

LITERACY: Does Language Make A Difference?

by Jean-Pierre Corbeil

Literacy involves much more than merely mastering the alphabet: people must be able to process increasingly sophisticated written information in both numerical and alphabetical form. In modern societies, literacy is closely linked to economic opportunity, and high level literacy skills have a strong correlation with high income and stable employment. Many other elements of a rewarding life, including active participation in the community, are also enhanced by good literacy skills.

According to the 1994 International Adult Literacy Survey (IALS), literacy skills differ considerably between Canada's two official language groups. People whose mother tongue is English generally have higher scores on literacy tests than those whose mother tongue is French. In fact, the disparities are large: two to three times as many anglophones as francophones scored at the highest skill levels.¹ This article first examines the literacy profiles of Canada's two main linguistic groups in terms of such variables as education, age and reading habits, and then calculates

1. *Reading the Future: A Portrait of Literacy in Canada*. 1996. Statistics Canada, Human Resources Development Canada and National Literacy Secretariat. Catalogue no. 89-551-XPE; p. 33.

CST What you should know about this study

This article draws on data from the 1994 International Adult Literacy Survey (IALS), a joint effort by seven countries to assess the literacy skills of their citizens. The purpose of the IALS literacy tests was to determine if adults correctly answer test items that duplicate the tasks they encounter in their daily lives. In Canada, the survey was conducted among 5,660 individuals aged 16 and over. Respondents were able to take the test in the official language of their choice; about 4,000 respondents took the test in English and about 1,700 in French. Each respondent's test results were plotted on a 500-point scale, and divided into five levels of literacy, with Level 1 being the lowest (0-225 points) and Level 5 the highest (more than 375 points).

Three types of literacy were tested – prose, document and quantitative. In this study, the patterns identified are similar for all three literacy measures, so results are presented only for prose literacy unless otherwise stated.

Respondents are defined as francophone or anglophone on the basis of their mother tongue, that is, the language first learned in childhood and still understood. Since respondents were allowed to report more than one mother tongue, the French mother tongue category includes respondents whose mother tongue is "French and another language," if they chose to do the IALS test in French. Similarly, English mother tongue includes respondents whose mother tongue is "English and another language" if they did the literacy test in English.

- For more information about the IALS, see *Reading the Future: A Portrait of Literacy in Canada*. 1996. Statistics Canada, Human Resources Development Canada and National Literacy Secretariat. Catalogue no. 89-551-XPE.

the effect of these variables on the “literacy gap” between the two groups.

A general portrait of literacy levels in Canada

Many factors may contribute to the differences in literacy levels between English and French Canadians, but historically lower levels of education among francophones is undoubtedly one of the major causes.² Since formal schooling is one of the principal determinants of literacy skills, a person without much education is considerably disadvantaged. On the other hand, the advantage of higher education, on both linguistic groups, is profound: although overall literacy levels are higher for anglophones, the literacy skills of anglophones and francophones with the same level of schooling are very similar.

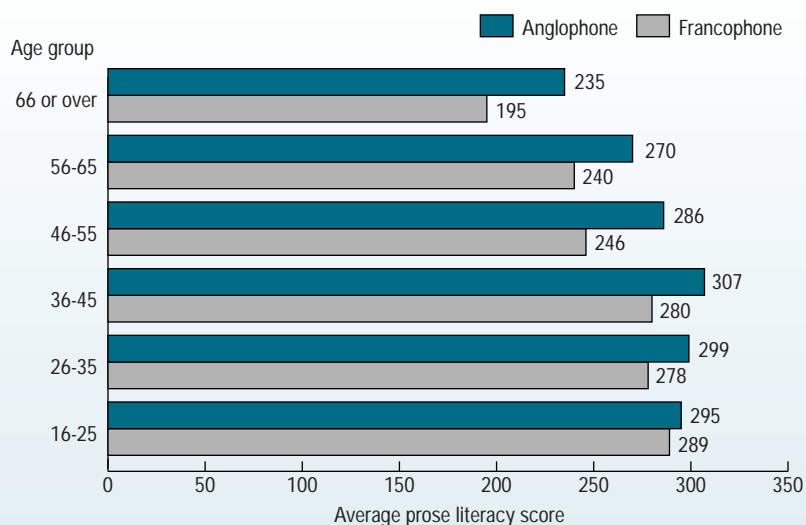
Literacy skills are also influenced by age. Generally speaking, Canadians under 45 in both linguistic groups score higher on the literacy tests because they have more schooling than older adults. There is a 40-point difference (on a 500-point scale) in literacy scores between anglophones and francophones over age 65, but the gap narrows among younger age groups until it almost disappears for those aged 16 to 25. Steady improvement in educational attainment has erased the literacy disparity between young Canadians in the two linguistic groups. The weaker literacy skills of older Canadians, both francophone and anglophone, are of continuing concern to literacy researchers.

