Progress in International Reading Literacy Study (PIRLS) 2001

Results for 10-year-old students in Québec

Québec

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Table of Contents

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Overview of the Study

The Progress in International Reading Literacy Study (PIRLS) is an initiative of the International Association for the Evaluation of Educational Achievement (IEA). PIRLS coordinators aim to assess reading progress regularly with a view to observing trends in the development of reading literacy in the participating countries. The assessment focuses on 9- and 10-year-olds, i.e. students who are in Grade 4 or completing Elementary Cycle Two, and will be conducted again in 2006 and 2011.

This study makes it possible to assess students' reading literacy achievement, compare the scores of participating countries and provinces and provide information on the programs of study and pedagogical methods used. The IEA's aim is to have PIRLS take into account the most recent research findings in the field of reading instruction as they relate to the measurement of reading progress.

Thirty-five countries, including Canada, participated in PIRLS 2001. Canada was represented by only two provinces, Ontario and Québec. Québec selected a significant sample, namely 185 classes, to ensure that its results could be easily distinguished from those of other countries.

This document features the scores for 10-year-old students in Québec and compares them with those of the participants in the international study and other Canadian students. The data is taken from the *PIRLS 2001 International Report: IEA's Study of Reading Literacy Achievement in Primary School in 35 Countries,* which can be downloaded free of charge from the following Web site: <www.pirls.bc.edu>.

Part 1: Presentation of the Assessment

1.1 Conceptual Framework of the Assessment

The conceptual framework of PIRLS and its assessment instruments are based on the IEA's definition of "reading literacy," which, for the purposes of PIRLS, is as follows: "the ability to understand and use those written language forms required by society and/or valued by the individual." Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers, and for enjoyment." It is important to note that from the PIRLS standpoint, reading is an interactive process between reader and text. In addition to calling on their background knowledge, readers construct meaning using cognitive and metacognitive strategies. The reading experience takes place in a specific context that promotes commitment and motivation to read.

PIRLS focuses on three aspects of reading literacy: processes of comprehension, purposes for reading, and reading behaviours and attitudes. The first two aspects are assessed using the reading test itself, while the questionnaire administered to the students addresses the third aspect. In addition, questionnaires are given to the students' parents, teachers and school principals to gather information on students' home and school experiences in developing reading literacy.

1) Four processes of comprehension were tested:
   - Focus on and retrieve explicitly stated information (20%)
   - Make straightforward inferences (40%)
   - Interpret and integrate ideas and information (25%)
   - Examine and evaluate content, language and textual elements (15%)

2) Two purposes for reading were tested:
   - Reading for literary experience (50%)
   - Reading to acquire and use information (50%)

3) Reading behaviours and attitudes are assessed through questionnaires given to students, teachers, parents and school principals.

1.2 Reading Tasks

Each of the four processes of comprehension was assessed in the context of the two purposes for reading.

In general, students were tested as follows in order to assess the FOUR PROCESSES OF COMPREHENSION:

- To facilitate the assessment of the information retrieval process, students were asked to "identify information that is relevant to the specific goal of reading; look for specific ideas; search for definitions of words or phrases; identify the setting of a story (time or place); find the topic sentence or main idea (when explicitly stated)."

- To test their ability to make straightforward inferences, students were asked to "infer that one event caused another event; conclude what is the main point made by a series of arguments; determine the referent of a pronoun; identify generalizations made in the text; describe the relationship between two characters."

- To test their interpretation and integration of ideas and information, students were asked to "discern the overall message or theme of a text; consider an alternative to actions of characters; compare and contrast text information; infer a story's mood or tone; interpret a real-world application of text information."

- To test their ability to examine and evaluate content, language and textual elements, students were asked to "evaluate the likelihood that the events described could really happen; describe how the author devised a surprise ending; judge the completeness or clarity of information in the text; determine the author's perspective on the central topic; describe how the choice of adjectives affects meaning."

In general, students were tested as follows in order to assess the TWO PURPOSES FOR READING:

- Reading for literary experience
  The PIRLS assessment uses narrative fiction to allow young readers to engage with the text and explore a wide array of situations through their imagination. These texts are fairly long, but were kept intact so as to preserve their authenticity.

- Reading to acquire and use information
  The PIRLS assessment uses both chronological and non-chronological texts. Chronological texts may recount events or take various forms such as personal accounts, reports, letters, biographies, autobiographies, recipes or instructions, and present their ideas as a sequence ordered in time. Non-chronological texts explain, describe or aim to convince or persuade, and may take the form of lists, tables, graphs and diagrams.

1.3 Description of the Assessment Instrument and How It Is Applied

Eight texts, including four literary passages and four informational texts, are distributed among ten booklets, each of which contains two different texts. Booklets 1 and 2 contain two narrative texts, booklets 4 and 5 contain two informational texts, and the remaining booklets contain one of each type. Students had 80 minutes to answer the test items in their booklet and 30 minutes to fill out the questionnaire.

