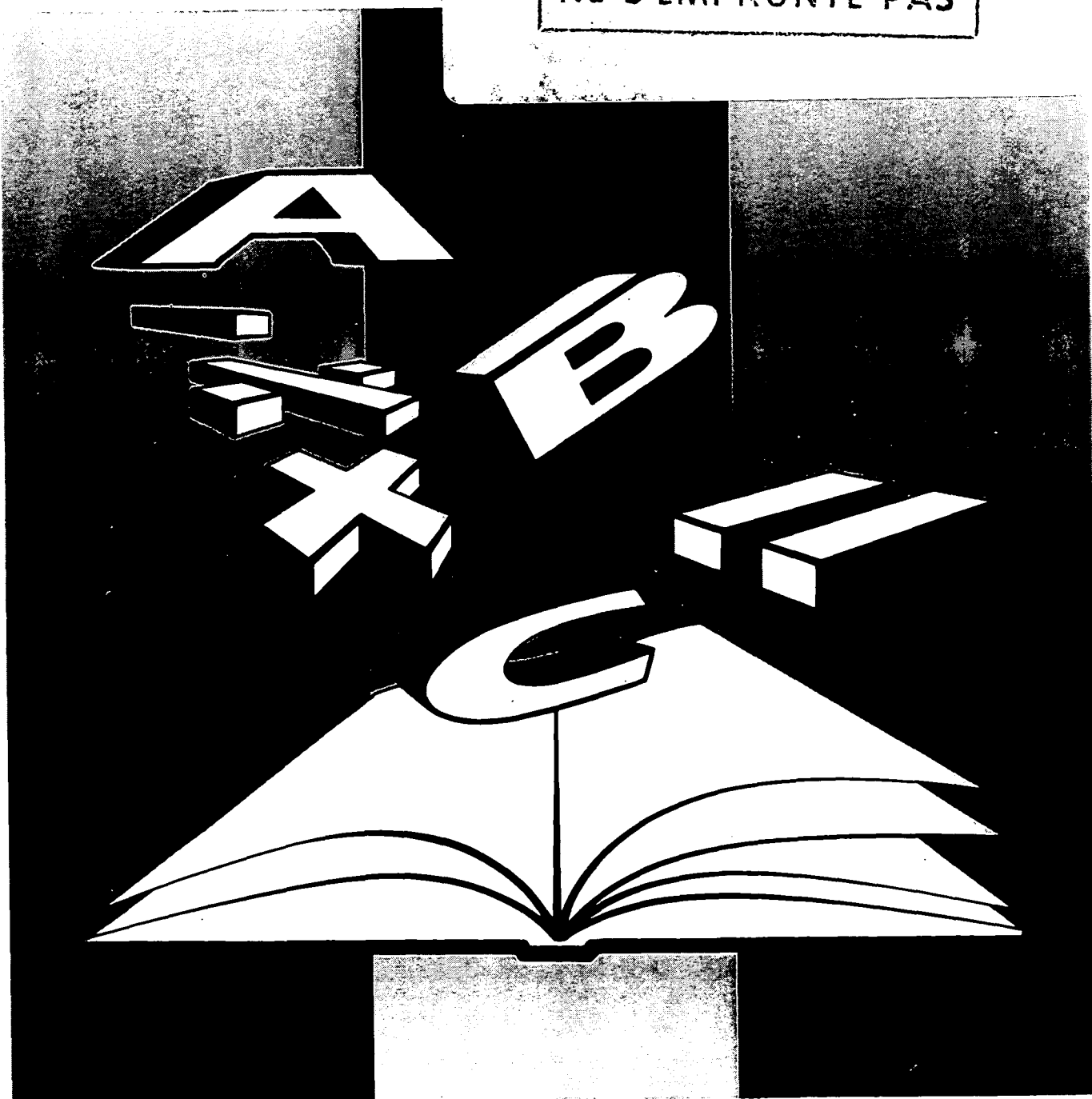
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Reading Skills of Adults in Canada

Excerpts from the publication
**Adult Literacy in Canada:
Results of a National Survey**

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Reading Skills of Adults in Canada – Excerpts from the Publication

Adult Literacy in Canada: Results of a National Survey

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December 1992

Ottawa

Version française de cette publication disponible sur demande

Note of Appreciation

Canada owes the success of its statistical system to a long-standing cooperation involving Statistics Canada, the citizens of Canada, its businesses and governments. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

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**Reading Skills of Adults in Canada –
Excerpts from the Publication
*Adult Literacy in Canada: Results of a National Survey***

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Overview

The present report, **Reading Skills in Canada – Excerpts from the Publication *Adult Literacy in Canada: Results of a National Survey***, provides a summary of information related to reading skills of the adult population. In 1989, Statistics Canada was commissioned by the National Literacy Secretariat of Multiculturalism and Citizenship Canada/Department of the Secretary of State to conduct The Survey of Literacy Skills Used in Daily Activities (LSUDA). This survey was designed to provide a detailed literacy profile of Canada's adult population. A publication entitled ***Adult Literacy in Canada: Results of a National Survey*** was produced based on the findings from the survey. This publication consisted of two parts. The first part presented a general overview of the survey findings which took the form of a descriptive analysis and covered a range of information from the national survey. The second part included analysis by various authors interested in the literacy situation in Canada. These authors were specialists in fields such as health, labour, adult education and literacy. Their analyses provided an

interpretation of the survey results from the perspective of their fields. Those interested in writing and numeracy skills are referred to the original publication. Any questions concerning this report or The Survey of Literacy Skills Used in Daily Activities should be directed to:

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Major Findings

Reading Skills:

- **Sixty-two percent of Canadian adults aged 16 to 69 have sufficient reading skills to deal with most everyday reading requirements (level 4). Their skills enable them to acquire further knowledge using printed material.**
- **A further 22% of Canadian adults can use reading materials to carry out simple reading tasks within familiar contexts with materials that are clearly laid out (level 3). Careful document design will often enable level 3 readers to use the text, but carelessly constructed documents will make it difficult for those at this level.**
- **The reading skills of 16% of Canada's adults are too limited to allow them to deal with the majority of written material encountered in everyday life (levels 1 and 2 and persons who did not attempt the test because they reported having no abilities in English or French).**
- **Level of reading proficiency has a strong and positive relationship with level of schooling.**
 - Only 12% of adult Canadians whose educational attainment is limited to elementary schooling or no schooling whatsoever have reading skills necessary to meet daily demands.
 - This figure jumps to 48% for Canadians with some secondary schooling and to 70% for those whose highest level of schooling is secondary school completion.
 - Canadians with university education have the highest percentage of people being categorized at level 4 (89%).
- **Older Canadians are much more likely than younger adults to have literacy problems. Close to 3 out of 4 Canadians aged 16-34 have reading skills sufficient to deal with most everyday reading requirements (level 4). For the 55-69 year old population, this proportion is only 1 in 3.**
- **Among adult Canadians, residents of the western provinces have the highest reading skills.**
 - Newfoundland registers the lowest estimated skill levels. Almost a quarter of its adult population has limited reading skills (levels 1 and 2) and only 39% have skills sufficient to meet most everyday requirements (level 4).
- Nova Scotia, New Brunswick and Quebec have similar reading skill profiles. Between 15% and 20% of the adult population have limited skills (levels 1 and 2) and close to 57% have level 4 skills.
- 62% of Ontario's adults and 65% of those of Manitoba have sufficient reading skills (level 4) while at least 69% of adults living in Saskatchewan, Alberta and British Columbia have level 4 skills.
- **The reading skills of part-year workers (worked less than 40 weeks in the 12 month period preceding the survey) are lower than those assessed for the full-year workers (worked 40 or more weeks). Sixty-five percent of the part-year workers have level 4 reading skills compared to 70% for the full-year workers.**
- **In general, workers in service producing industries (which are more heavily information-oriented than other industries) have higher reading skills.**
 - More than 70% of the workers in industries such as finance, insurance and real estate; community services; services to business; public administration; wholesale trade and transportation have skills sufficient to meet most everyday demands (level 4).
 - At the opposite end, only 50% of the workers in agriculture and the other primary industries (forestry, mining, fishing and trapping) have skills that meet everyday reading demands. Over 20% of workers in these industries have limited reading skills (levels 1 and 2). Lower reading skills are also found in the manufacturing, personal services and construction industries.
- **Fewer than half the workers in farming and other occupations in the primary sector as well as product fabricating (manufacturing) have level 4 reading skills.**
- **Occupational groups consisting of professional and highly skilled occupations show high reading skills. Eighty-five percent of those in managerial, administrative and related occupations; 86% in natural sciences, engineering and social sciences occupations; and 92% in teaching and related occupations have skills sufficient to meet most everyday reading demands (level 4).**
- **Fifty-four percent of level 1 readers and 82% of level 2 readers report being satisfied with their reading and writing skills.**
- **Ninety-four percent of Canadian adults feel their reading skills in English or French are adequate for their daily activities.**

- **Only 9% of respondents with self-perceived inadequate skills indicated they are currently taking instruction to improve their reading and writing skills in English or French. A further 53% reported that they might someday take such instruction.**

About the Survey

These results are based on The Survey of Literacy Skills Used in Daily Activities (LSUDA) conducted by Statistics Canada in October 1989 on behalf of the National Literacy Secretariat of Multiculturalism and Citizenship Canada/Department of the Secretary of State. The objective of the survey was to provide a direct assessment of the reading, numeracy and writing skills of Canada's adult population (16-69) in each official language.