While education provides the groundwork for strong literacy skills, some adults may have a relatively high level of literacy but a low level of formal education, while others may

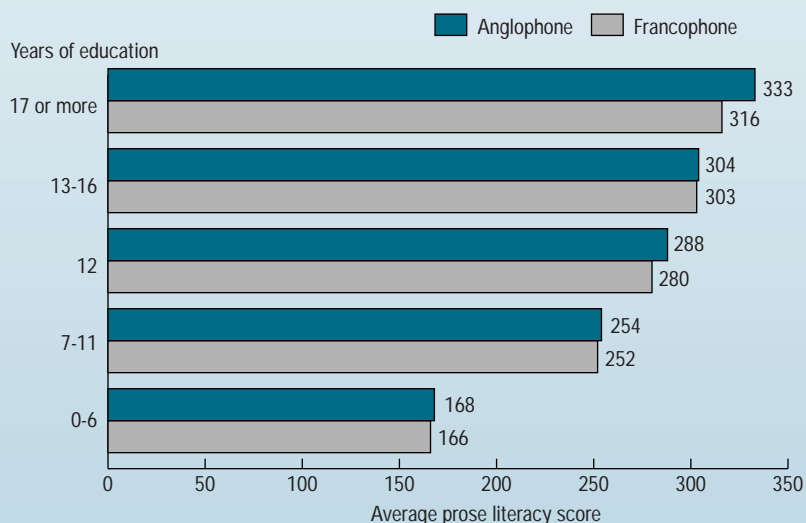
2. In 1961, 54% of francophone men in the workforce had less than nine years of formal education, compared with 31% of their anglophone counterparts.



The anglophone-francophone literacy gap increases with age...



...but decreases with same level of education



Source: Statistics Canada, International Adult Literacy Survey, 1994.

demonstrate poor literacy skills despite having many years of formal schooling. These findings suggest that daily reading and writing activities are also necessary to the maintenance or improvement of literacy skills. Indeed, occupations which demand a lot of reading and writing, along with a well-developed “literacy habit” at

home, are strongly associated with high scores on the IALS tests.³

Job-related literacy tasks – writing letters or memos and reading reports,

3. *Reading the Future: A Portrait of Literacy in Canada*; pp. 35-79.

manuals or schematic drawings – are generally performed more often by anglophones than francophones.⁴ An index of reading intensity, based on the frequency and variety of reading tasks that individuals perform, shows a significant gap between anglophones (3.1) and francophones (2.6). Even when they work in the same type of occupation, anglophones record average literacy scores between 10 and 35 points higher than francophones.

Anglophones generally engage more frequently in literacy activities at home as well – reading books or daily newspapers, visiting the library, or writing letters. According to the IALS, they record an at-home reading intensity of 3.0, compared with 2.6 for francophones. As might be expected, individuals with higher level skills perform at higher levels of intensity. However, it is not certain whether people read more because they have good skills, or whether they have developed good skills by reading more.

What explains the literacy gap?

In Canada as a whole, the average prose literacy score is 261 for francophones and 288 for anglophones. But when so many characteristics appear to have such a powerful influence on literacy skills, averages are not very useful in understanding why these literacy rates should differ by almost 10% (27 points). Using a statistical technique called regression modelling, it is possible to predict the effect of a specific characteristic on a person's literacy skills, while removing the effects of (“controlling for”) other variables. In this way, the model can identify the factors that contribute to

the literacy gap by estimating how many points each factor adds to a person's basic literacy score. The data used in the Canada-level regression are for anglophones across Canada and for francophones living in Quebec.

