
Releases

International Adult Literacy and Skills Survey

2003

Residents in the Yukon and the three western-most provinces had proficiency scores in literacy that were above the national average, according to a major survey of literacy proficiencies among individuals aged 16 and over in the provinces and territories.

The 2003 International Adult Literacy and Skills Survey (IALSS) tested more than 23,000 Canadians on their proficiency in four domains: prose literacy, document literacy, numeracy and problem-solving. Proficiency was rated on the basis of levels one to five, that is, lowest to highest.

The 2003 IALSS conceptualized proficiency along a continuum that denoted how well adults use information to function in society and the economy. The IALSS did not measure the absence of competence. Rather it measured knowledge and skills in the four domains across a range of abilities. Consequently, the results cannot be used to classify population groups as either "literate" or "illiterate".

The survey showed that proficiency was not evenly distributed within Canada. The provinces and territories fell roughly into three groups based on average scores.

The Yukon, British Columbia, Alberta, and Saskatchewan had average scores significantly higher than the national average in all domains.

But it was the Yukon, where more of the population is of working age, and more of the work force is employed in professional occupations, that had the highest scores in the country. Its score in the prose literacy domain was higher than the average scores in all the other provinces and territories.

Five jurisdictions, Prince Edward Island, Nova Scotia, Ontario, Manitoba and the Northwest Territories, had average scores in all domains that were about the same as the Canadian national average.

Those with scores significantly below the national average in all domains were Newfoundland and Labrador, New Brunswick, and Nunavut.

Only in Quebec was there significant variation in performance across the domains. In numeracy and problem solving, Quebec's average scores were about the same as the national level. For the two literacy domains, Quebec's average scores were below the national average.

About two in five adults aged 16 to 65 score below desired threshold

The ability to use and understand information is fundamental to daily life at work, at home and in the community.

Among adults aged 16 to 65, about 9 million, or 42% scored below Level 3 in prose literacy — the desired threshold for coping with the increasing skill demands of a knowledge society.

When those aged 66 and over are also included, the proportion scoring below Level 3 in prose literacy increases to nearly one-half (48%), or some 12 million adults aged 16 and over.

At 55%, the proportion of the population aged 16 and over with numeracy scores below Level 3 was even more pronounced.

Even in the top performing jurisdictions at least three out of ten adults aged 16 and over performed at the lowest levels in prose and document literacy and at least four out of ten adults performed below Level 3 in numeracy.

Little change in literacy proficiency between 1994 and 2003

These findings were similar to those of the 1994 International Adult Literacy Survey, the world's first internationally comparative survey of adult skills. Contrary to expectations, the 2003 IALSS found little improvement in the overall literacy of adult Canadians since they were assessed a decade ago. In both years, about two in five 16 to 65 year olds scored below Level 3 in prose literacy.

Expectations were that the IALSS would show improvements to the nation's literacy performance. These expectations were based on several factors, including the likely retirement of older, less educated workers; the tendency of new immigrants to be more highly educated; and growth in the proportion of the Canadian-born population with post-secondary education.

Understanding why the expected improvement in literacy performances did not occur is clearly important but the answers are not simple. The results indicate that there have been both gains and losses in the literacy proficiencies of certain groups of Canadians. On the one hand, there has been some improvement in the literacy performance of older age groups relative to the same age groups a decade earlier — a generational

effect. On the other hand, there is evidence of literacy proficiency declining as individuals get older — an aging effect.

At the same time, immigrants are more highly educated than in the past, however, they are also more likely to come from countries where neither French nor English are mainstream languages. Immigrants whose mother tongue is neither English nor French perform at lower literacy levels than do immigrants whose mother tongue is English or French. More analytical work is required to explore the factors around the lack of overall change in the literacy performance of Canadian adults.

While overall there has been little change in literacy proficiency since 1994, it is important to note that Canadians aged 16 to 65 have average prose and document literacy scores at Level 3 — the desired threshold for coping with the increasing skill demands of a knowledge economy and society. The average for numeracy is only slightly below this threshold level.

