ABC CANADA

Literacy Foundation
Fondation pour l'alphabétisation

REPORT SUMMARY

November, 2005

International Adult Literacy and Skills Survey (IALSS)

(Statistics Canada, Human Resources and Skills Development Canada, US National Center for Education Statistics, Organisation for Economic Co-operation and Development, 2005)

Findings regarding the literacy proficiency of Canadians.

Background to the Survey

The *International Adult Literacy and Skills Survey (IALSS)* is the follow-up report to the *Adult Literacy and Life Skills (ALL) Survey* findings released May 11, 2005. The two reports are companion pieces. Where the *ALL Survey* used data collected in 2003 to build an aggregate national picture of Canada's literacy levels, compared with Bermuda, Italy, Norway, the Mexican State of Nuevo Leon, Switzerland and the United States, this second *IALSS* report provides further details arising from that 2003 survey, showing proficiency levels from each province and territory in Canada.

IALSS builds on its predecessor, the 1994 *International Adult Literacy Survey (IALS)*, which was the world's first internationally comparative survey of adult literacy. This enables some comparisons between the 1994 and 2003 data, and some highlights pertaining to such comparisons are included in this *Report Summary*.

This Summary's main purpose is to highlight the key points arising from *IALSS*.

Like its predecessor, *IALSS* measured proficiency in four domains: *prose literacy* (continuous text such as type found in books); *document literacy* (graphs, charts and other material written in a non-continuous fashion); *numeracy* (an expansion of the 'quantitative literacy' measure in *IALS*, adding mathematical concepts) and *problem-solving* (analytical reasoning, and a domain introduced with this survey). The degree of proficiency in each of these domains is expressed in five levels (*see* Terminology, *page 2*).

In Canada, more than 23,000 individuals aged 16 and over from across the 10 provinces and three territories responded to *IALSS*, spending an average of two hours answering the questions. These consisted of common questions seeking demographic information (such as education, occupation, income and engagement in adult learning and community activities), as well as tasks to determine proficiency levels.

1. Key goals of the *IALS Survey (IALSS)*

- **To shed light on the twin processes of skill gain and loss in adult populations, aged 16 and over.** In comparing data collected in the earlier *IALS* survey (1994), researchers wanted to discover changes in the level (*See* Literacy Levels *box, page 2*) and distribution of literacy skills. In general, one expects the quality of literacy skills in the population to increase over time in response to increases in the incidence, average duration and quality of education and adult learning. But gains or losses in literacy skills can occur as a result of many factors, including the choices made by individual learners and the learning and skill maintenance opportunities afforded at home, at work, and in the community.
- **To profile and compare, for the first time, the level and distribution of directly accessed numeracy skills among Canadian adults.** The *ALL* Survey, 2003 replaced a "quantitative literacy domain" used in *IALS*, 1994 with a broader and more robust numeracy measure that better reflects the various numeracy challenges faced by adults in their daily lives.
- **To profile and compare the level and distribution of problem-solving skills among adults.**
- **To examine the relative literacy performance of adults in three specific groups: official language minority groups; Aboriginal populations; and immigrants.**
- **To collect comparable data on participation in formal adult education.** The *ALL* background questionnaire was designed to profile formal adult education and training and forms of informal adult learning, their social distribution and impact on individual outcomes such as employability and wages.

An important assumption made in the survey is that different life contexts – work, home and the community – impose skill demands on individuals. The study assumes that these skill demands change over time due to externally imposed changes in technology or work organization, life changes such as aging or getting a new job which may demand a different skill level, or self-imposed changes (individual choices made to realize certain goals and aspirations). The central goal of the IALSS study was to understand the degree to which individuals from various backgrounds were prepared to deal with these changes. The research also sought to understand how differences in skill influence the level and distribution of outcomes, whether economic, social or environmental.

2. Comparative Profiles of Adult Skills 200-425

IALSS compares the levels and distributions of adult skills in prose literacy, document literacy, numeracy and problem solving (*See* Four Scales of Competency Reported *box, page 2, for definitions*). It also tracks changes in prose and document literacy from 1994 to 2003.