If language is considered to be the only factor that can explain differences in literacy skills, then a person whose mother tongue is English will,

Schooling (and not language) explains the great majority of the difference in anglophone and francophone literacy scores.

on average, have a literacy score 27 points higher than a person whose mother tongue is French (Model 1).

But if education is also considered to be an explanatory factor, and its effect is controlled for, the gap due to mother tongue almost closes – the difference in average anglophone and francophone scores is only 5 points (Model 2). In other words, schooling (and not language) explains the great majority of the difference in anglophone and francophone literacy scores.

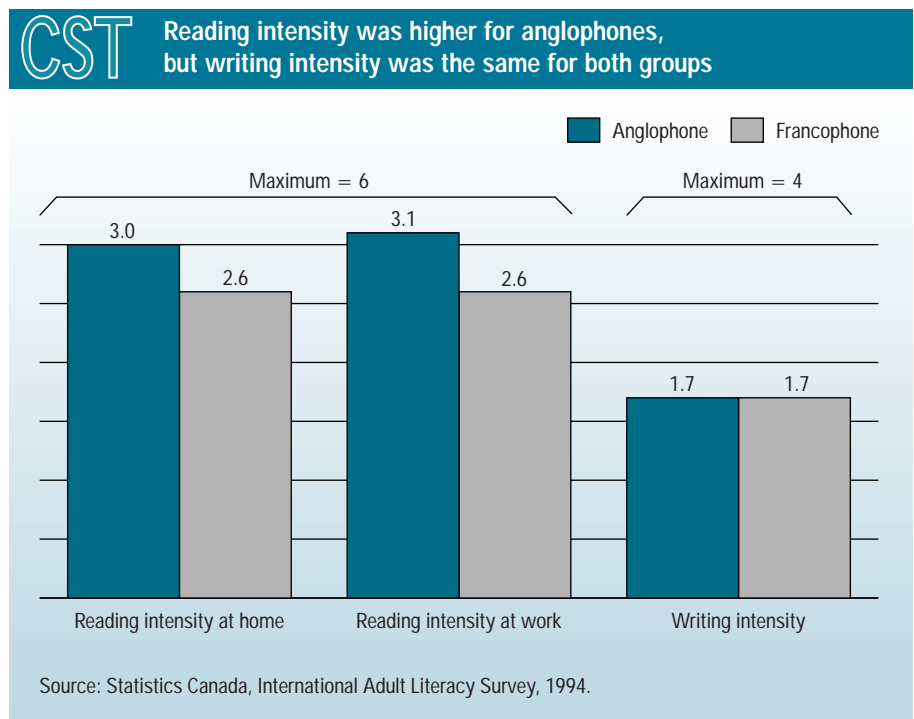
The literacy gap narrows still further, to a scant 1 point, when the other characteristics discussed earlier – age, reading intensity, literacy activities and occupation – are taken into account (Model 3). Indeed, in this more complex model, the importance of language as an explanatory factor ceases to be statistically significant.

Clearly, the key determinant of people's literacy scores is not their mother tongue, it is educational attainment. Every year of schooling increases a person's literacy score by more than 7 points (Model 3). For

example, someone with a university degree (17 years of formal education adding 119 points to the base score) will generally have a much higher literacy score than someone with less than high school (say Grade 9, which adds only 63 points).

Age remains a significant contributor to literacy skills: being under the age of 45 improves a person's literacy score by 16 points, even when the impact of education and other variables are controlled for.⁵ This finding is a bit

4. These results are for prose and quantitative literacy. Francophones more frequently performed tasks related to document literacy in the workplace.



surprising, since age is closely linked with schooling and controlling for it might have been expected to produce less variation between the age groups. The lower scores for older respondents may reflect the cumulative effect of reading less frequently over a lifetime.

The regression model shows that many leisure literacy activities also have a significant effect on literacy scores. When all other factors are controlled for, people who read a newspaper at least once a week added almost 13 points to their literacy score, while reading a book at least once a week added another 11 points.