The following definition of official language literacy, upon which the skill levels were built, was used in the survey.

"The information processing skills necessary to use the printed material commonly encountered at work, at home, and in the community."

The survey consisted of face-to-face interviews and involved a series of tasks designed to reflect reading, writing and numeracy activities commonly encountered in daily life in Canada. A representative sample of 13,571 persons aged 16-69 across Canada was selected from dwellings that recently participated in the Labour Force Survey (LFS). The overall response rate for the survey was 70% resulting in a database of approximately 9,500 respondents.

The survey employed three questionnaires to profile the characteristics and the literacy skills of Canada's adult population:

- a set of "background" questions gathered information on individual socio-economic characteristics, parental educational achievement, and perceived literacy skills and needs;
- a "screening" questionnaire, with 7 simple tasks, identified individuals with very limited literacy abilities (those who had very low literacy abilities were not asked to respond to the next questionnaire);
- a "main" questionnaire, composed of 37 tasks, measured specific reading, writing and numeracy abilities.

The selection of tasks for the "screening" and "main" questionnaires ensured that a range of abilities was measured. For reading, these abilities ranged from locating a word in a document (for example, locating the expiry date on a driver's licence) to more complex abilities involving the integration of various parts of a document (for example, reading a chart to determine if an employee is eligible for a particular benefit). Numeracy abilities were assessed using such forms as a swimming pool schedule (locating a particular time), a bank deposit slip (addition and subtraction) and a catalogue order form (addition and multiplication). Two writing tasks were included in the assessment: one involved writing a simple message requesting a household member to turn on the oven while the second required respondents to write a letter to a company requesting the repair of an appliance.

1.0 Introduction

1.1 Introductory comments

Most Canadians would agree that literacy is an important, perhaps necessary, skill if one is to participate fully in modern Canadian society. Most, however, would have difficulty agreeing as to just what literacy is. The nature of literacy is complex and refers to both a social phenomenon and a cognitive skill. The social phenomenon highlights the contingent nature of literacy. That is, it recognizes that literacy requirements differ from one society, and one time, to another. The cognitive skill element relates literacy to background factors such as education and life experience. Its contingent nature makes literacy difficult, yet nevertheless important, to assess -- especially in a period of accelerated economic and social change.

Literacy skills are basic and essential tools which enable and enhance communication, understanding and awareness. Life-long learning skills allow individuals not only to develop professional skills but lead to a better understanding of the multiple facets of daily living in a complex environment. Information, especially printed information, plays an important role in many everyday activities such as community involvement, finance, and health and safety.

From a labour force perspective, literacy skills are a prerequisite for meeting the challenge of rapid economic changes that result from the opening of world economies. Important changes to Canadian industrial and occupational structures will require that workers make major adjustments. New technology, new products and new services will echo on all aspects of everyday living. Ability to acquire knowledge from printed material will be required to fully adjust to these changes.

In 1987, the release of results from a survey sponsored by Southam News Co. confirmed (as suspected by specialists) that a considerable number of Canadians, as many as 4.5 million, have some literacy deficiencies in Canada's official languages. This survey was the first direct measure of adult literacy abilities in Canada. By revealing the existence and magnitude of a literacy problem in Canada, the results focused public attention on a complex question and clearly indicated the need for more information to respond to the issue. Governments and educators needed a precise assessment of the actual literacy skills of Canadians to target and promote initiatives for improvement.

In response to this information need, Statistics Canada was commissioned by the National Literacy Secretariat of Multiculturalism and Citizenship Canada/ Department of the Secretary of State to conduct a detailed literacy assessment of the adult population. In October 1989, the Agency conducted the Survey of Literacy Skills Used in Daily Activities (LSUDA). The principal objective of the survey was the development of a detailed literacy profile of Canada's adult population. Specifically, the survey was to provide a direct assessment of the reading, writing and numeracy skills of Canada's adult population in each official

language. This assessment was to be completed within various contexts of daily living (for example, at work, at home) and was to be complemented by a self-assessment and perceived needs component. Ultimately, the survey was to provide a national database allowing the detailed analyses of the literacy skills of Canadians, their perceived skills and needs in relation to various socio-economic characteristics.

1.2 Definition of literacy

The task of developing a literacy definition for Canada is particularly difficult because of the multicultural nature of Canadian society. To develop a measure of literacy unique to each Canadian subculture would negate the use of a large scale national survey using a standard set of direct measurement instruments. Yet to ignore the literacy skills of various language groups would oversimplify the study of literacy in Canada.

This dilemma of whether to develop a literacy measure for each subgroup or to create a more standard tool, led to a decision to define literacy, in the present study, in terms of Canada's official languages -- either English or French. Apart from the obvious operational difficulties involved in the development of equivalent measurement tools for various languages, to do so would have violated a basic principle underlying the design of the survey (that is, the survey should be restricted to the languages used by government to communicate with Canadians). This principle reflects the view that an absence of official language literacy effectively deprives a segment of the population from the benefit of government initiatives based on the printed word, be they health promotion, labour market adjustment or any other area of activity. As a result, the only measures of non-official language literacy for respondents whose first language is neither English nor French is a self-assessment of their literacy proficiency in their first language.

The definition of official language literacy adopted in the national survey highlights crucial aspects of literacy in terms of real life requirements:

"The information processing skills necessary to use the printed material commonly encountered at work, at home, and in the community."

The "information processing skills" refer to reading, writing and numeracy skills. The skills underlying literacy cannot be separated from the context in which they must be applied. That is, the specific literacy skills individuals require in their everyday lives are largely dependent on their occupation, their household activities, and their level of participation in community life. Hence to put literacy skills into context, the three primary "domains" (work, home, and community) in which literacy skills must be applied, were incorporated in the definition. Consideration given to these domains in the selection of measurement tasks ensured that a broad range of literacy demands people commonly encounter in their everyday lives were included.

It was also recognized that the skill that is required in a given situation depends on the type of material to which it must be applied. Thus, a further component of literacy "materials" was built into the proposed framework of this study. Materials refer to the various forms and formats in which information is displayed.

From the definition, skill levels were defined according to the abilities required to accomplish a variety of activities. Each of the broad levels of ability has distinct implications for identifying initiatives needed to deal with the literacy issue (see section 2 for a description of the literacy levels).

1.3 Survey methodology

The survey consisted of face-to-face interviews with individuals in their homes and involved a series of tasks designed to reflect reading, writing and numeracy activities commonly encountered in Canada. A representative sample of 13,571 persons aged 16-69 across Canada was selected from dwellings that had recently participated in the Labour Force Survey (LFS) -- Canada's largest continuing monthly household survey of the general population. The use of LFS respondents was advantageous because individual information (age, educational attainment, etc.) was already available and was used to efficiently tailor the sample to meet the specific survey requirements. In particular, the desire to focus more of the sample on young people and those with low educational attainment was met by using LFS respondents.

Residents of Yukon and the Northwest Territories, members of the Armed Forces, persons living on Indian reserves and inmates of institutions were not included in the sample as these populations are excluded from the coverage of the LFS. These exclusions account for approximately 3% of the Canadian population.

The provincial allocation of the sample and the corresponding sample attained are given in table 1.1. The overall response rate for the survey was 70%, resulting in a database of approximately 9,500 respondents. (Analysis of

the nonrespondents to the survey suggest that they are not concentrated in any specific group.)

The survey used three questionnaires to profile the characteristics and the literacy skills of Canada's adult population:

- a set of "background" questions gathered information on individual socio-economic characteristics, parental educational achievement, and perceived literacy skills and needs;
- a "screening" questionnaire, with 7 simple tasks, identified individuals with very limited literacy abilities (those who had very low literacy abilities were not asked to respond to the next questionnaire);
- a "main" questionnaire, with 37 tasks, measured specific reading, writing and numeracy abilities.

The selection of tasks for the "screening" and "main" questionnaires ensured that a range of abilities were measured¹. For reading, these abilities ranged from locating a word or item in a document (for example, locating the expiry date on a driver's licence) to more complex abilities like integrating various parts of a document (for example, reading a chart to determine if an employee is eligible for a particular benefit). Numeracy abilities were assessed using forms such as a swimming pool schedule (locating a particular time), a bank deposit slip (addition and subtraction) and a catalogue order form (addition and multiplication). Two writing tasks were included in the assessment: a simple message requesting a household member to turn on the oven and a letter to a company requesting the repair of an appliance. Further details on the collection methodology (including a more detailed discussion of the selection criteria for the questions) are provided in Appendix I.

¹ A pretest involving 1,500 respondents was conducted to evaluate the effectiveness of the tasks in measuring specific abilities and to ensure the difficulty levels of the tasks were equivalent in the two official languages.

Table 1.1

Provincial sample allocation and the corresponding sample attained for the Survey of Literacy Skills Used in Daily Activities (LSUDA)

Province	Sample allocated	Sample attained	Response rate
			%
Newfoundland	600	445	74
Prince Edward Island	120	95	79
Nova Scotia	836	611	73
New Brunswick	1,300	946	73
Quebec	2,437	1,745	72
Ontario	3,500	2,257	64
Manitoba	593	427	72
Saskatchewan	532	389	73
Alberta	1,248	862	69
British Columbia	2,405	1,678	70
Canada	13,571	9,455	70

Note: The samples in Newfoundland, New Brunswick, Ontario and Alberta were augmented by the purchase of additional sample by the provincial governments.