Provincially, the survey found no changes in the average literacy performance of adults 16 and over between 1994 and 2003, with two exceptions. In Quebec, there was an increase in average prose literacy, and in the Atlantic region, there was an increase in document literacy.

Literacy performance higher among anglophones

The IALSS examined the relative literacy performance of adults in three specific groups: official language minority groups, Aboriginal populations and immigrants.

The survey found that among adults aged 16 and over in each of four provinces (New Brunswick, Quebec, Ontario and Manitoba) the proportion of francophones who scored below Level 3 in the prose domain was larger than the proportion of anglophones. (Anglophones are those whose mother tongue is English, and francophones are those whose mother tongue is French.)

About 65% of francophones living outside of Quebec chose to take the survey test in English. The proportions were 33% in New Brunswick, 64% in Ontario and 84% in Manitoba.

Francophones who took the test in English had higher average scores in prose literacy than those who were assessed in French. About 62% of francophones living outside Quebec who took the test in French scored below Level 3 on the prose literacy scale, compared to about 50% of those who took the test in English.

Because of the close relationship between literacy proficiency and educational attainment, part of the explanation for literacy proficiency differences between language groups may be related to differences in educational attainment. In Quebec, there were no significant differences in prose literacy proficiency

between francophones and anglophones with the same level of education.

Outside Quebec, however, with the exception of those with elementary education or less, there were significant differences in prose literacy proficiency between francophones and anglophones at each level of educational attainment.

Literacy performance lower among Aboriginal people

The IALSS surveyed the Aboriginal population aged 16 and over living in urban Manitoba, in urban Saskatchewan, in the Northwest Territories and the Yukon Territory, as well as the Inuit population in Nunavut.

The prose literacy performance of the Aboriginal populations surveyed was lower than that of the total Canadian population reflecting, at least in part, differing levels of formal schooling and use of a mother tongue other than English or French.

Over one-half of the Aboriginal people living in the Yukon, about 69% of the Aboriginal population in the Northwest Territories and 88% of Inuit in Nunavut scored below Level 3 on the prose literacy scale.

It is important to view these findings in context. The survey was designed to measure literacy, numeracy and problem solving in one of the national official languages (French or English).

However, in Nunavut, a high proportion of Inuit reported that they function on a daily basis in an Aboriginal language — over 60% of respondents in Nunavut indicated a mother tongue of Inuktitut and over half of the population reported using this language on an everyday basis. So, while the survey does indeed measure the competencies in each domain in French or English, it probably does not provide an accurate overall picture of the effective proficiency of this population.

In both Manitoba and Saskatchewan, the proportion of the urban Aboriginal population scoring below Level 3 was larger than it was for the non-Aboriginal population. About 60% of the urban Aboriginal population in both provinces scored below Level 3 on the prose scale. This compared with 45% of the non-Aboriginal population of Manitoba, and 39% of the non-Aboriginal population of Saskatchewan.

Once education was taken into account, however, there was little difference in the average prose literacy scores of urban Aboriginal and non-Aboriginal people in Manitoba.

Among Saskatchewan's urban Aboriginal population, those with more than high school education had the highest average prose literacy score, corresponding to Level 3 proficiency. But this average score was still somewhat lower than that for the same group in the non-Aboriginal population.

In the Yukon, the difference in prose literacy performance between Aboriginal and non-Aboriginal people was reduced greatly for those with more than high school education.

Immigrants perform significantly below the average among Canadian-born population

Nationally, immigrants aged 16 to 65 performed significantly below the average for the Canadian-born population in all four domains.

Overall, about 60% of immigrants were below Level 3 in prose literacy. This compares to 37% of the Canadian-born population.

Immigrants tend to be better educated than in the past. However, more immigrants have been arriving from countries where neither English nor French are mainstream languages.

Immigrants whose mother tongue was English or French had a significantly higher average prose literacy score than did immigrants whose mother tongue was neither English nor French. Regardless of their mother tongue, immigrants had scores that were lower than the Canadian-born population.

At 37%, the proportion of immigrants whose mother tongue was neither English nor French who scored at Level 1 on the prose literacy scale was about twice that of immigrants with a mother tongue of English or French.