The texts used had to be translated into several languages. They were selected so as not to favour any one culture or call on culture-specific knowledge, and to arouse the interest of 9-year-old students. Each text was no longer than 1 000 words.

The four processes of comprehension were assessed using multiple-choice questions (one point each) and constructed-response questions. The latter may call for short answers (one or two points each) or a more extended response (three points each). In general, each text contained seven multiple-choice items, two or three short-answer items and one extended-response item.

Part 2: Presentation of the Reading Achievement Scores for 10-year-old Students in Québec

2.1 Reading Achievement Scores for Québec Students

In the international assessment, Canada was represented by only two provinces, Ontario and Québec, each of which tested both English- and French-speaking students. In Québec, 101 classes in French-language schools and 83 classes in English-language schools took part in the assessment.

Ten-year-olds from Québec ranked 11th among the 35 participating countries. English-speaking students from Québec ranked 6th, scoring well above the international average of 500, while France placed 17th.

The average scale scores by country and by province for overall reading achievement are shown in Table 1 of the Appendix.

2.2 Overall Achievement by Gender

Both in Québec and elsewhere, girls outperformed boys on the reading test. Furthermore, English-speaking students narrowly outscored their French-speaking counterparts. Overall, Québec recorded the seventh-smallest difference (out of 35) between the scores obtained by girls and by boys; this difference was slightly greater between French speakers. Table 2 of the Appendix shows these results.

2.3 Percentage per Quartile of Performance

As for the percentage of boys and girls per quartile of performance for each country, Québec scores neither higher nor lower than other countries (see Table 3 of the Appendix). In fact, the scores for most countries are so similar that it is difficult to see any distinguishing features. It should be noted that girls' average scores for each quartile are significantly higher than the average for boys.

2.4 Purposes for Reading (Tables 4, 5, 6 and 7)

It is interesting to compare students' scores depending on whether the purpose for reading is to gain literary experience or to acquire and use information, as well as by province and by language group.

If we compare the performance of Ontario students with that of their Québec counterparts, we can see that, regardless of the purpose for reading, English-speaking students in Ontario outscore Québec students. However, interestingly enough, Ontarians score higher on the literary subscale, while Quebeckers perform better on the informational subscale.

If we compare Québec data for English- and French-speaking students, this distinction is even more marked. Overall, Québec students obtain a higher average on the informational subscale than on the literary subscale, contrary to Ontario students. But if we look at French speakers in both Québec and Ontario, they score higher when reading for informational purposes, while English speakers from both provinces score higher when reading for literary purposes.

This phenomenon can be observed among boys and girls alike, although the latter always score slightly higher than the former, regardless of language group or province of origin.

It has been found that girls always rank higher than boys, regardless of whether they read for literary experience or to acquire and use information. Although the difference is about the same for both literary and informational texts, boys and girls from French-speaking Québec perform better on the informational subscale, whereas students from English-speaking Ontario perform better on the literary subscale.

2.5 Processes of Comprehension (Table 8)

As for the four processes of comprehension, French-speaking students are most proficient in *focusing on and retrieving information*, followed by *making straightforward inferences*, *examining and evaluating content, language and textual elements,* and finally *interpreting and integrating ideas and information* (the scores for the last two processes were practically identical). For each process, girls scored higher than boys. The same is true for English speakers as compared to French speakers. These results are shown in Table 8 of the Appendix.

Although it is not surprising that students should excel in information retrieval, it is rather remarkable to observe that they succeed better in evaluating the different components of a text than in integrating the ideas and information associated therewith.

2.6 Provincial Reading Achievement Scores for Each of the Texts Selected (Table 9)

Of the eight texts selected, four were literary passages and four were informational texts. The literary passages selected were *The Upside-Down Mice*, *The Little Lump of Clay*, *Flowers on the Roof* and *Hare Heralds the Earthquake*. The informational texts were *Introducing Antarctica*, *Leonardo da Vinci*, *River Trail* and *Night of the Pufflings*.

Girls scored higher than boys in reading achievement for all the texts except *Leonardo da Vinci*, which had more success with English-speaking boys. French speakers performed better on the following four texts: *Introducing Antarctica*, *River Trail*, *Hare Heralds the Earthquake* and *Night of the Pufflings*. Is it any surprise that three of these texts are informational? English-speaking students had better results reading the other four texts, three of which were narrative fiction.

Hare Heralds the Earthquake is the only literary text on which French-speaking students scored slightly higher than their English-speaking counterparts, and *Leonardo da Vinci* is the only informational text that gave rise to a better performance among English speakers.