2.0 Reading skill levels

This section describes the literacy skill levels, items that constitute and describe each level, and individuals' abilities at each level. As well, basic survey results at the national level for reading skills are discussed. In reading this section, it is important to keep in mind that the levels developed for the survey are simply points along the functional literacy continuum believed to be helpful in understanding the distribution of literacy skills and in identifying the types of programs required to satisfy the literacy needs of Canadians.

A review of previous tests and theoretical work on reading suggested that three key points along the continuum be defined, giving four categories, or levels. Because descriptive titles would detract from the idea that the levels are part of a continuum, levels have been referred to simply as Level 1, Level 2, etc.

It is crucial to note that the points along the continuum were developed prior to item development and served to guide item development (see Appendix II). Thus the LSUDA results do not provide data to discover the points/levels, but rather, data to confirm the model of functional literacy, reflected in the levels that generated the test items. Various technical reports outline how well the results confirm the model.

In describing each level, the formal definition used in the study is given followed by a discussion of the performance of individuals at that level.

Level 1

Canadians at this level have difficulty dealing with printed materials. They most likely identify themselves as people who cannot read.

Canadians whose reading skills are at level 1 cannot use most printed material. While most of the respondents at this level could sign their name, only 53% could determine which sign (from six possible choices) gave information about what to do in a fire, even though only one sign had the word "fire" on it. Only 16% could determine the correct amount of medicine to give to a child. Sixty percent, though, could match names of common grocery products on a shopping list with the grocery items in an advertisement.

People at this level are unlikely to expect that printed text would be meaningful and they are unlikely to look to text for help. Some at this level may have developed strategies to cope with texts they cannot avoid and which recur frequently in their lives, but they are unable to use these strategies with new texts. It is the inconsistency in performance as much as the low level of performance that characterizes level 1. Thus, those who correctly identified the fire sign, may not have been able to find the grocery items, and vice versa, even though the two items are nearly of the same level of difficulty. Those at level 1 are more inclined to identify themselves as people who cannot read.

Level 2

Canadians at this level can use printed materials for limited purposes only, such as finding a familiar word in a simple text. They would likely recognize themselves as having difficulties with common reading materials.

Level 2 items only require respondents to find words in a text. Thus, level 2 items include identifying which sign is a fire information sign and which items on a shopping list are on sale. In each case, the texts consist solely of words in isolation, in lists. Slightly more complicated level 2 tasks require finding words in the midst of other text (for example, finding what foods are mentioned in a newspaper article).

At this level, Canadians can use text for very limited purposes. They are most successful when they have to do nothing more than find a word in a text, but the text has to be relatively simple. Forty-two percent could not determine the correct medicine dosage for a seven-year-old when they had to find it in the midst of directions for other ages. They were more successful at tasks where the word or words they were searching for were not surrounded by other text. Thus 79% could use an enumeration notice to find out where to vote because the address was in a box by itself; almost 90% could identify products in a grocery ad when each product name was in bold type and set off from the others. These respondents probably can find familiar products by using the labels, but if they have not encountered the word in print, even these tasks may prove difficult.

When respondents at this level had to use the information they had found to make a decision, they had great difficulty doing so. Thus, when they had to use a chart to decide whether a particular sandpaper was appropriate for a particular job (a type of reading task often encountered in work-related reading), only 36% could do the task. Finding information in one text and using it in another seemed particularly difficult for this level. Only 11% could transfer information from a catalogue page to an order form. While level 2 readers might be able to locate particular information on a label or form, they may have difficulty deciding what to do with the information when they find it.

These Canadians can use reading for quite limited purposes, such as finding a word or words. People at this level would probably admit to having reading problems and often face tasks that their very limited reading skills make difficult.

Level 3

Canadians at this level can use reading materials in a variety of situations, provided the material is simple, clearly laid out, and the tasks involved are not too complicated. While these people generally do not see themselves as having significant reading difficulties, they tend to avoid situations requiring reading.

Level 3 items are clearly different from those at level 2. It is no longer sufficient to find a word or group of words. At level 3, it is necessary to combine information from words at various places in a text. For example, an item asking what sandpaper to use for a job required the respondent to locate the grade of sandpaper on one axis of a matrix chart, the job on another axis, and then determine the content of the cell where they intersected. The most difficult level 3 item, finding the correct medicine dosage for a seven year old, illustrates the complexity of what, on the surface, seems to be a relatively simply task. First, one has to find the dosage instructions in the text. Then, one has to find the age and know that "6-8" includes "7". Next one has to match this age with the dosage and know that, in this case, the dosage follows the age. Finally, one has to understand the dosage instructions. Perhaps, after all, this task may cause some people difficulty.

This level is in some ways the most difficult to characterize. Respondents at this level could carry out many reading tasks, but there were also many that they could not do. Tasks where the reader only had to find and match words were quite easy; every one of these tasks was answered correctly by more than 90% of the level 3 respondents (95% could correctly find the grocery items on sale). Tasks that required a simple decision after the information was found presented greater difficulties, but 70% of the level 3 respondents answered all the tasks which required a simple decision.

The tasks that were difficult for respondents at this level used complex materials (such as maps) or required complicated searches of texts. For example, one task required that the reader keep three pieces of information about job benefits in mind while using them to search a chart for a fourth; only 37% of the level 3 respondents could do this. They also had difficulty with tasks when the way to find the information was not immediately obvious. One task asked respondents to determine school hours from a text with several paragraphs and no direct guide to the information; only 35% could do so. The fact that there was no clear answer -- the text simply said to "check with local schools" -- may have added to the difficulty.

When the text is clearly laid out, the task not too complicated, and the text simple and familiar, level 3 respondents succeed. Careful document design often enables level 3 readers to use the text, but carelessly constructed documents make it difficult for those at this level. In other cases, the limited reading skills of level 3 respondents will make it difficult for them to meet the demands of the task. Thus, level 3 readers come face to face with their reading limitations when they must carry out new and unfamiliar tasks. Most have probably found ways to solve reading tasks that they cannot avoid, but the literature suggests that they avoid most situations that might require reading. Because they can succeed at some reading tasks, those at level 3 do not tend to identify themselves as people who have significant reading difficulties and are certain to reject any identification with being "illiterate", functional or otherwise.

Level 4

Canadians at this level meet most everyday reading demands. This is a diverse group which exhibits a wide range of skills.

The development of items that effectively measured differences at this level, within the time available for administering the test, was difficult. Level 4 items require considerable text-searching and interpretations to be made about the text. One item, for example, required respondents to read a lengthy newspaper article and judge the evidence used to support a central claim of the author. Some less difficult level 4 items were based on materials that are unusual or complicated (for example, maps and graphs).

Level 4 readers meet most everyday reading demands. Indeed, it is unlikely that those at this level would think they have any reading problems. The only tasks that pose problems for some level 4 readers are those that require judgements about a piece of reading. When asked to judge the purpose of a newspaper opinion report, over 60% had difficulty. Tasks that had no easily determined single answer also posed difficulties to some. Twenty-four percent had difficulty finding all the apartments in a group of classified ads that met certain requirements. Since readers were not told how many to find (that is, how many ads fit the criteria), it was difficult to know when they had found them all. Thus tasks without clear, simple, correct answers, were the ones some level 4 respondents found difficult. Closed tasks, where it was relatively easy to determine that one had all the information, posed little difficulty for these readers.

Some readers at this level have no problems even with very difficult reading tasks. The time constraints of the test administration (one hour) limited the use of complex texts that may have created difficulties for these readers. It is, of course, true that highly specialized texts requiring considerable background information will pose problems, but they do so because readers lack relevant knowledge, not because they have reading difficulties. Some level 4 readers may have problems with badly written texts; but for many, their reading skills will be strong enough to eventually overcome the text.

Results

The majority (62%) of Canadian adults have sufficient reading skills to deal with most everyday reading requirements (level 4). Their skills enable them to acquire further knowledge using printed material. A further 22% of the adult population can use reading materials to carry out simple reading tasks within familiar contexts with materials that are clearly laid out (level 3). However, this group does not have sufficient skills to cope with more complex reading contexts. The reading skills of 16% of Canada's adults are too limited to deal with the majority of printed material encountered in everyday life. This percentage includes individuals whose abilities are classified at levels 1 (5%) and 2 (9%) and persons who did not attempt the test because they reported having no abilities in English or French (2%). The national results for the reading component are presented in table 2.1. While the majority of Canadian adults read at level 4, there are significant numbers at the other levels, particularly level 3.

Table 2.1
Percentage distribution of persons aged 16-69 by reading skill level, Canada

	At level	At or below level
	%	%
Level 1	7	7
Level 2	9	16
Level 3	22	38
Level 4	62	100

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*

Note: *Persons who reported having no skills in either of Canada's official languages are included in level 1.*

3.0 Literacy skill levels: a look at the differences among Canadians

Section 2 presented a global picture of the literacy skills of Canadians with basic survey results at the national level for reading. In this section the skills of Canadians are examined more closely by characterizing literacy levels using two key variables -- education and age. Literacy performance by province and community size is also discussed, and inter-provincial differences using data standardized for age and education are explored.