Literacy skills in minority language communities⁶

These regression models are very successful at explaining the factors underlying the literacy disparity between the two linguistic groups at the Canada level. However, because the model compares francophones in Quebec with anglophones in Canada, its results are applicable only to people in majority-language communities. Is the model equally valuable in explaining the literacy gap for the French-language minority communities in New Brunswick and Ontario?⁷

The size of the linguistic literacy gap between anglophones and francophones is about the same in both provinces — 36 points in New Brunswick and 35 in Ontario — but here most similarities end. In New Brunswick, the effect of education appears to be small, only narrowing the gap to 30 points between anglophone and francophone literacy scores; in Ontario, however, the gap is halved to 17 points.

5. The importance of one variable cannot be compared to another using the “points added” estimate; for example, age is not twice as important as education (16 points versus 7 points). The relative importance of each variable is provided by the standardized estimate (beta coefficient), which is not shown in this article.

CST Compared with education, the effect of mother tongue on literacy is minimal			
	Model 1	Model 2	Model 3
Base literacy score	261	148	146
<i>Points added to base score if mother tongue is English (Literacy gap)</i>			
	27	5	1*
<i>Points added to base score by each year of education</i>			
		10	7
<i>Points added to base score if</i>			
Less than 45 years old			16
Reading intensity greater than 0 (maximum=6)			2
Visit a library at least once a month			9
Write letters or other text at least once a month			5
Read newspapers at least once a week			13
Read books at least once a week			11
Watch TV less than one hour a day			6
<i>Points added to base score if occupation is¹</i>			
Management/administration			-10
Professional			9
Clerical			-1*
Sales and service			8
Machine operation			-1*
* Not statistically significant.			
1. Compared with Agriculture and related occupations.			
Source: Statistics Canada, International Adult Literacy Survey, 1994.			

The full model does not explain much more of the disparity in either province. After controlling for all selected variables except mother tongue, anglophones in New Brunswick still averaged 22 points more than francophones in the literacy test, while those in Ontario generally scored 14 points higher. Since these results are substantially different from those at the Canada level, they suggest that other

6. In Ontario, only 52% of francophones chose to do the tests in French, while in New Brunswick, 89% did so. However, there was little difference in the scores of francophones who did the tests in English rather than in French.

7. Because the sample size for anglophones in Quebec was too small to produce reliable estimates, Quebec is not included in the analysis of minority-language communities.

factors play a significant role in the literacy gap in minority-language communities.

One explanation is limited access to reading material in one's mother

tongue. The regression model shows that literacy activities such as visiting the library, writing letters and reading books can significantly increase literacy scores, particularly in New

Brunswick. Yet IALS data show that francophones in New Brunswick are least likely to practice them. Quite possibly, francophones, particularly those in the rural areas of northern and eastern New Brunswick, may not have had easy access to French-language reading material which could help them maintain or strengthen their literacy skills.

CST

Francophones in New Brunswick were least likely to practice regular literacy activities at home

	Mother tongue	
	English	French
	%	
Read daily newspapers		
Canada	66	54
New Brunswick	64	49
Quebec	--	53
Ontario	69	62
Visit a library at least once a month		
Canada	28	18
New Brunswick	16	13
Quebec	--	18
Ontario	31	22
Write letters or other text of more than one page at least once a month		
Canada	41	26
New Brunswick	31	21
Quebec	--	26
Ontario	41	31
Read books at least once a week		
Canada	56	40
New Brunswick	55	36
Quebec	--	38
Ontario	56	53
Spend more than two hours per day watching television or videos		
Canada	38	51
New Brunswick	42	41
Quebec	--	53
Ontario	38	42
Children should have time set aside each day to read		
Canada	53	39
New Brunswick	48	37
Quebec	--	36
Ontario	50	53

-- Amount too small to be expressed.

Source: Statistics Canada, International Adult Literacy Survey, 1994.

Summary

In general, the differences in literacy levels between anglophones and francophones in Canada are not related to language. Rather, the literacy gap arises largely from the educational advantage that anglophones historically have had, and this source of inequality is disappearing as the educational attainment of the francophone population increases. Although age is closely related to education, it is an important explanatory factor in its own right, and being younger than 45 is strongly associated with higher literacy levels. Making a habit of reading every day also contributes significantly to high-level literacy skills, and people who read during their leisure time score higher on literacy tests, whether their mother tongue is French or English.