Overall, *Introducing Antarctica* is the text on which students scored highest, while *Leonardo da Vinci* proved the most difficult.

Part 3: The Impact of Various Characteristics on Reading Achievement

3.1 Students' Attitudes Toward Reading

The concept of reading for enjoyment has a significant impact on reading achievement. Youngsters who choose to read for fun during their free time have better reading achievement scores. Indeed, it is encouraging to note that 45% of young Quebeckers say they read for their own enjoyment every day.

Students who say that they read aloud to someone at home or are read aloud to by someone at home score lower than students who do neither. Although these results may appear surprising at first, it should be recalled that students who are supervised by someone at home have often been found to have difficulty reading, and that reading aloud is done mainly to correct these difficulties.

The impact of discussing what has been read with one's friends or family on reading achievement appears to be negligible or nil.

However, the results do show that certain types of reading can help improve students' reading achievement. Students who read stories or novels at home score higher than those who read comic books, newspapers, magazines or other nonfiction informational texts. In fact, students who never read comic books achieve higher scores than those who read them every day. And as concerns other types of texts, whether students read them every day or never seems to make no significant difference; reading them in moderation seems to be the best approach. In short, frequent reading of literary works appears to be the best way of improving reading achievement, but this could be because youngsters who read fiction do so first and foremost for fun and interest, which is another point in favour of the concept of reading for enjoyment.

The answers given by students to the questionnaires distributed to them show that more Quebeckers than Ontarians (75% as compared to 71%) understand the importance of reading well for their future. Like their Ontario counterparts, Québec students enjoy reading in general (62%) and feel that they understand what they read (65%), even though they do not consider reading easy (55%). Both in Québec and in Canada as a whole, almost all students (95%) own books.

Girls significantly outscore boys (65% as compared to 43%) as concerns positive attitudes toward reading (SATR—Student's Attitude Toward Reading), because as a rule they state that they enjoy reading, discussing books they have read and receiving books as gifts. They thus perform better on the SATR index.

In Canada, girls and boys score almost evenly on the Student's Reading Self Concept (SRSC) index, and virtually all students post average or high scores in this respect. Both subgroups have a positive reading self-concept.

As for reading habits, 69% of youngsters state that they read outside of school at least once or twice a week, if not every day. However, 18% never read for enjoyment.

More girls than boys read novels outside of school (55% as compared to 37%). However, when it comes to reading for information purposes, the difference between girls and boys is negligible, and half of them read for these purposes at least once or twice a week, if not every day. Half of all students acknowledge that their parents show interest in what they read and discuss it with them on a weekly basis.

3.2 Parents' Attitudes Toward Reading

Parental attitudes toward reading seem to have a direct influence on students' behaviour. In Canada, two thirds of parents spend their free time reading, enjoy discussing books and consider that reading has an important place in their life. Their score on the Parents' Attitudes Toward Reading (PATR) index is somewhat higher (64%) than the international average (53%).

If we take into account parental influence during the preschool years, we can see that in Canada, the development of family literacy is very strong. The results for the Early Home Literacy Activities (EHLA) index is much higher (67%) than the international average (52%), which means that parents read books to their children, tell them stories and sing them songs on a regular basis. They also ensure that there are books in the house.

3.3 Television and Reading

Watching television too often or for long periods of time negatively affects reading achievement, and never watching it has the same effect. Students who watch television one to three hours a day on school days, or one or two days a week, had higher reading achievement. In short, watching television, at a reasonable frequency and for a reasonable length of time, appears to improve reading achievement, serving as a means of acquiring knowledge and a complement to reading. It provides students with a store of prior knowledge that augments their reading comprehension.

3.4 Reading in the Classroom

Whether it is done by the teacher or the students or whether or not it is done on a daily basis, reading aloud does not appear to improve students' reading achievement. However, reading aloud in moderation gives better results.

When students read to themselves on a daily basis, their reading achievement improves. Eighty percent of students say they read to themselves every day, indicating that this is a widespread practice. High reading achievement can also be tied to students choosing books on their own, seemingly another common practice, since 71% of students say they read books they have chosen themselves on a daily basis. Required reading seems to be a thing of the past, a positive fact judging by the results.

Reading in the classroom is used in different ways according to the teacher, the school and the province, but certain teaching strategies remain commonplace. Many forms of formative or summative evaluation may be used, including questions asked orally by the teacher, written questionnaires, a text to be written by the students, visual arts or drama, a pop quiz, or projects or discussions carried out in small or large groups.

Statistics show that students' reading comprehension does not improve when the teacher asks them questions orally on a daily basis; in fact, this practice appears to diminish their comprehension.

Analyzing a text with the help of a questionnaire produces positive results, but this should not be done too often. Students perform better when such a questionnaire is administered once or twice a week.