3.1 Literacy skills by level of schooling

Prior to the recent initiation of direct literacy assessment, literacy statistics in Canada were based on indirect measures with educational attainment being the most widely used proxy measure. Few would argue that literacy skill development is a complex process with a large number of factors (encompassing early childhood reading

patterns, home and work environments, leisure time activities, level of education) interacting in complicated patterns to shape an individual's literacy proficiency. It is recognized, however, that educational attainment plays a particularly determining role in skill development. Table 3.1 presents the distribution of skills by education level for reading ability.

As expected, level of proficiency has a strong and positive relationship with level of schooling. Literacy problems are most heavily concentrated among adult Canadians whose educational attainment is limited to elementary schooling or to no schooling whatsoever. Note that only 12% of such Canadians have reading skills sufficient to meet most everyday reading requirements (level 4). This figure jumps to 48% for Canadians with some secondary schooling and to 70% for those whose highest level of schooling is secondary school completion. Not surprisingly, Canadians with university education had the largest percentage of people at level 4 (89%).

Secondary school completion plays a key role in literacy skill development. Only 8% of Canadians who reported their highest level of schooling as high school completion have limited reading abilities (levels 1 and 2). This percentage is even smaller for Canadians with postsecondary education.

There is comfort in the fact that more than the majority of Canadians who completed high school have reading skills sufficient to meet most everyday reading demands. However, about 22% of those whose highest level of schooling is high school completion are categorized at level 3 and while Canadians at this level can use reading materials in a variety of situations (depending on the complexity of the task and the text), these individuals are at risk of losing their abilities. Level 3 readers tend to avoid situations that require reading and few take steps to improve their skills. Therefore the retention of their acquired skills is difficult.

Table 3.1
Percentage distribution of adults aged 16-69 by highest level of schooling showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
Canada*	17,705	5	10	22	63
No schooling or elementary	1,818	27	33	28	12(Q)
Some secondary	4,427	3(Q)	13	35	48
Secondary completed	4,181	(1)	6(Q)	22	70
Trade School	1,133	(1)	(1)	25(Q)	63
Community College	2,458	(1)	(1)	15(Q)	81
University	3,456	(1)	(1)	8(Q)	89

Source: *Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.*

Note: *Excludes persons who reported having no skills in either of Canada's official languages.*

* *Total includes "Not Stated" level of schooling*

(Q) *Users are cautioned that the sampling variability associated with this estimate is high.*

(1) *The sampling variability associated with this estimate is too high for estimate to be released.*

3.2 Literacy skills by age group

The strong relationship between level of schooling and literacy proficiency is also apparent in the comparison of skills between age groups. Older Canadians are much more likely than younger adults to have literacy problems. The experiences of older Canadians in terms of the labour market conditions they faced (nature of job, war, the depression), and the sources of financial support for education undoubtedly contributed to their lower levels of proficiency. The percentage of Canadians aged 55-69 with no schooling or whose schooling is limited to some secondary or elementary is well above the national figure - 56% compared to 34% for 16-69 year olds.

Literacy results by age group are presented in chart 3.1. Note that while the incidence of level 1 and 2 readers (those with skills too limited to deal with everyday reading demands) ranges from 6% to 9% for the three youngest age groups, it rises for the next two age groups from 21% among persons aged 45-54, to 36% among persons aged 55-69. This translates into over 1 million Canadians in the 55-69 age group who have trouble reading such material as labels on medicine bottles or using the yellow pages.

The small percentage of Canadians aged 16-24 at the lowest levels of reading proficiency (levels 1 and 2) looks encouraging and supports the contention that severe literacy problems will diminish with time as the Canadian population ages. And yet, the current school-leaver rate could be as high as 30%. This situation is further

complicated by the fact that the literacy demands placed on individuals by society and the labour market are likely to increase over time.

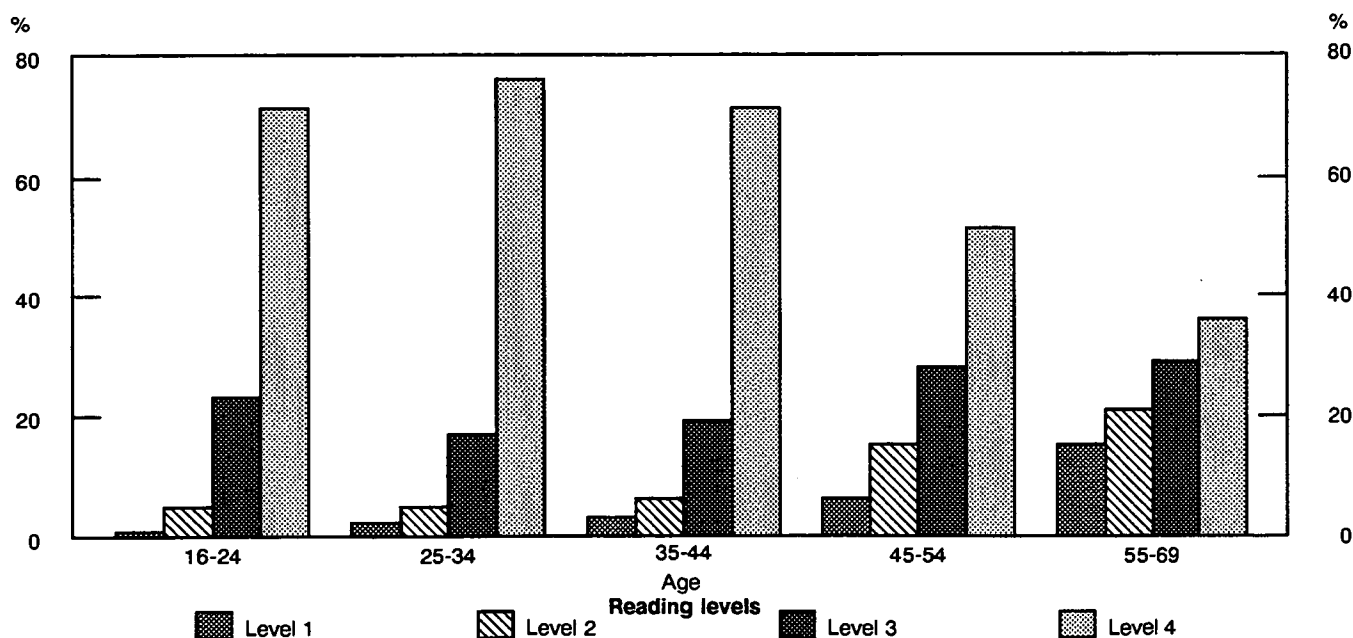
A comparison of the performance of those aged 16-24 with those aged 25-34 also gives rise to questions. Canadians aged 25 to 34 have somewhat stronger reading abilities. This may, in part, result from the younger age group having had a more limited exposure to everyday forms and documents. Many of them, for example, have not yet completed their schooling. It will be particularly important to monitor the skills of this group over the next few years, looking for an upward shift in the percentage at the top level as this group completes its education and has more exposure to everyday printed materials.

Chart 3.2 shows the reading results by age group standardized for education². Not surprisingly, removing the effect of education changes the distribution of the oldest age group most dramatically. The percentage with limited reading skills (levels 1 and 2) in this age group is reduced from 36% to 22% while the level with skills sufficient to meet most everyday demands (level 4) is increased from 36% to 49%. Standardizing for education also narrows the gap between the three youngest age groups.

² Standardization is a procedure of rate adjustment to eliminate the effect of differences in population composition with respect to explanatory variables (such as education and age). The adjusted rates are useful for comparison purposes only.

Chart 3.1

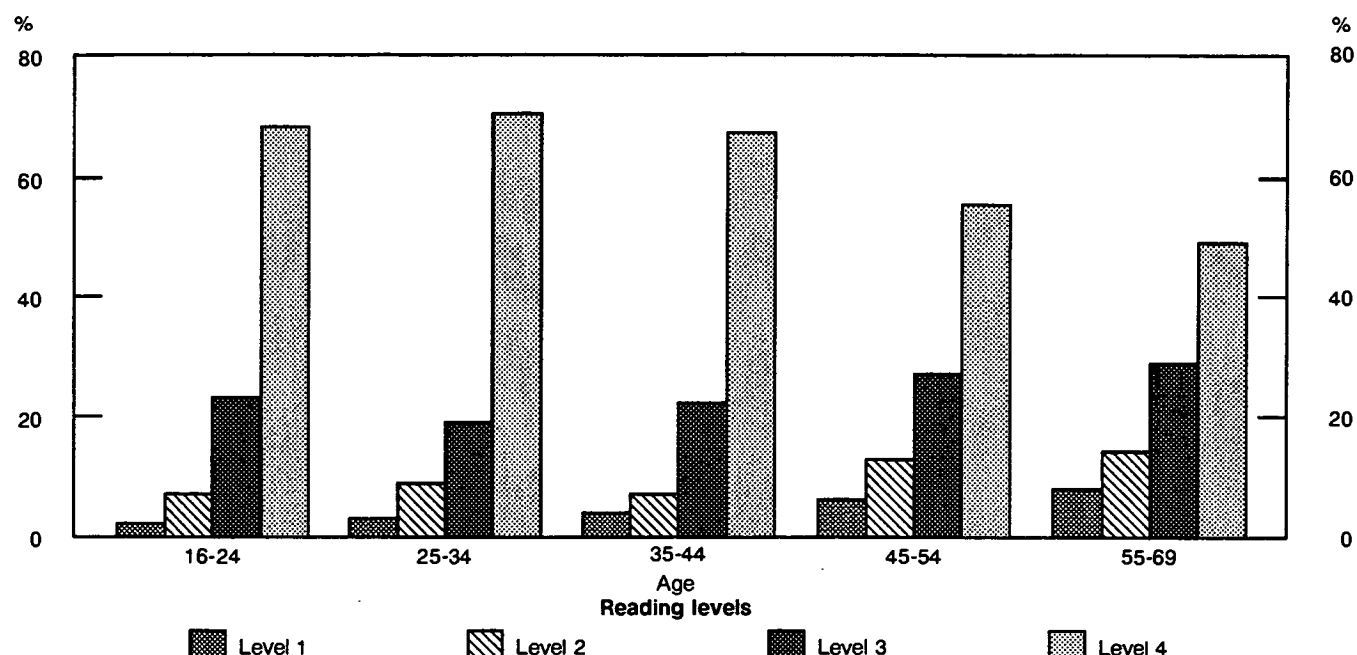
Reading level by age group, Canadians aged 16-69



Note: Excludes persons who reported having no skills in either of Canada's official languages.