About one-third of immigrants with a mother tongue other than English or French were at or above Level 3 prose literacy proficiency compared with just over half of immigrants whose mother tongue was English or French and 63% of the Canadian-born.

Among those at the same level of educational attainment, there were large differences in prose literacy performance between immigrants and the Canadian-born.

About 2% of the university-educated Canadian-born scored at the lowest level (Level 1) of prose literacy proficiency. In comparison, 14% of university-educated established immigrants and 18% of recent immigrants scored at this level. (Established immigrants had lived in Canada for more than 10 years at the time of the survey while recent immigrants had lived here for 10 years or less).

Given the higher educational attainment of recent immigrants, it is possible that many of them have higher literacy proficiency in their mother tongue. More research is required to learn how mother tongue and official language acquisition affect literacy performance in Canada's two official languages.

Proficiencies in the provinces and territories

Yukon and the Western provinces score above national average in literacy

Residents in the Yukon and the three Western provinces had proficiency scores that were significantly above the national average across all four domains measured in the 2003 International Adult Literacy and Skills Survey.

After the Yukon, British Columbia, Alberta and Saskatchewan had the highest average scores of all jurisdictions in all domains, with only a few exceptions.

But it was the Yukon, where more of the population is of working age, and more of the work force is employed in professional occupations, that had the highest scores in the country. Its score in the prose literacy domain was higher than the average scores in all the other provinces and territories.

For the prose, document and numeracy scales, Level 3 is considered the desired threshold for coping with the increasing skill demands of a knowledge society.

To score at Level 5, the highest, respondents would have to understand complex representations, as well as abstract and formal statistical ideas. Individuals who scored at the lowest level, Level 1, have limited abilities to locate, understand and use information, or to do simple, one-step numerical operations.

In the prose domain, 27% of the Yukon's population aged 16 and over was at the two highest levels combined (Levels 4/5). This was well above the national average of 17%.

In British Columbia, 23% of the population was at Level 4/5, as were 21% of the populations of both Alberta and Saskatchewan.

Nevertheless, in the prose domain, all four jurisdictions had significant proportions of their populations at the two lowest levels combined, Levels 1 and 2.

In the Yukon, 33% of the population aged 16 and over was in these two lowest levels, as were roughly 40% of the populations of British Columbia, Alberta and Saskatchewan. Nationally, the proportion at Levels 1 and 2 was 48%.

A far larger proportion of the populations in these jurisdictions scored below Level 3 in numeracy.

In the Yukon, 43% of the population aged 16 and over was at Levels 1 or 2 in numeracy, as were just under one-half of the populations in British Columbia, Alberta,

and Saskatchewan. Nationally, 55% of the population was below Level 3.

Prince Edward Island, Nova Scotia, Ontario, Manitoba, Northwest Territories perform at the national average

Residents in five jurisdictions (Prince Edward Island, Nova Scotia, Ontario, Manitoba and the Northwest Territories) had average scores in all four domains that were about the same as the Canadian national average.

Among the jurisdictions in this middle-performing group, there were no significant differences in average scores in prose literacy, document literacy, numeracy or problem-solving.

Both Prince Edward Island and Ontario scored in this middle-performing group of provinces, relative to the Canadian average. However, their average prose literacy scores were not really much different from those of New Brunswick and Quebec, which were in the group that had prose proficiency scores significantly below the national average.

In contrast, Nova Scotia and the Northwest Territories, which are also in this middle-performing group, had average prose literacy scores that were not much different from the provinces performing above the national average.

Just under one-half of the population aged 16 and over in each of these five jurisdictions scored at the two lowest levels (Levels 1 and 2) in the prose domain, close to the national average of 48%.

The proportion of the population scoring at the two highest levels (Levels 4 and 5) was also similar in these five jurisdictions as well as nationally — about 17%.

A larger proportion of the population had problems in the numeracy domain. Among the five jurisdictions making up the middle-performing group, between 53% and 60% of adults aged 16 and over scored at the lowest two levels. Nationally, the proportion of the population with numeracy scores below Level 3 was 55%.

Quebec residents scored at the national average in both the numeracy and problem solving domains but below the national average for prose and document literacy domains.

