

PIRLS/ePIRLS 2016

Canada in Context

Canadian Results from the Progress in
International Reading Literacy Study

HIGHLIGHTS



cmecc

What is PIRLS?

The Progress in International Reading Literacy Study (PIRLS) is an international assessment that measures trends in reading achievement of Grade 4 students as well as the impact of policies and practices related to literacy. The study is administered every five years and is carried out by the International Association for the Evaluation of Educational Achievement (IEA), an independent cooperative of research institutions and governmental agencies in which over 60 countries participate.

Grade 4 was chosen because it represents an important transition point in students' development, the point at which students are expected to have already learned how to read and are now using their reading skills to learn.

PIRLS 2016 focused on three aspects of reading literacy:

- the purposes of reading (i.e., reading for literary experience and reading to acquire and use information);
- the processes of comprehension (i.e., focusing on and retrieving explicitly stated information; making straightforward inferences; interpreting and integrating ideas and information; and evaluating and critiquing content and textual elements); and
- reading behaviours and attitudes toward reading.

In the spring of 2016, over 340,000 students from 50 countries participated in PIRLS; in Canada, over 18,000 students took part in the study in either English or French across eight provinces (British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, and Newfoundland and Labrador). In addition to the cognitive assessment, information about the home, school, and classroom contexts was collected in PIRLS by means of background questionnaires that were completed by the students being assessed, their parents or caregivers, their school principals, and their teachers.

What is ePIRLS?

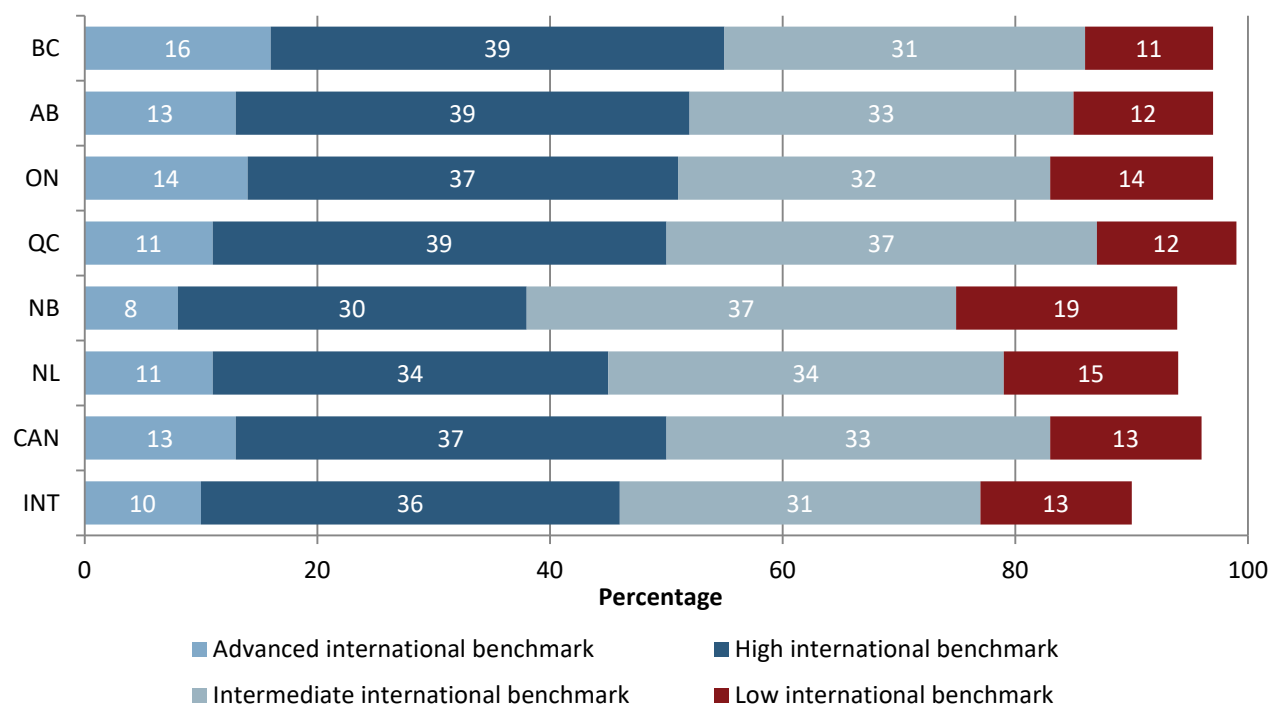
In 2016, IEA created a new extension to the PIRLS assessment: ePIRLS, an innovative assessment of on-line reading. ePIRLS uses an engaging simulated Internet environment to measure Grade 4 students' achievement in reading for informational purposes, covering the same comprehension processes as the written PIRLS component.