Chart 3.2

Reading level by age group standardized for education, Canadians aged 16-69



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

Although removing the effect of education reduces the differences in performance among the age groups, the skill levels of the two oldest groups, are still significantly lower than those of the other age groups, confirming that other factors do play a role in skill development and retention. In Section 4 other variables including labour force status and occupation are related to literacy proficiency.

3.3 Literacy skills by province

Table 3.2 shows that among adult Canadians, residents of the four western provinces generally have the highest reading skills. The incidence of low literacy proficiency does, in fact, vary by province and is highest in Quebec and in the Atlantic provinces. Newfoundland, with 24% of

its adult population at reading levels 1 and 2, registers the lowest estimated skill levels. Nova Scotia, New Brunswick and Quebec have similar reading profiles -- around 56% of adults having reading skills sufficient to meet most everyday demands. Reading skill distributions excluding persons who reported having no skills in either of Canada's official languages are presented in table 3.3.

Table 3.3 also shows the reading results by province standardized for age and education. The only province in which the distribution is appreciably affected by the standardization is Newfoundland, where the level 4 percentage is increased from 39% to 45%. The trend of the highest skills in the western provinces is preserved and the skill levels of Canadians living in Quebec and Atlantic Canada are still below the national figures.

Table 3.2

Percentage distribution of adults aged 16-69 by reading skill level, Canada and provinces

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
Canada	18,024	7	9	22	62
Newfoundland	384	7	17	36	39
Prince Edward Island	85	(1)	(1)	(1)	(1)
Nova Scotia	594	5(Q)	10	28	57
New Brunswick	483	6	12	26	56
Quebec	4,721	6	13	25	57
Ontario	6,689	9	8	21	62
Manitoba	703	5(Q)	7(Q)	23	65
Saskatchewan	632	3(Q)	5(Q)	19	72
Alberta	1,649	5(Q)	7(Q)	17	71
British Columbia	2,084	5	7	19	69

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Persons who reported having no skills in either of Canada's official languages are included in level 1.

(Q) Users are cautioned that the sampling variability associated with this estimate is high.

(1) The sampling variability associated with this estimate is too high for estimate to be released.

Table 3.3

Percentage distribution of adults aged 16-69 by reading skill level, Canada and provinces. Rates standardized for age and education are also presented

	Reading skills			
	Level 1	Level 2	Level 3	Level 4
	%	%	%	%
Canada	5	10	22	63
Newfoundland	7	17	36	39
Standardized	8	15	32	45
Prince Edward Island	(1)	(1)	(1)	(1)
Nova Scotia	4(Q)	11	28	57
Standardized	4(Q)	11	28	57
New Brunswick	6	12	26	56
Standardized	5	11	25	58
Quebec	5	13	25	57
Standardized	4	12	24	60
Ontario	6	8	22	65
Standardized	6	9	22	63
Manitoba	5(Q)	7(Q)	23	65
Standardized	4(Q)	7(Q)	22	67
Saskatchewan	2(Q)	5(Q)	19	73
Standardized	3(Q)	5(Q)	17	75
Alberta	4(Q)	7(Q)	18	71
Standardized	5(Q)	8(Q)	19	68
British Columbia	3	7	19	70
Standardized	4	8	20	68

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(Q) Users are cautioned that the sampling variability associated with this estimate is high.

(1) The sampling variability associated with this estimate is too high for estimate to be released.

3.4 Literacy skills by community size

Table 3.4 shows skill distributions by community size for reading skills. The literacy skills of those living in rural areas are weakest. This is not surprising given that adult Canadians (16-69) in rural areas tend to have lower levels of schooling (49% have not completed secondary school compared to 35% nationally). However, for planning and placing skill improvement programs, it should be remembered that while the highest percentages of Canadians with low literacy abilities are found in the rural areas (17% have limited reading abilities (levels 1 and 2)), less than 20% of the Canadian population live in such areas. Since 48% of Canadians live in urban centres of 500,000 or more, the greatest number of Canadians with

literacy problems live in larger urban centres. Canadians living in urban centres of 100,000-499,999 have the highest literacy skills -- 71% are at the top level for reading.

The reading profiles of Canada's three largest census metropolitan areas (Toronto, Montreal and Vancouver) are presented in table 3.5. In keeping with the trend that western Canadians have the highest reading skills, Vancouver registers a higher percentage of level 4 readers (70%) than both Toronto (55%) and Montreal (60%). Although the gap in these level 4 percentages is narrowed when the effects of age and education are removed, the trend is preserved. (Note that in this table persons who reported having no skills in either English or French are included in level 1.)

Table 3.4

Percentage distribution of adults aged 16-69 by community size showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
Canada	17,705	5	10	22	63
Urban 500,000 or over	8,169	6	9	21	64
Urban 100,000-499,999	2,566	3(Q)	6	19	71
Urban 15,000-99,999	2,375	4(Q)	10	24	63
Urban less than 15,000	1,503	5(Q)	9(Q)	25	60
Rural areas	3,093	4(Q)	13	27	57

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(Q) Users are cautioned that the sampling variability associated with this estimate is high.

Table 3.5

Percentage distribution of adults aged 16-69 showing reading skill level, Toronto, Montreal and Vancouver

	Population (thousands)	Reading skills		
		Levels 1 & 2	Level 3	Level 4
		%	%	%
Toronto	2,510	25	20	55
Montreal	2,144	18	22	60
Vancouver	1,049	12	18	70

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Persons who reported having no skills in either of Canada's official languages are included in level 1.

4.0 Reading skills of adult Canadians by selected characteristics

While educational attainment is closely linked to literacy, not all older Canadians with low educational attainment have limited literacy skills. Similarly, not all younger Canadians with higher levels of schooling had, at the time of the survey, acquired literacy skills sufficient to meet most everyday demands. Other factors influence the acquisition and retention of literacy skills in one of Canada's official languages. For instance, the family, cultural and community environment, as well as occupation and work experiences, may influence the variety of reading material encountered everyday and affect functional reading skills over time.

This section has two main components. Firstly, the analysis focuses on labour market activity and employment characteristics by reading skill levels. The second component compares self-assessed literacy skills to directly-measured literacy skills. This second component also examines the perceived needs of Canadians with self-evaluated skill inadequacies and their choices with regard to future training.

4.1 Labour market activity

The globalization of national economies causes much concern about the adaptability of the labour force to a rapidly changing work environment. This adaptability presumes the presence of skills allowing the acquisition and application of new knowledge using a variety of printed material. This prerequisite is essential to fully react to an even faster restructuring of the job market. These changing work conditions not only affect existing jobs but also job opportunities favouring the rapid growth of certain occupations and an equally rapid decline of others.

This section examines the reading skills of Canada's adults in relation to labour market activity in the past twelve months and the next section looks at employment characteristics (occupation and industry).

For this survey, the labour force universe had a reference period of 52 weeks (that is, the year preceding data collection, Nov. 1988 - Oct. 1989). The employed population includes all those who reported at least one week of work during the 52 weeks preceding the survey. Similarly, the unemployed population groups all Canadians who were unemployed at least one week (that is those without work and looking for work). The population out of the labour force is all adult Canadians who reported at least one week out of the labour force during the reference period. The three universes are not mutually exclusive: persons who reported having worked at some time during the reference period, being unemployed at another and also having weeks out of the labour force are part of all three universes.

Fourteen million adult Canadians (80% of Canada's adult population) reported weeks worked at some point in time during the twelve months preceding the collection period (October 1989). Table 4.1 presents the reading skills of the employed labour force distinguishing full and part-time work. While the reading skills of the employed labour force are higher than the overall population (explained in part by the fact that most of the older population is out of the labour force), the reading levels of part-time and full-time workers do not differ significantly. In both cases, one employed adult out of ten had limited reading skills (levels 1 and 2) while another 2 out of ten could deal with well laid-out documents or simple texts (reading level 3). Close to 70% of those who worked at a job or business in the twelve months preceding the survey had skills that enabled them to deal with most everyday reading material (reading level 4).

Table 4.1

Percentage distribution of adults aged 16-69 by labour market activity showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
All adults	17,705	5	10	22	63
Employed L.F.*	14,094	3	7	21	69
Full-time workers**	11,532	3	7	21	69
Part-time workers	2,563	(1)	8	22	69

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(1) The sampling variability associated with this estimate is too high for the estimate to be released.