Key findings:

- Forty-eight per cent of Canadian adults, age 16 and over -- about 12 million Canadians -- have low literacy (20 per cent scoring Level 1, the lowest proficiency, in prose literacy, and 28 per cent at Level 2). This indicates no difference from 1994, when 22 per cent scored Level 1 and 26 per cent scored Level 2 ***[SEE FIG. 1]***
- When considering working-age Canadians (16-65), 42 per cent -- about 9 million -- have low literacy (scoring Levels 1 or 2) -- also unchanged from the 1994 survey, though the actual number of working-age people with low literacy rose from eight million to nine million. The increase in numbers occurred in Level 2 (an increase of 1.2 million), with no change in the numbers scoring Level 1.
- Fifty-five per cent of Canadians aged 16 and over score below Level 3 in nu-

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Terminology

Literacy Levels

Level 1: Persons with very poor skills, where the individual may, for example, be unable to determine the correct amount of medicine to give a child from information printed on the package.

Level 2: People can only deal with material that is simple, clearly laid out, and in which the tasks involved are not too complex. It denotes a weak level of skill, but more hidden than Level 1. It identifies people who can read but test poorly. They may have developed coping skills to manage everyday literacy demands but their low level of proficiency makes it difficult for them to face novel demands, such as learning new job skills.

Level 3: The minimum skills level suitable for coping with the demands of everyday life and work in a complex, advanced society. It denotes roughly the skill level required for successful secondary school completion and college entry. Like higher levels, it requires the ability to integrate several sources of information and solve more complex problems.

Levels 4 & 5: People demonstrate a command of higher-order information-processing skills.

Four Scales of Competency Reported

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. [*This numeracy scale replaces the quantitative scale used in* IALS, *where respondents were required to perform one or more arithmetic operations based on information contained in texts, either continuous or non-continuous*].

Problem-solving: Involves goal-directed thinking and action in situations for which no routine solution procedure is available. The problem solver has a more or less well-defined goal, but does not immediately know 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.

Glossary of Terms

Literacy: Using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential.

Lifelong learning: The notion that learning occurs in many different contexts throughout an individual's life: in both formal and informal settings, at work, at home and in the community.

Adult education and training: Includes programs, courses, private lessons, correspondence courses, workshops, on-the-job training and apprenticeships.

Informal learning: Learning other than in the formal structure of courses, in both passive and active forms. The former involves activities such as being on a guided tour, or being sent to an organization, and the latter entails learning by oneself, trying things out, and watching others to learn from them.

FIG. 1
Population by prose literacy levels 1 and 2, ages 16 and over, 1994 and 2003

Prov./Terr.	Level 1		Level 2		Levels 1 + 2	
	1994	2003	1994	2003	1994	2003
CANADA	22%	20%	26%	28%	48%	48%
Atlantic Prov. (est)	25%	21%	26%	30%	51%	51%
Nfld. & Lab.	n/a	24%	n/a	31%	n/a	55%
PEI	n/a	20%	n/a	30%	n/a	50%
NS	n/a	17%	n/a	28%	n/a	45%
NB	28%	23%	31%	33%	59%	56%
Quebec	28%	22%	26%	32%	54%	55%
Ontario	19%	21%	28%	27%	47%	48%
West. Prov. (est)	18%	16%	24%	25%	42%	41%
Manitoba	n/a	18%	n/a	28%	n/a	46%
Saskatchewan	n/a	14%	n/a	27%	n/a	40%
Alberta	15%	14%	21%	26%	36%	40%
BC	19%	17%	24%	23%	43%	40%
Yukon	n/a	10%	n/a	23%	n/a	33%
NWT	n/a	19%	n/a	26%	n/a	45%
Nunavut	n/a	47%	n/a	26%	n/a	73%

Note: Estimates for 2003 Atlantic and Western Provinces based on a weighted average using total population.

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meracy; the West fared better, with 43 per cent of adults in the Yukon scoring below Level 3, and just under one half of the adult population in BC, Alberta and Saskatchewan scoring below Level 3.

- The average literacy scores, age 16-65, of all provinces were at Level 3, except for Quebec, New Brunswick, Newfoundland and Labrador and Nunavut; average numeracy scores were at Level 3, except for New Brunswick, Newfoundland and Labrador and Nunavut.
- British Columbia, Alberta and Saskatchewan had the lowest proportion of their working-age population (16-65) with low literacy (below Level 3), and Yukon had the lowest proportion overall. This was also true for numeracy levels.
- The proportion of Francophones, 16-65, scoring below Level 3 is consistently higher than the proportion of Anglophones in Canada as a whole and in New Brunswick, Quebec, Ontario and Manitoba, a fact explained in large part by their lower levels of educational attainment.
- Thus there are no significant differences in prose literacy proficiency between Francophones and Anglophones at the same level of educational attainment.
- Considering all domains (*prose*, *document*, *numeracy* and *problem solving*), Canadians, 16-65, in Newfoundland and Labrador, PEI, New Brunswick, Quebec, NWT and Nunavut tended to have a greater proportion of their populations scoring at Levels 1 and 2, compared with the Canadian average. **[SEE FIG. 2]**