Close to 9,000 students in British Columbia, Ontario, Quebec, and Newfoundland and Labrador participated in both PIRLS and ePIRLS.

More young Canadians reach the highest level of performance in PIRLS than in most other countries

In Canada overall, 13 per cent of participating students reached the highest level in PIRLS, the *advanced* international benchmark. This percentage is above the international median of 10 per cent but less than half that of the highest-achieving country (Singapore, at 29 per cent). Within Canada, the percentage of students attaining this level ranged from 8 per cent in New Brunswick to 16 per cent in British Columbia.

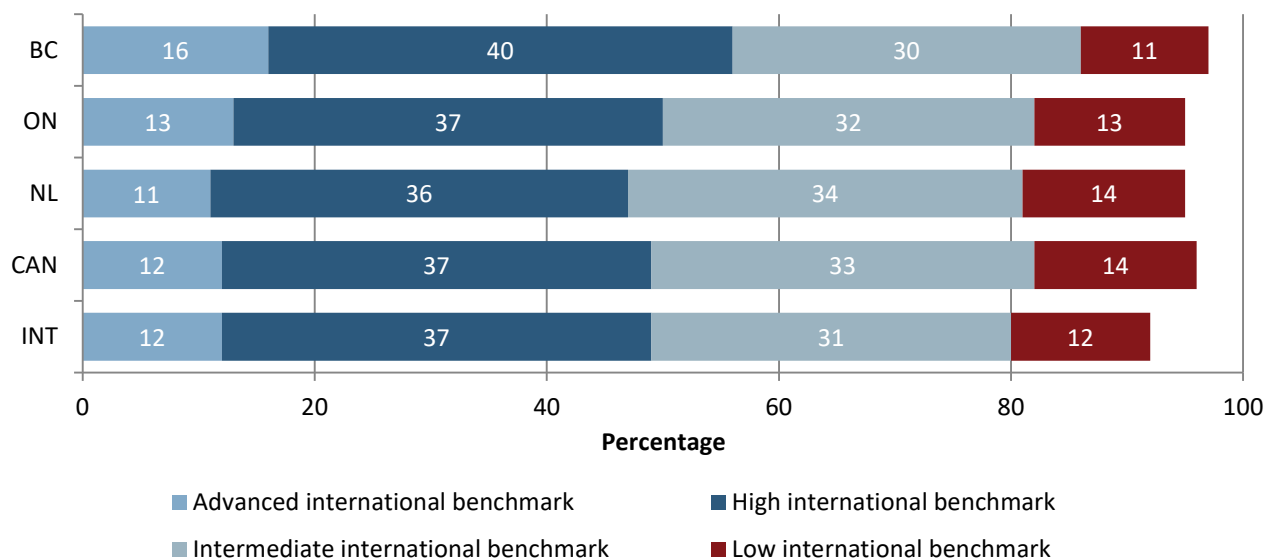
PIRLS 2016 – Proportion of students reaching international benchmarks



Note: Percentages may not add up as expected due to rounding. Students performing below the *low* international benchmark are not shown. Students performing only at the four defined international benchmarks are shown. INT represents the international median. Provincial results are reported as means. Results for the province of Quebec should be treated with caution because international guidelines for sample participation rates were not satisfied.

In ePIRLS, 12 per cent of Canadian students reached the *advanced* international benchmark, a figure the same as the international median. Across participating countries, the proportion of students at this level ranges from 34 per cent in Singapore to 1 per cent in Georgia. In the participating Canadian provinces, the percentage of students at this level is between 11 per cent (Newfoundland and Labrador) and 16 per cent (British Columbia).