* Employed labour force refers to persons who reported at least one week worked at a job or business during the 12 months preceding the survey.

** Full-time workers are those who reported working 30 or more hours a week.

Table 4.2

Percentage distribution of employed adults aged 16-69 by number of weeks worked during the twelve months preceding the survey showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
All adults	17,705	5	10	22	63
All employed*	14,094	3	7	21	69
Full-year workers**	11,002	3	7	20	70
Part-year workers	3,048	(1)	9	23	65

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(1) The sampling variability associated with this estimate is too high for the estimate to be released.

* Employed Labour force refers to persons who reported at least one week worked at a job or business during the twelve months preceding the survey.

** Full-year workers are those who reported having worked 40 or more weeks during the twelve months preceding the survey. Part-year workers are those who reported less than 40 weeks worked. "Not Stated" to weeks worked are included in the total "All Employed".

If work intensity is considered, larger differences in the reading skills among the employed population are apparent. Table 4.2 compares the reading skills of the full-time employed labour force, separating those who reported 40 or more weeks worked (full-year workers) from those who worked less than 40 weeks (part-year workers). The comparison reveals that the reading skills of the part-year workers are lower than those of the full-year workers. Sixty-five percent of the part-year workers were classified at reading level 4 compared to 70% for the full-year workers.

Another dimension of work intensity that can be examined is the number of weeks of unemployment. Fourteen percent of the adult population reported weeks of unemployment during the twelve months preceding the survey. Among this population, the majority (over 60%) were unemployed for less than 26 weeks while the remainder experienced periods of unemployment exceeding half a year. The comparison of the reading skills by weeks of unemployment reveals a significant gap among the two groups (table 4.3). Only 47% of the adults who

reported a period of unemployment exceeding six months had level 4 reading skills compared to 67% for those with a shorter period of unemployment. A third of those without work for 6 months or more had level 3 reading skills and close to one in five had limited reading skills (levels 1 and 2).

The out of the labour force population includes persons who reported one or more weeks during which they did not work and did not look for work. Students, persons staying at home to raise a family and retired workers form the majority of this population. In total, 34% of the adult population reported one week or more out of the labour force. Close to half of this population was aged 45 or older. It is therefore not surprising to note that their reading skills are lower than the skills of the labour force population and that of the overall adult population (chart 4.1). One in four adult Canadians not in the labour force had limited reading skills (levels 1 and 2). Just over half of this population had reading skills enabling them to deal with most everyday printed materials.

Table 4.3

Percentage distribution of unemployed adults aged 16-69 by number of weeks of unemployment during the twelve months preceding the survey showing reading skill level, Canada

	Population (thousands)	Reading skills			
		Level 1	Level 2	Level 3	Level 4
		%	%	%	%
All adults	17,705	5	10	22	63
All unemployed*	2,490	4(Q)	9	27	60
26 weeks or more of unemployment	969	8(Q)	12(Q)	33	47
Less than 26 weeks of unemployment	1,522	(1)	8	23	67

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(1) The sampling variability associated with this estimate is too high for the estimate to be released.

(Q) Users are cautioned that the sampling variability associated with this estimate is high.

* Unemployed labour force refers to adults who reported one or more week of unemployment (i.e., without work and looking for work) during the twelve months preceding the survey.

4.2 Employment characteristics

Employment characteristics are also reflective of the adjustment of the labour market to economic conditions. Similarly, the literacy requirements of jobs are indicative of specific working conditions. The literacy requirements of jobs vary over time as technologies, production processes and organizational structures of industries evolve. As a result, workers within a particular occupation or industry will have a variety of educational characteristics and work experiences at any point in time.

Functional literacy skills are basic tools required to deal with adaptation periods resulting from changes in job content or in labour market conditions. They allow workers to undertake training or to acquire new knowledge on the job.

On the other hand, work environment probably also plays an important role in the evolution of workers' functional literacy skills. Workers in industries where printed information is present throughout the organization are likely to exhibit high reading skill profiles; the literacy demands in these industries contribute to the retention of literacy skills by their workers. The opposite is also likely true, especially for workers in unskilled or semi-skilled occupations.

Industry

The Labour Force Survey³ defines industry as the kind of business or industrial activity in which a person is employed. In table 4.4, the reading skills of adult

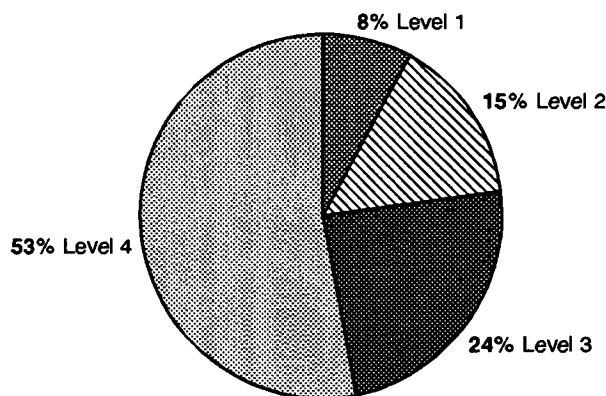
Canadians reporting work activity are compared by industry division. In general, workers in service industries (which are more heavily information-oriented than other industries) have higher reading skill profiles. More than 70% of the workers in industries such as finance, insurance and real estate, community services, services to business, public administration, wholesale trade and transportation, have skills sufficient to meet most everyday demands (level 4).

At the opposite end, only half of the workers in agriculture and the other primary industries (forestry, mining, fishing and trapping) have skills to meet everyday reading demands. Over one in five workers in these industries have limited reading skills (levels 1 and 2). High percentages at reading levels 1 and 2 are also found in manufacturing, personal services and in construction. The non-durable goods industries (for example, food and beverages, leather products, textiles) within the manufacturing industries also have noticeably low-skilled populations, with 18% of the workers being at reading levels 1 and 2.

³ The industry and occupation information was extracted from the April 1989 Labour Force file which was used to select the LSUDA sample. Therefore, the information refers to the job of the respondent during the LFS reference week. For those not working that week, the information refers to the most recent job held in the previous five years (i.e., before April 1989).

Chart 4.1

Reading levels, Canadians aged 16-69 who are out of the Labour Force*



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

* Includes those with 1 or more weeks during which they did not work or look for work during the 12 month preceding the survey.

Table 4.4

Percentage distribution of adults aged 16-69 by industry showing reading skill level, Canada

	Population (thousands)	Reading skills		
		Levels 1 & 2	Level 3	Level 4
		%	%	%
All adults*	17,705	15	23	63
All industries	15,315	11	21	67
Agriculture	487	21	31	48
Other primary industries	374	21	29	50
Manufacturing				
Non-durable goods	1,304	18	27	56
Durable goods	1,299	14	26	61
Construction	745	15	27	58
Transportation	1,090	8(Q)	19	73
Trade				
Wholesale	640	8(Q)	18	74
Retail	2,097	10	26	64
Finance, insurance and real estate	761	(1)	15(Q)	81
Service industries				
Community services	2,677	9	14	76
Personal services	1,437	17	26	57
Service to business and miscellaneous services	1,240	9(Q)	17	74
Public administration	1,164	6(Q)	16	78

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(1) The sampling variability for this estimate is too high for the estimate to be released.

(Q) Users are cautioned that the sampling variability associated with this estimate is high.

* The industry information, which was pulled from the April 1989 Labour Force Survey file used to select the LSUDA sample, refers to the job of the respondent during the LFS reference week. For those not working that week, it refers to the main job in the previous 5 years.

Industries with low reading skill profiles also have larger percentages of workers at level 3. More than a quarter of the workers in these industries were classified at that level (31% for agriculture). These percentages could give rise to concern because these industries, especially, are experiencing important and rapid change.

Occupation

Many occupations⁴ are closely associated with particular industries (for example, farmers to agriculture, fishermen to fishing, hunting and trapping). Therefore, similarities in the reading skills for these occupations to the overall industry reading profiles is expected. Farming and other occupations in the primary sector, as well as product fabricating (manufacturing), show reading skill distributions similar to their industry -- less than half of the workers in these occupations are classified at reading level 4 (table 4.5).

Within the service occupations, the small group that includes janitors and other elemental service occupations shows less than half (44%) of the workers with skills at level 4. Twenty-five percent of the workers in this occupational group were classified at reading levels 1 and 2. Similar situations are observed within the product fabricating occupations. As many as 44% of the workers in textile processing occupations were classified at levels 1 and 2, and 36% of the workers in wood processing occupations (except pulp and papermaking) were classified at these levels.

⁴ Occupation in the Labour Force Survey is defined as the kind of work done by individuals according to their main activities or duties.

Table 4.5
Percentage distribution for adults aged 16-69 by occupation showing reading skill level, Canada

	Population (thousands)	Reading skills		
		Levels 1 & 2 %	Level 3 %	Level 4 %
All adults*	17,705	15	23	63
All occupations	15,315	11	21	67
Managerial, administrative & related occupations	1,823	(1)	12	85
Natural sciences, engineering & social sciences	913	(1)	10	86
Teaching & related	693	(1)	(1)	92
Health & related	728	10(Q)	14(Q)	76
Clerical & related	2,584	4(Q)	20	75
Sales	1,481	7(Q)	24	69
Service	2,329	21	27	52
Farming & other primary	692	21	33	46
Processing & machining	967	18	30	52
Product fabricating	1,094	23	28	49
Construction trades	749	17	29	54
Other	1,263	13	22	65

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

(1) *The sampling variability for this estimate is too high for the estimate to be released.*

(Q) *Users are cautioned that the sampling variability associated with this estimate is high.*

* *The occupation information, which was pulled from the April 1989 Labour Force Survey file that was used to select the LSUDA sample, refers to the job of the respondent during the reference week. For those not working that week, it refers to the main job in the past 5 years.*

Reading skills are lower than the overall adult population in the construction trade occupations (54% at level 4), the processing and machining occupations (52% at level 4) and the service occupations (52% at level 4). Close to one in five workers in these occupational groups are at levels 1 and 2.