CST

Jean-Pierre Corbeil is an analyst with Demography Division, Statistics Canada.



Jobs for computer programmers double in 5 years

Between 1992 and 1997, jobs for computer programmers and systems analysts increased by 92% to 267,000. This compares with a 9% employment growth in the economy as a whole over the same period. Rapid growth of the Internet, the spread of internal computer networks in large organizations, and tackling the Year 2000 problem have all contributed to this expanding job market. Programmers worked an average of 38.8 hours a week in 1997, about an hour less than in 1992. They were no more likely than others to work overtime or to hold a second job. In late 1997, computer programmers and systems analysts earned, on average, about \$300 more per week than workers overall (\$853 versus \$577).

Perspectives on labour and income
Summer 1998, Vol. 10, no. 2
Statistics Canada,
Catalogue no. 75-001-XPE



Majority of violent crimes committed by people known to victim

In the majority of violent crimes reported to police, the victim usually knows the assailant. In 1996, one out of three victims was victimized by a stranger. In addition, violence committed by strangers was less likely to result in a physical injury: 41% of incidents involving total strangers

resulted in either major or minor injuries, compared with 52% where the victim knew the perpetrator. The major exception to this pattern was robbery, where 83% of the victims did not know the perpetrator. Most violent crimes tend to occur in the home, perpetrated by someone known to the victim.

Juristat
Vol. 18, no. 9
Statistics Canada,
Catalogue no. 85-002-XPE



Fees up, registrations down for continuing education courses

Registrations in non-credit, university-level courses have declined 7% from 350,000 in 1995/96 to 327,000 in 1996/97. During the same period, the average tuition fee for a non-credit course increased 13% to \$360. Professional development continues to be the main reason for enrolling in non-credit courses: 71% of applicants registered for professional development courses, while the remaining 29% registered for general interest and academic courses. Social sciences were the most popular field of study, accounting for 24% of continuing education registrations, followed by general interest courses (16%), health professions and occupations (15%), and the humanities (14%). The traditional classroom setting remains the most common medium of instruction.

Continuing Education Survey
Statistics Canada,
Culture, Tourism and the Centre for Education Statistics



Almost one-third of households talking with computers

In October 1997, nearly 3 out of every 10 households had at least one member who typically used a computer every month at home, work or another location to send e-mail, do electronic banking or surf the Internet. Alberta had the highest percentage of households with members who used computers (35%) and Quebec, the lowest (20%). Communicating by computer was more prevalent in households with young people. Some 38% of households with people under 18 used a computer regularly to communicate, compared with 25% of households in which there was no one under 18. Of households that used computers regularly to communicate, 84% reported using it to search for specific information on the Internet, 83% said they used computers for e-mail, and about one-third communicated from home for employer-related business.

Microdata file 56M0002XCB
Statistics Canada,
Special Surveys Division



More than half a million adults receive home care

Some 523,000 adults, or 2.4% of the population aged 18 and over, received publicly-funded home care services in 1994/95. The majority (64%) were seniors, who needed help with personal care or with

activities such as preparing meals, shopping and housework. People who suffered from cancer or the effects of stroke had about twice the odds of receiving home care as did people without these conditions. Half of all home care recipients reported poor or fair health. About 28% of people who received home care had been hospitalized for eight nights or longer in 1993/94, compared with just 2% of other adults.

Health Reports
Summer 1998, Vol. 10, no. 1
Statistics Canada,
Catalogue 82-003-XPB



Number of seniors will triple over next 40 years

Births in Canada declined for a sixth consecutive year in 1996. If, as anticipated, this trend will stay on course, by the year 2020 Canada's natural population growth (births minus deaths) will approach zero. Immigration, in the meantime, is accounting for a larger and larger share of population growth (53% in 1996). Meanwhile, Canada's population continues to get older. By 2030, persons aged 65 and over will represent 23% of the Canadian population. In the 1990s, seniors tend to live independently of their children, but the lives of men and women are quite different. Half of women aged 75 and over live alone, compared with only 20% of men. Elderly persons with very low incomes tend to live in large households.

Report on the Demographic Situation in Canada 1997
Statistics Canada,
Catalogue no. 91-209-XPE