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From a global perspective, Canadian students on average perform well in reading

Overall, Canadian students performed well on PIRLS 2016, with higher achievement than many of the other participating countries. Canada had an average score of 543, which is well above the PIRLS scale centrepoint of 500. Among all participating countries in PIRLS 2016, 13 obtained an average score significantly higher than that for Canadian students overall. In addition, 12 countries performed as well as Canada. British Columbia performed above the Canadian average, while Alberta, Ontario, Quebec, and Newfoundland and Labrador performed at the Canadian average. The average score for New Brunswick is significantly lower than that for Canada overall.

PIRLS 2016 – Comparison of country and provincial results to the Canadian average score

Better than Canada*	As well as Canada*	Not as well as Canada*
Russian Federation, Singapore, Hong Kong SAR, Ireland, Finland, Poland, Northern Ireland, Norway (Grade 5), Chinese Taipei, England, Latvia, Sweden, British Columbia , Hungary	Bulgaria, United States, Lithuania, Italy, Denmark, Macao SAR, Quebec, Alberta , Netherlands, Australia, Ontario , Czech Republic, Slovenia, Austria, Germany, Newfoundland and Labrador	Kazakhstan, Slovak Republic, Israel, Portugal, Spain, Belgium (Flemish), New Zealand, France, New Brunswick , Belgium (French), Chile, Georgia, Trinidad and Tobago, Republic of Azerbaijan, Malta, United Arab Emirates, Bahrain, Qatar, Saudi Arabia, Islamic Republic of Iran, Oman, Morocco, Kuwait, Egypt, South Africa

* Differences in scores are statistically significant only when confidence intervals do not overlap. If the confidence intervals overlap, an additional test of significance was conducted to determine whether the difference was statistically significant. Countries performing as well as Canada have a confidence interval that overlaps with that of Canada. Results for the province of Quebec should be treated with caution because international guidelines for sample participation rates were not satisfied.

Canadian students perform equally well on ePIRLS, with an average score of 543. Of the 14 countries that participated in ePIRLS, most high-performing countries achieve higher results in ePIRLS than in PIRLS. Six countries show a higher average score than Canada on ePIRLS, while two other countries scored the same as Canada. Across provinces, students in British Columbia performed above the Canadian average in digital literacy, while students in Ontario and Newfoundland and Labrador performed at the Canadian average.

ePIRLS 2016 – Comparison of country and provincial results to the Canadian average score

Better than Canada*	As well as Canada*	Not as well as Canada*
Singapore, Norway (Grade 5), Ireland, Sweden, Denmark, United States, British Columbia	Chinese Taipei, Ontario , Newfoundland and Labrador , Israel	Italy, Slovenia, Portugal, Georgia, United Arab Emirates

Note: Because of the small sample size, results for Quebec are not presented for ePIRLS.

* Differences in scores are statistically significant only when confidence intervals do not overlap. If the confidence intervals overlap, an additional test of significance was conducted to determine whether the difference was statistically significant. Countries performing as well as Canada have a confidence interval that overlaps with that of Canada. Because of the small sample size, results for Quebec are not presented for ePIRLS.

Across Canada, reading results show significant differences by the language of the school system

Students in anglophone school systems performed better in PIRLS than did those in francophone school systems in British Columbia, Alberta, Ontario, and New Brunswick, while there was no statistical difference between the two groups in Quebec and in Canada overall. In ePIRLS, students in the English-language school systems attained the highest average scores in Canada overall and in British Columbia and Ontario compared to students in the French-language school systems.

Girls perform better than boys in reading

As is the case in most other countries, girls performed better than boys in both PIRLS and ePIRLS. In both assessments, girls achieved higher scores in Canada overall and in all provinces except Newfoundland and Labrador, where there was no statistical difference.

Over the past five years, the Canadian scores in reading have declined

Some Canadian jurisdictions have participated in PIRLS since its inception in 2001, which allows trends in reading achievement to be reported for these jurisdictions. In PIRLS 2016, results for students in Canada overall decreased significantly, by 5 points compared to the baseline year of 2011. Ontario's performance decreased in 2016 compared to 2011 and 2006 but is statistically comparable to that in 2001. In Alberta, results in 2016 were lower than in 2006 but comparable to those in 2011. Finally, results in New Brunswick (French) and in Newfoundland and Labrador decreased between 2011 and 2016.