3. International Comparisons

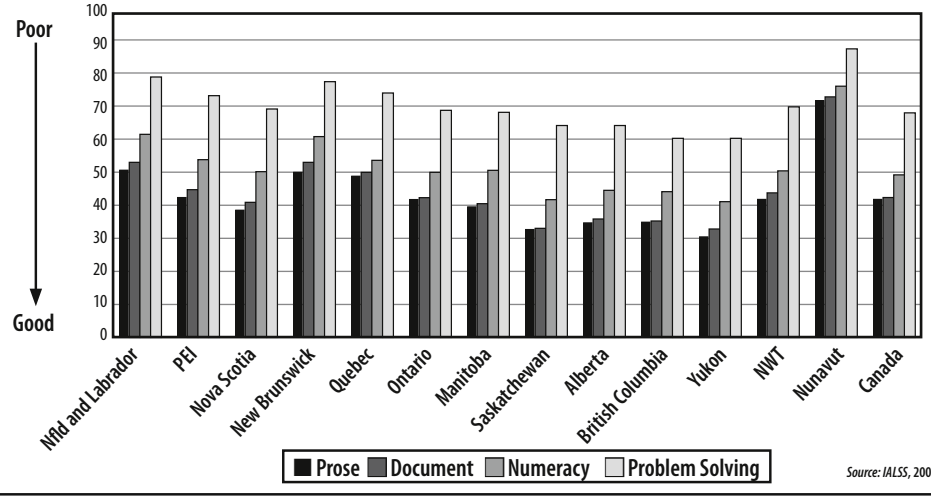
Performance in various Canadian provinces and territories was compared with that of foreign countries that were also surveyed in 2003.

Key findings:

- Countries that have higher average scores do better economically over the long term. Also, skill levels seem to have the most impact on key individual economic outcomes such as employability and wages in countries where the range of

FIG. 2 **The proportion of working-age adults performing at levels 1 and 2 varied across domains and provinces.**

Per cent of adult populations, 16-65, performing at levels 1 and 2 in *IALSS* 2003



Source: IALSS, 2004

skills proficiency is the greatest (that is, where there is the greatest span between those scoring the lowest and those scoring the highest). For example, Sweden has a narrow range (only 5 per cent) between worst scores and best scores, while Canada has a relatively wide range (33 per cent). With this wider range of scores comes a greater variation in wages.

- All provinces, with the exception of New Brunswick, Newfoundland and Labrador and Nunavut, had average prose literacy scores higher than the United States. Saskatchewan displays a relatively small range between the worst and best prose literacy scores, particularly when compared to Ontario. Nunavut is characterized by a very low average prose literacy score and a very wide range of scores.
- In document literacy, most provinces and territories performed close to Norway, and better than Bermuda, the best-performing countries. All Canadian provinces and territories share the characteristic of having a wide range of document literacy skill, particularly when compared to countries such as Switzerland. There is greater variability (a wider range of scores) among those who score the lowest in proficiency, compared with those who have high proficiency. Both average skill levels and the levels of the least skilled are known to influence long-term economic outcomes.
- With the exception of Nunavut, all Canadian provinces and territories outperformed the United States in terms of average numeracy scores. Ontario, NWT and Nunavut have the lowest numeracy levels.
- In problem solving, the Yukon ranked first among countries participating in *ALL/ IALSS*. Saskatchewan, PEI and New Brunswick appear to have a smaller range of skills levels in problem solving, compared to other jurisdictions.

4. Youth

IALSS considered proficiency levels in youth, aged 16-25, in specific domains and as an indication of change since the earlier 1994 findings.

Key findings:

- In most provinces and territories, the majority of youth have prose literacy proficiency at Level 3 or above. Nevertheless, over one third of youth in all provinces and territories have Level 1 or Level 2 prose literacy skills. In fact, in six jurisdictions the percentage of youth with only Level 1 prose literacy skills is in the double digits: PEI (14.2 per cent), Nova Scotia (10.0), Ontario (10.6) BC (12.3), NWT (17.4) and Nunavut (50.9).
- *IALSS* also notes that the average prose literacy scores of youth with lower-educated parents actually declined over the period 2004 - 2005. While this decline is not statistically significant it is socially significant because it suggests that the distribution of skill is becoming less equitably distributed over time.