As expected, the occupational groups consisting of professional and highly skilled occupations show high reading skill distributions. Eighty-five percent of those in managerial, administrative and related occupations, 86% in natural sciences, engineering and social sciences occupations, and 92% in teaching and related occupations had skills sufficient to meet most everyday reading demands. The health and related occupations, clerical and related occupations, and sales occupations (less homogeneous groups) had lower reading skills, with roughly 3 out of 4 workers being classified at level 4.

4.3 Literacy skill levels in relation to self-assessment and perceived needs

Research has shown that persons with low literacy skills tend to be reluctant to reveal their abilities and many develop strategies to conceal their problem. And yet, an essential step in skills improvement -- whether it be reading and writing skills, comprehension skills or communication skills -- is recognizing the need to improve. In this regard, a number of questions dealing with self-assessment of

literacy skills and perceived needs were included in the background questionnaire.

Table 4.6 shows the results by reading level to the self-assessment question. Respondents were asked to rate their reading and writing skills in English or French on a scale of 1 to 5 where 1 was poor and 5 was excellent. Fifty percent of Canadian adults with level 1 reading ability rated their skills at the two lowest points on the scale and a further 28% rated themselves at the midpoint. Level 2 readers were more positive in their self-assessments. Only 15% rated themselves below the midpoint while 45% rated themselves at 4 or 5. The majority of level 3 and 4 readers rated themselves at the top two points on the scale (62% and 82% respectively).

Respondents were also asked if they were satisfied with their reading and writing skills in English or French. The results of this question by reading level are presented in table 4.7. It is somewhat surprising that 54% of level 1 readers and 82% of level 2 readers reported being satisfied with their reading and writing skills. It could be that Canadians at these levels have found ways to cope with their limited reading abilities and hence are satisfied with their skills. They may, for example, try to avoid situations that require reading. Or, Canadians with a main language other than English or French may limit their reading to texts written in their main language. This information has important repercussions for those who must motivate clients to register for and attend literacy programs. The fact that only 9% of Canadians with level 3 reading skills are dissatisfied with their skills also has implications for marketing improvement programs to this subgroup.

Table 4.6

Percentage distribution of adults aged 16-69 by reading skill level showing self-assessment of skills in English or French, Canada

	Population (thousands)	Self-assessment of skills				
		1 (Poor)	2	3	4	5 (Excellent)
		%	%	%	%	%
Canada	17,673 *	2	4	23	40	31
Level 1	853	32	18	28	16	(1)
Level 2	1,694	(1)	12	39	27	18
Level 3	3,979	(1)	4	33	38	24
Level 4	11,146	-	2	17	45	37

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

* "Not stated" to the self-assessment question are not included in the table.

(1) The sampling variability for this estimate is too high for the estimate to be released.

- Nil or Zero.

Table 4.7

Percentage distribution of Canadian adults aged 16-69 by reading skill level showing level of satisfaction with reading and writing skills in English or French

	Population	Satisfied	Dissatisfied
	(thousands)	%	%
Level 1	809*	57	43
Level 2	1,693	82	18
Level 3	3,970	91	9
Level 4	11,122	96	4

Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Note: Excludes persons who reported having no skills in either of Canada's official languages.

* "Not stated" and "No Opinion" to the satisfaction question are not included in the table.

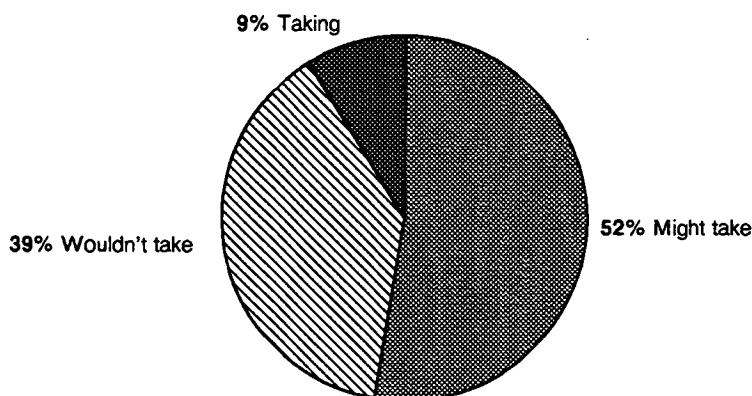
When asked if they felt their reading skills in English or French were adequate for their daily activities, 94% of Canadians answered "yes". Respondents who reported having either worked or looked for work in the last twelve months were also asked if they felt their reading skills in English or French were limiting their job opportunities. Eight percent answered this question affirmatively. It is interesting to compare the responses to this question by the two subgroups: those who worked and those who looked for work. Twenty-one percent of those who looked for work perceived their skills to be limiting their job opportunities, compared to 7% for the population who worked.

Along this same line, the working population responded to a question regarding the adequacy of their reading skills for the job. Ninety-eight percent felt their skills were adequate for their job.

Respondents who indicated that their reading or writing skills were inadequate (representing approximately 1.2 million Canadian adults) were asked a series of questions regarding training programs. One such question concerned the perceived usefulness of certain types of training programs for dealing with daily activities. Around one in three reported that a "program that teaches you to read instructions such as on medicine bottles or packaged goods" would help them in their daily activities. While about 60% felt a program to help read business and government forms would be helpful, less than half (around 40%) considered a "program that teaches you to read newspapers, magazines or books" to be helpful. Sixty-six percent reported that programs teaching the writing of letters and notes would be helpful.

Chart 4.2

Current or potential enrollment in training programs, adults aged 16-69 with self-assessed inadequacies, Canada



Source: Survey of Literacy Skills Used in Daily Activities, Statistics Canada, 1989.

Respondents with self-perceived inadequate skills were asked about their current enrolment or potential enrolment in training programs. Only 9% indicated they are currently taking instruction to improve their reading and writing skills in English or French. A further 52% reported that they might, someday, take such instruction (chart 4.2).

Literacy program enrolment figures have traditionally been low and the above results suggest that motivating Canadians to register for literacy programs may continue to pose a challenge. Level 1 and 2 readers are candidates for the traditional type of literacy programs. And while level 1 readers do recognize that they have low skills, the majority of them are satisfied with their current abilities. Level 2 readers may be more reluctant to talk about their low abilities with others and in fact, a large majority indicate satisfaction with their level of proficiency. It is less obvious what type of instruction may be required for Canadians at level 3 but it is clear that although most Canadians in this group do not identify themselves as candidates for skill improvement, the group is at risk if the literacy demands of society increase.

5.0 Concluding Comments

The levels used in the reading component provide a ready means for matching the skills available in the population with the demands placed on individuals in

particular circumstances. The survey results provide a direct assessment of the actual functional literacy skills of Canadians and provide a context for analyzing present and future requirements.

Globally, the survey reveals that sixteen percent of adult Canadians have limited reading skills and cannot, individually, face most of the demands encountered daily. This group is mostly composed of Canadians with limited school attainment (close to half are over the age of 55). Another 22% of Canadians have abilities enabling them to deal with simple or well laid out text, provided the task is not too difficult. The majority of these Canadians (62%) have secondary education (partial or completed) and they are almost equally distributed among age groups. Whether all Canadians with assessed literacy deficiencies require attention awaits research on the frequency of reading demands that cannot be met. The Survey of Literacy Skills used in Daily Activities was not designed to answer that question; but rather, to clarify the characteristics of the population at risk.

In this overview, only part of the data collected by LSUDA has been discussed. A number of other issues related to literacy in Canada can be explored using this national database.

References

- Cervero, R. M. (1985, April). Is a common definition of adult literacy possible? Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Cervero, R. M. (1980). Does the Texas Adult Performance Level Test measure functional competence? *Adult Education*, 30, 152-165.
- The Creative Research Group. (1987). *Literacy in Canada: a research report* (Prepared for Southam News, Ottawa). Toronto: The author.
- Fagan, W. T. (1988). Literacy in Canada: A critique of the Southam report. *The Alberta Journal of Educational Research*, 34(3), 224-231.
- Fagan, W. T. (1989, February). A critical look at literacy. *Quill and Quire* (p. 30).
- Guthrie, J. T. (1988). Locating information in documents: examination of a cognitive model. *Reading Research Quarterly*, 23, 178-199.
- Guthrie, J. T., & Kirsch, I. S. (1987). Distinctions between reading comprehension and locating information in text. *Journal of Educational Psychology*, 79, 220-227.
- Jones, S., & Librande, L. (1987). *Ontario test of adult functional literacy*. Ottawa: Centre for the Study of Adult Literacy, Carleton University.
- Jones, S., & Déry, L. (1987). *Test ontarien d'alphabétisation fonctionnelle des adultes*. Ottawa: Centre for the Study of Adult Literacy, Carleton University.
- Kirsch, I. S., & Guthrie, J. T. (1981). The concept and measurement of functional literacy. *Reading Research Quarterly*, 13, 485-507.
- Kirsch, I. S., & Jungeblut, A. (1986). *Literacy: profiles of America's young adults* (Final Report, 16-PL-01). Princeton, NJ: The National Assessment of Educational Progress.
- Kirsch, I. S., & Mosenthal, P. B. (1990). Exploring document literacy: variables underlying the performance of young adults. *Reading Research Quarterly*, 25, 5-30.
- Lave, J. (1988). *Cognition in practice: mind, mathematics, and culture in everyday life*. Cambridge: Cambridge University Press.
- Mikulecky, L. (1985, March). Literacy task analysis: defining and measuring occupational literacy demands. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- Murphy, R.T. (1973). *Adult functional reading study* (PR 73-48). Princeton, NJ: Educational Testing Service.
- Murphy, R.T. (1975). *Adult functional reading study* (PR 75-2). Princeton, NJ: Educational Testing Service.
- Odell, L., & Goswami, D. (1985). *Writing in nonacademic settings*. New York: Guilford Press.
- Satin, A., Jones, S., Kelly, K. & Montigny, G. (1990). *National literacy skill assessment: the Canadian experience*. Paper presented at the annual meeting of the American Statistical Association, Anaheim.