PIRLS 2016 – Comparison of results in reading over time

	2001		2006		2011		2016		Difference		
	Average score	S.E.	Average score	S.E.	Average score	S.E.	Average score	S.E.	2001–16	2006–16	2011–16
BC	–	–	558	2.6	556	3.1	555	2.9	–	-3	-1
AB	–	–	560	2.4	548	2.9	547	3.2	–	-13	-1
ON	548	3.3	555	2.9	552	2.6	544	3.2	-4	-12	-8
QC	537	3.0	533	2.7	538	2.2	547	2.8	10	15	10
NB(Fr)	–	–	–	–	514	3.0	501	3.6	–	–	-13
NL	–	–	–	–	546	2.7	534	5.1	–	–	-12
CAN	–	–	–	–	548	1.6	543	1.8	–	–	-5

Note: Numbers in **bold** indicate a statistically significant difference. When comparing findings from 2011 and 2016 in Canada, it should be noted that there were some differences in the provinces constituting the Canadian sample in these two years.

The home environment provides a solid foundation for students learning to read

In Canada overall, students not born in this country performed significantly better in PIRLS and similarly in ePIRLS compared to those who were born here. Furthermore, students who speak the language of the test at home performed better in PIRLS in all jurisdictions except in British Columbia. In Canada overall, as well as in British Columbia and Ontario, the results in digital reading (ePIRLS) were not significantly different with respect to the language spoken at home.

Grade 4 students whose parents read to them *often* before they started school performed much better in reading than those whose parents read to them *sometimes*, *almost never*, or *never*. There is also a strong, positive relationship between parental enjoyment of reading and student reading achievement. However, both of these findings varied by language of the school system.

Most Canadian students are confident in their reading ability but less so in their computer use

Confidence in their reading ability influences students' achievement in reading. In Canada, 51 per cent of students reported that they were *very confident* in their reading ability, although the proportion of girls doing so was significantly higher than that of boys. Canadian Grade 4 students of both genders have views of their reading ability that are very consistent with their actual reading achievement.

Canadian students' self-efficacy (i.e., how students perceive their own ability) in using computers is one of the lowest among the 14 countries participating in ePIRLS, with only 39 per cent of Canadian students rating their self-efficacy level as *high*. Across provinces, students in Newfoundland and Labrador reported the highest levels of self-efficacy in computer use, and students in British Columbia the lowest. Students with a *high* level of self-efficacy performed better in both PIRLS and ePIRLS.

School-related factors have a significant influence on students' learning environment and outcomes

PIRLS results show that Canadian students attending schools that have a greater number of more affluent students performed better than those attending schools that have a greater number of more disadvantaged students. An indicator of the socioeconomic environment of the school examined in PIRLS was the provision of meals to students. In Canada, students in schools where breakfast is provided to all students scored lower than students in schools not providing breakfast to any student.

Other school-related factors that showed a positive relationship with reading achievement in Canada included schools that have a higher emphasis on academic success, that are perceived as safe, and that have few discipline problems. There was also a positive relationship with reading achievement in classrooms where teachers felt that their teaching was limited *very little* by student-related factors (e.g., lack of knowledge and skills, student absence, disruptive or uninterested students, and so on) and where students came to school "ready to learn" rather than arriving feeling tired or hungry.

The occurrence of student bullying in schools has decreased to some extent across Canada, but remains a concern

The results suggest that the occurrence of student bullying in schools has decreased to some extent, both internationally and across Canada. The negative relationship between student bullying and reading achievement remains moderate in Canada, with a difference of 33 points between the scores of students who stated that they are bullied *about weekly* and those who reported that they are *almost never* bullied.

Looking forward

The results from the PIRLS 2016 assessment provide a comprehensive picture of Grade 4 students' reading skills at the provincial and pan-Canadian levels and in comparison with other participating countries. They also highlight the different factors in the students' home, classroom, and school environments contributing to their performance in reading.

Although Canadian students are performing well in reading, this report helps to identify areas that could be improved. Over the coming months, CMEC, in collaboration with ministries and departments of education, will continue to analyze the results from PIRLS in conjunction with other education indicators to better inform the teaching of reading and related educational policies.

Further international PIRLS and ePIRLS results are available in **PIRLS 2016 International Results in Reading** and **ePIRLS 2016 International Results in Online Informational Reading**, available at: <https://timssandpirls.bc.edu/pirls2016/index.html>

Further Canadian results are available in the report **PIRLS/ePIRLS 2016: Canada in Context**, available at: cmec.ca/PIRLS2016EN.