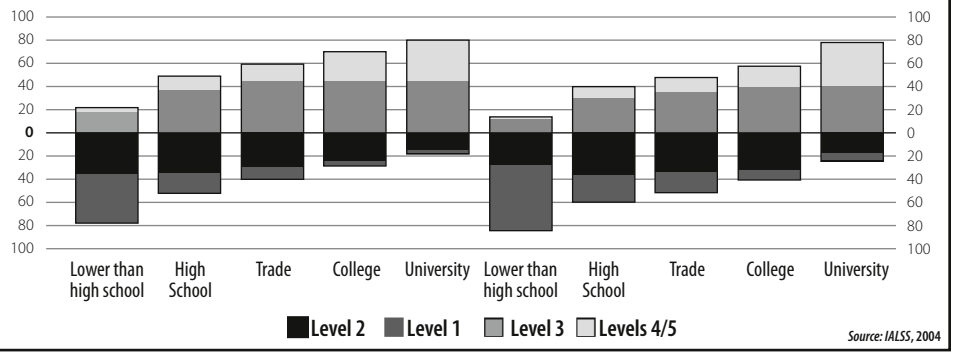
FIG. 3

Higher levels of education are associated with higher levels of prose proficiency

Prose literacy levels by educational attainment, population aged 26-65 years, Canada, 2003

Higher levels of education are associated with higher levels of numeracy

Numeracy levels by educational attainment, population aged 26-65 years, Canada, 2003



Source: IALSS, 2004

5. Education

IALSS examined the relationship between individual educational experience and observed measures of skills. It explored the extent to which observed differences in skills can be attributed to socio-economic inequalities, gauged largely by the education levels of the respondents' parents, considering three cohorts of adults: youth aged 16 to 25; early-career adults, 26 to 45; and middle-career adults, 46 to 65.

While there is evidence that education plays a key role in the formation of skills, other factors are also implicated in the acquisition, maintenance and loss of skills over a lifetime, including the quality of initial education, the intensity of skill use associated with the job, the intensity of skill use undertaken outside the context of job and the level and intensity of participation in adult education and training.

Key findings:

- Higher levels of education are associated with higher levels of prose literacy proficiency and numeracy. Only 3.9 per cent of adults with less than high school completion achieve Level 4 or 5 skills on the prose scales whereas almost 10 times as many (34.5) of university graduates attain this level of proficiency. **[SEE FIG. 3]**
- Educational attainment appears to moderate, and even delay, a decline in proficiency as Canadians age. For example the gap in skills between 16-to-20-year-olds with less than high school and 61-to-65-year-olds is 58 points on the prose literacy scale whereas the comparable gap for university graduates is only 9 points.

6. The Workplace and Employment

Key findings:

- About 62 per cent of employed Canadians have document proficiency scores at Level 3 or above, while 53 per cent of the unemployed have scores *below* Level 3. Lower-skilled adults tend to work fewer weeks, experience more and longer periods of unemployment, and earn lower wages when they are working.
- There are 972,000 Canadians at Level 1, and 1.6 milion at Level 2, who are either unemployed or employed but earning a low income. Individuals with Level 1 and 2 skills are at the most risk of losing their current jobs as a result of technological, process or organizational change, including job losses due to outsourcing. It is unlikely that these individuals have the reading and numeracy skill to cope with the majority of jobs that will replace the jobs that are lost.
- Generally speaking, respondents in Canada and the US who have medium-to-high literacy skills and are high-intensity computer users have between four and five times the odds of being in the top quartile of personal income, compared to those with low literacy and low computer use. This effect is likely to increase wage and income inequality in both countries as employers seek to realize the productivity benefits ICTs afford.

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7. Seniors

Key findings:

- More than 80 per cent of seniors (older than 65) have low literacy, scoring prose literacy at Levels 1 and 2. **[SEE FIG. 4]**
- Average proficiency in prose literacy appears to decrease with age. The data suggest that some gain skills over time but a larger proportion lose skills.