Newfoundland and Labrador, New Brunswick, Quebec and Nunavut score below national average in literacy

Residents in Newfoundland and Labrador, New Brunswick, and Nunavut had average proficiency scores in all four domains that were significantly below the national average.

Quebec also performed below the national average in both the prose and document literacy domains but at the national average for numeracy and problem solving.

Residents of Nunavut scored lowest in each of the four domains. However, the survey's assessments were all conducted in English or French. The mother tongue of more than 60% of respondents in Nunavut was neither official language, but rather Inuktitut, which more than half of the survey respondents in Nunavut reported using on a daily basis.

On average, 48% of the Canadian population aged 16 and over scored at the lowest two levels (Levels 1 and 2) in the prose domain. The proportion in Newfoundland and Labrador was 55%; in New Brunswick, 56%; and in Quebec, 55%.

This suggests that a significant proportion of the population of these jurisdictions is at risk of not being able to fully reach their social and economic potential.

Since they were first surveyed in 1994, Quebec residents showed a marked improvement in their average performance in the prose domain. In 1994, the average prose literacy score of Quebec's population aged 16 and over was 255; by 2003, this score had increased to 266.

At the other end of the scale, the proportion of people who scored at the highest two levels (Level 4/5) of the prose scale was generally smaller than it was nationally. In Newfoundland and Labrador, New Brunswick and Quebec, around 12% of the population aged 16 and over scored at Level 4/5, compared with 17% nationally.

In the numeracy domain, the proportions of the population scoring at the two lowest levels were larger in Newfoundland and Labrador and New Brunswick than was the case nationally.

Nearly two-thirds of the population in both Newfoundland and Labrador and New Brunswick scored at Levels 1 or 2 in numeracy, compared with the national average of 55%.

In Quebec, the proportion scoring below Level 3 in numeracy was not statistically different from the national average.

What is the International Adult Literacy and Skills Survey?

The International Adult Literacy and Skills Survey (IALSS) is the Canadian component of the Adult Literacy and Life Skills study, which was a joint project of the Government of Canada, the US National Center for Education Statistics and the Organisation for Economic Co-operation and Development.

The IALSS built on its predecessor, the 1994 International Adult Literacy Survey (IALS),

which was the world's first internationally comparative survey of adult literacy. Like the IALS, the 2003 IALSS conceptualized proficiency along a continuum that denoted how well adults use information to function in society and the economy.

The IALSS did not measure the absence of competence. Rather it measured knowledge and skills in the four domains across a range of abilities. Consequently, the results cannot be used to classify population groups as either "literate" or "illiterate".

The IALSS measured proficiency in four domains. Two of them, prose (continuous text such as the type found in books and newspaper articles) and document literacy (such as graphs, charts and other written information of a discontinuous nature), were defined and measured in the same manner as in the IALS survey.

The IALSS added two new domains. The first was numeracy, which expanded the quantitative measure of the IALS by adding mathematical concepts and, in some instances, removing the textual aspect of the measure. The second was problem-solving, or analytical reasoning.

Proficiencies were rated on a continuous scale from 0 to 500 points and were reported on the basis of five levels (four for the problem solving domain). In all four domains, Level 1 contains respondents displaying the lowest level of ability. Level 4/5 (or Level 4 for problem solving) contains those with the highest level of ability.

Due to the small number of respondents scoring at Level 5, results in Levels 4 and 5 were combined for the prose, document and numeracy scales. The new problem-solving domain has four theoretical levels, so the regrouping was not required.

It is important, for analytical as well as operational reasons, to define a "desired level" of competence for coping with the increasing skill demands of the emerging knowledge and information economy. Level 3 performance is generally chosen as a benchmark because in developed countries, performance above Level 2 is generally associated with a number of positive outcomes such as increased employment opportunities and higher civic participation.

In Canada, more than 23,000 individuals aged 16 and over from across the 10 provinces and three territories responded to the Canadian IALSS. They spent an average of two hours responding to the questions.

Every respondent was first given a common questionnaire seeking information about demographic characteristics and variables such as educational attainment, occupation, income, and engagement in adult learning and community activities. The

respondents were then given an internationally validated psychometric instrument designed to measure proficiency in four domains.