Appendix I

Question selection criteria

The choice of background questions had to respect certain constraints associated with household surveys, among which respondent burden was especially critical. Questions that attempt to measure factors related to learning, attitudes or environment during childhood were excluded from the survey as they present several problems in the context of an adult population survey. Firstly, questions probing these areas pose serious recall problems. Secondly, to measure the likely impact of such factors on the literacy abilities of respondents with adequate depth, a series of questions is required. To confine the interview to a reasonable length, only characteristics which have a direct bearing on literacy skills, and for which measurement is relatively straightforward, were retained.

The selection of the items for the "screening" questionnaire and "main" questionnaire was done according to predefined levels for reading, writing and numeracy ability. The number and kinds of items in the test were also limited so that the interview would last about one hour. Further, in light of the importance of reading relative to writing and the long time required to complete writing tasks, the number of writing tasks was limited. Also because of the need to have middle and lower level literacy skills measured with greater precision than at higher levels, more items were selected at the low end of the scale.

Several other criteria also played a role in defining what tasks would be included. Most importantly, tasks had to be of a type commonly encountered in daily living in Canada. The inclusion of tasks which were outside the experience of the majority of Canadians would have given an unfair advantage to those Canadians who had previously been exposed to a particular task. Secondly, the material selected had to be clear and unambiguous. Ambiguity

would increase the chance of getting an item wrong because of misinterpretation and hence, mask the intrinsic difficulty of the task.

As well, the items or tasks had to be suited for a household survey directed to the general adult population. For most respondents, this survey would have been their first exposure to a test environment since leaving the formal school system. Coupled with the fact that the federal government was conducting the test, the nature of the survey played an important part in limiting the length and complexity of the items included on the test. Thus, reading aloud tasks and tasks more commonly encountered in academic settings, such as interpretation of poetry, were excluded.

Interviewing

The information was collected during October, 1989, in a personal interview in the respondent's home. All tasks were administered in accordance with rigorous interviewer instructions.

Labour Force Survey interviewers carried out the data collection. Their training was particularly oriented towards methods of administering the tasks in a neutral manner and adhering strictly to directives. The sensitive nature of the subject matter was stressed and they were trained to deal with situations involving language difficulties, low literacy skill levels, reluctance and other difficulties which might arise during the interview.

If a respondent could not communicate with the interviewer in one of the official languages, an interpreter could be used to set up an appointment and to complete the background questionnaire. The respondent was then asked to attempt the simulated tasks without the assistance of the interpreter. A count was kept of persons who were incapable of performing any of the simulated tasks because of language difficulties.

Appendix II

Some notions of literacy

The standard definitions of functional literacy, particularly the widely influential 1978 UNESCO definition

A person is functionally literate who can engage in all those activities in which literacy is required for effective functioning of his/her group and community and also for enabling him/her to continue to use reading, writing and calculation for his/her own and the community's development.

are phrased in terms of the outcomes of literacy, the status of a literate person, not in terms of the underlying competency(ies) that permit an individual to "engage in all those activities...". The UNESCO definition implies that literacy is relative, so that a person may be functionally literate at one time in one society, but not at a different time or in a different society. If this were the concern of a particular study, then it would be proper to focus on such outcomes. But if the focus is on what needs to be done to help individuals who are not functionally literate, or to predict how many may need training (and what kind of training, were the literacy demands of society to increase), then attention to underlying skills is necessary. Only by matching the skills present in the individuals who constitute the society with the skills needed to "engage in all those activities..." can any deficiencies be properly identified.

Since the purpose of the Survey of Literacy Skills in Daily Activities was to profile the literacy skills in Canadian society, it was essential that the results be reported not in terms of the outcome of functional literacy, but in terms of the constitutive skills.

The functional literacy continuum

It is generally agreed that functional literacy skills do not fall neatly into categories, but rather form a continuum. It is possible, however, to identify points along this continuum that deserve particular attention because they are useful for policy and program development and educational planning. None of these points, however, divides the continuum into "literate" and "illiterate". Neither term specifies particular tasks and skills that characterize any individual because of the relative nature of functional literacy. The LSUDA "levels" are simply points along this functional literacy continuum that it was believed would be useful to governments in identifying types of programs needed to deal with the literacy problem. They would also be useful to literacy providers in identifying clients -- possibly new kinds of clients -- for their services. In identifying points of interest in this way, it was important to rely on an adequate theory of functional literacy, particularly as it pertains to functional reading. The work of Mikulecky on the task context of functional literacy (Mikulecky, 1985) and the work of Kirsch and Guthrie on the cognitive differences between school and functional reading (Guthrie, 1988; Guthrie & Kirsch, 1987) were useful in establishing a framework.

In addition to the more theoretical work of Mikulecky, Kirsch, and Guthrie, there have been a number of tests of functional literacy. Of central importance to LSUDA was the test developed in 1986 for the National Assessment of Educational Progress survey of young adult literacy in the United States (Kirsch & Jungeblut, 1986). While the authors of this NAEP study did not formally label points along the continuum, they did report and discuss results at certain points along it. The examination of these results was useful in verifying the proposed points for the LSUDA, even though the data were not cast to allow the conversion of the NAEP results to the Canadian scheme.

The measurement of functional literacy using levels

Having identified certain points along the functional literacy continuum to use as markers (that is, the LSUDA levels), and having created and administered tasks to test for those points, individuals could then be located along the continuum. In placing individuals into the levels, it was necessary to relate the individuals' scores to the tasks that define the various levels. This was accomplished through the use of item response theory.

Item response theory (IRT) is a procedure used to summarize the pattern of answers on a test in a manner which accounts for task difficulty, tasks not attempted, guesses and random errors. IRT calculates an estimate of each task's difficulty and an estimate of an individual's ability using the same numerical scale (commonly a scale ranging from 0 to 500).

Once IRT difficulty scores for the tasks had been calculated, the ranges for each level were determined. Tasks were ordered according to their difficulty score and the level for which each task was initially designed was compared with the groupings which emerged from the difficulty scores. A cluster analysis program was also run to group the tasks by statistical similarity. The task groups (or clusters) derived from this analysis matched those from the theory-driven examination. The ranges for each level were then determined on the basis of the scores of the easiest task at that level and the most difficult task at that same level. This left small uncovered areas which were divided at even numbers. The reading continuum was divided into the following levels:

Level 1:	Under 160
Level 2:	160-204
Level 3:	205-244
Level 4:	245 and over

Having determined the ranges for each level, the determination of an individual's level was relatively easy. The individual's score is the difficulty of the most difficult task that the individual has an 80% chance of answering correctly. Any individual whose score is less than 160 is at reading level 1, any individual whose score is over 160 but less than 205 is at reading level 2, and so on.

Because an individual's score is based on the total pattern of answers, not just those of a particular level, it is possible that some level 2 individuals will answer level 3 items, but they will not do so consistently. Thus, an individual's level is the highest level at which he/she can perform consistently.

Other components of literacy

While literacy is usually defined as composed of reading, writing, and numeracy skills, as in the UNESCO definition, literacy is often identified primarily with reading. Indeed, the above discussion focused on reading. However brief and tentative the literature on adult reading is, that on adult numeracy and writing is almost entirely absent. Studies that discussed in detail these aspects of literacy could not be found. Some studies suggest that the cognitions used in school arithmetic are different from those in everyday numeracy (Lave, 1988). Unfortunately, these studies do not reveal much about the everyday numerical

calculations they investigate. In any case, they tend to emphasize the task-specific properties of what they do study. As the goal of LSUDA was to provide a generalizable measure of Canadians' ability to apply arithmetic skills in the context of commonly encountered documents, past studies offered only indirect guidance.

There was even less to direct the measurement of writing. The few studies of non-school writing (Odell & Goswami, 1985) concerned mostly business writing, which is not applicable to all adults. As the emphasis of LSUDA was on functional writing, two tasks were included that reflect typical situations in which writing would be required. In both cases, respondents were asked to write text conforming to very specific content requirements. Even though the writing measure is considerably more tentative than the reading and numeracy measures, it is believed to be an important step -- even though a somewhat uncertain and early one -- toward an understanding of everyday writing skills.

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