8. Aboriginal Peoples

IALSS assessed literacy, numeracy and problem-solving skill in the respondent's choice of Canada's official language – English or French – because being skilled in these languages affords access to the institutions of the dominant cultures, including the workplace. Thus, it is reasonable to assume that the future economic success of Canada's Aboriginal Peoples will depend, in part, upon their relative skill levels. This will be particularly true for those Aboriginal adults who live in urban centres.

Key findings:

- Over half (54.8 per cent) of the Aboriginal people in the Yukon, 69 per cent in NWT, and 88 per cent of the Inuit in Nunavut, have low literacy, scoring below Level 3. (A high proportion of Aboriginal People communicate in a language other than the two official languages which are tested in the survey. For example, more than 60 per cent of respondents in Nunavut indicated a mother tongue of Inuktitut, and more than half reported using this language on a daily basis.)
- For each age group in Manitoba and Saskatchewan, the average scores for non-Aboriginal people are higher than those of urban Aboriginal people. About 60 per cent of the urban Aboriginal population in both provinces scored below Level 3 in prose literacy, compared with 45 per cent of non-Aboriginal people in Manitoba and 39 per cent of non-Aboriginal people in Saskatchewan.

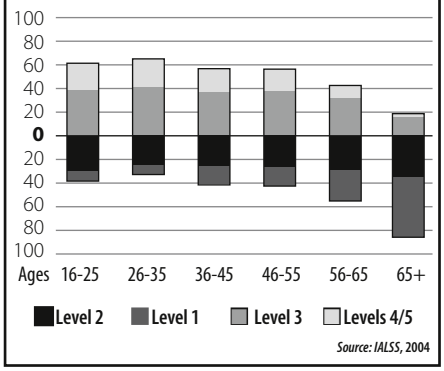
9. Immigrants

Key findings:

- A significantly higher proportion of immigrants have low literacy compared to their Canadian-born counterparts (about 60 per cent scoring below Level 3, compared to 37 per cent of native-born Canadians), despite the fact that immigrants have on average much higher levels of education than their native-born peers.
- Overall, working-age immigrants performed significantly below the Canadian-born population. The average prose literacy score for Canadians, *excluding* immigrants, is roughly 8 points higher, which places Canada at the level of the highest-performing countries such as Norway and Bermuda.
- Immigrants whose mother tongue was neither English nor French have lower average scores in all four domains compared to immigrants whose mother tongue is one of the two official languages.

FIG. 4
More than 80% of seniors, 65+, had prose literacy at levels 1 and 2

Distribution of proficiency level on the prose literacy scale, Canada, 2003



Source: IALSS, 2004

Comments on the Findings

- The fact that large percentages of adults do not currently possess the literacy and numeracy skills needed to fill the types of jobs that the Canadian economy is creating is problematic and may explain Canada's relatively weak productivity performance over the past decade.
- The fact that the skill level of Canada's adult labour force varies considerably among Canada's provinces and territories will likely be reflected in their relative economic performance over the coming decade.
- The fact that many adult Canadians do not possess the level of literacy skill needed to adopt information and communication technologies implies that wage gaps between the high- and low-skilled will rise and Canadian productivity will not rise as rapidly as it otherwise might.
- While Canada's youth are highly skilled on average, too many fail to reach Level 3, the level needed to meet the requirements of most jobs being created by the Canadian economy. The fact that the percentage of youth failing to meet this threshold varies considerably among provinces and territories implies that some provinces will not be able to count on new graduates to improve their overall skills profile. This is particularly true for youth from Canada's Atlantic Provinces. As a consequence many provinces will depend upon immigration to meet their need for skilled workers over the coming decade.
- Many immigrants lack the literacy and numeracy skills needed to ease their integration into the Canadian economy and society and, hence, to tap their full potential. This will inevitably constrain the rate of growth in the three provinces that receive the lion's share of immigrants: British Columbia, Ontario and Quebec.
- Only one province – Quebec -- managed to increase its average skill level over the nine-year period between 1994 and 2003. The lack of progress in the other provinces reflects the fact that many adults actually lost skill in the intervening period, an effect that seems to be concentrated in workers from lower socio-economic backgrounds who do not have the benefit of post-secondary education. Such skill loss deprives the economy of sorely needed skills, reduces the return on investment in publicly financed education and unfairly limits the employment and wage prospects of those involved. Understanding skill loss and its implications for public policy must be a priority.
- Canada has great economic potential, a potential based in large measure upon what its citizens know and can do. Releasing this potential will depend upon providing all Canadians with the literacy and numeracy tools needed to participate equally and to contribute fully in the emerging global economy.

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