Prose literacy — the knowledge and skills needed to understand and use information from texts including editorials, news stories, brochures and instruction manuals.

Document literacy — the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and charts.

Numeracy — the knowledge and skills required to effectively manage the mathematical demands of diverse situations.

Problem solving — goal-directed thinking and action in situations for which no routine solutions exist. The problem solver has a more or less well defined goal, but it is not immediately obvious how to reach it. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning, constitute the process of problem solving.

There were 55 tasks in the prose literacy scale. One of the easiest directed respondents to look at a medicine label to determine the "maximum number of days you should take this medicine." A more difficult task, one near the top of Level 3, involved an article about cotton diapers. It directed respondents to "list three reasons why the author prefers to use disposable rather than cotton diapers." A task falling in Level 4 directed respondents to use information from a pamphlet about hiring interviews to "write in your own words one difference between the panel and the group interview".

The document scale had 54 tasks. One of the easiest directed respondents to identify from a chart the percentage of teachers from Greece who were women. In one of the most difficult, they had to consult a complicated document taken from a consumer magazine that rated clock radios and identify the average price for the basic clock radio that received the highest overall score.

The numeracy scale had 40 tasks. The easiest required respondents to look at a photograph of two cartons of soft drink bottles and determine the total number of bottles. One of the most difficult presented them with an advertisement claiming that it was possible for an investor to double an amount invested in seven years, based on a 10% fixed interest rate each year. They were asked if it is possible to double \$1,000 invested at this rate after seven years, then support their answer with their calculations.

The problem-solving scale included four projects which encompassed 20 tasks. For example, respondents were given a scenario, such as a coming

family reunion, and had to analyze the situation, select potential dates, organize events, book flights and so on.

Definitions, data sources and methods: survey number 4406.

A full report of the results of the Canadian component of the 2003 International Adult Literacy

and Skills Survey will be released in *The Daily* on Wednesday, November 30, 2005.

For more information about the analysis contained in this release, contact Statistics Canada's Media Relations Hot Line (613-951-4636), Communications and Library Services Division.

Average proficiency score and percent of population at each proficiency level, Canada, provinces and territories, population aged 16 and over, 2003

	Average proficiency score	Level 1	Level 2	Level 3	Level 4/5
	%				
Prose literacy					
Newfoundland and Labrador	263	24.0	30.8	32.8	12.4
Prince Edward Island	272	19.9	29.6	34.0	16.6
Nova Scotia	276	17.3	27.5	38.4	16.8
New Brunswick	264	22.7	33.3	31.6	12.4
Quebec	266	22.3	32.3	32.8	12.6
Ontario	270	21.3	26.7	35.0	17.0
Manitoba	274	18.2	28.1	37.2	16.5
Saskatchewan	283	13.5	26.6	38.9	21.0
Alberta	283	13.6	25.9	39.6	21.0
British Columbia	281	17.3	22.7	37.2	22.9
Yukon	292	10.5	22.9	39.3	27.3
Northwest Territories	275	19.3	25.8	35.1	19.8
Nunavut	230	47.2	25.8	19.5	7.5
Canada	272	19.9	27.8	35.4	17.0
Numeracy					
Newfoundland and Labrador	251	32.0	32.8	25.9	9.2
Prince Edward Island	260	25.7	33.9	28.1	12.3
Nova Scotia	262	26.0	30.5	30.8	12.8
New Brunswick	252	30.0	35.2	25.8	8.9
Quebec	259	27.6	31.3	28.6	12.5
Ontario	261	27.0	28.8	29.3	14.8
Manitoba	262	24.6	31.7	31.3	12.4
Saskatchewan	272	19.7	29.2	34.2	16.9
Alberta	274	19.7	29.0	32.7	18.6
British Columbia	272	21.4	27.3	33.4	17.8
Yukon	280	15.7	27.5	37.7	19.1
Northwest Territories	265	25.0	28.0	31.7	15.3
Nunavut	219	55.7	22.4	15.4	6.5
Canada	263	25.5	29.6	30.1	14.7



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