Surprisingly enough, writing a text based on what has been read does not appear to be a good way of developing reading comprehension, because there is a marked difference between students who do so every day and students who never do so, with the latter considerably outperforming the former.

Using art to analyze a text is an infrequent practice in the classroom and, in light of students' scores, does nothing to help students who undergo an assessment such as PIRLS to improve their reading comprehension; in fact, the contrary appears to be true.

Again based on statistics, administering tests frequently in relation to texts read by students does not seem to contribute to their comprehension; once or twice a month appears to be ideal. The same applies to group projects.

Discussion between students or in groups is favourable when done in moderation, i.e. once or twice a week or once or twice a month.

Forty-eight percent of Québec students say that they have reading homework to do every day, but those who are assigned reading homework once or twice a week score higher. Students who receive reading assignments once or twice a week, or three or four times a week, achieve the best results in this assessment, which seems to point to a certain level of saturation when reading is done too frequently. Too much reading, too often, appears to undermine the development of reading literacy. For Québec students, a half-hour of reading once or twice a week appears to be the ideal prescription for maximizing the development of reading literacy.

In short, in the classroom, daily silent reading by the students of books they have chosen themselves, followed occasionally by discussions among their peers and a formative evaluation using a questionnaire, administered one or twice a week, could be the solution. Reading assignments to be done at home, once or twice a week for a half-hour or less, can ensure that literacy is maintained.

3.5 Teachers' Attitudes and Instructional Practices

The answers given by the teachers portray the classroom approaches used both in terms of instructional practices and evaluation methods.

Students from Ontario receive more encouragement to read fiction than do their Québec counterparts; in Québec, this is done only once or twice a month in most classrooms, whereas in Ontario, students read fiction every week and, in some cases, every day. Moreover, when students are assigned such reading, the novels in question are often several chapters long. This practice is also more common in Ontario than in Québec.

Thus, 30% of Québec students are never directly encouraged to read novels, whereas 43.4% of Ontario students are encouraged to do so on a daily basis.

Twenty-six percent of Québec students are never encouraged to read poetry, whereas this is true for only 6% of Ontario students. Although students are assigned more poems to read in Ontario (80%) than in Québec (66%), this practice occurs once or twice a month in both provinces.

Reading children's literature in the classroom ensures that students are in contact with authentic texts. Children's literature is read almost every day in 46% of Canadian classrooms, a much higher figure than the international average of 19%. Once again, it appears to be a more common instructional practice in Ontario, since this type of literature is read daily in 56% of this province's classrooms, whereas the same applies to only 28% of Québec classrooms.

In addition to assigning fables, fairy tales, poetry and novels for reading, teachers also have their students read nonfiction, i.e. descriptions, explanations, instructions, diagrams, charts and graphs. The figures show that in most classrooms, nonfiction is read between once or twice a week and once or twice a month, although the ratio is higher in Ontario than in Québec.

In addition to the importance of diversifying reading material, teachers acknowledge the need to teach or have students learn reading strategies. However, this practice is more common among Ontario teachers than among their Québec counterparts, with Québec teachers applying this practice in only one quarter of Grade 4 classrooms.

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
ONTARIO	13.2%	42.1%	34.2%	10.6%
QUÉBEC	7.1%	32.0%	36.8%	24.1%

Where such strategies focus more specifically on deciphering sounds and letters, the difference is comparable.

In terms of the instructional practices used to develop reading comprehension while fostering the use of reading strategies, teachers generally ask their students to do the following:

- Identify the main ideas.
  In both Québec and Ontario, this practice is used at least once or twice a week and, in some cases, every day, in almost all classrooms.

- Explain or justify their comprehension.
  Here again, this is a very frequent practice, with over one third of all classrooms applying it every day and over one half, once or twice a week.

- Compare what they have read with their personal experience.
  In half of the classrooms in both Québec and Ontario, students are asked to perform this comparison at least once or twice a week. However, more Ontario teachers assign this task on a daily basis (25% as compared to 13% in Québec), while in close to 10% of Québec classrooms, unfortunately enough, this task is never assigned.

- Compare what they have read with other texts they have read previously.
  This comparison is never performed in over 16% of Grade 4 classes in Québec; the same is true for 4% of Grade 4 classes in Ontario. However, the proportion of classrooms in which this task is assigned once or twice a month is comparable to that in which it is assigned once or twice a week, in both provinces.

- Predict what will happen next in the story they are reading.
  Although students are asked to perform this task once or twice a week in over 50% of all classrooms in both provinces, the same task is assigned on a daily basis in over 34% of Ontario classrooms but in only 9% of Québec classrooms.

- Generalize or make inferences based on what they are reading.
  Here again, this task is assigned in half of all classrooms in both provinces at least once or twice a week. In 26% of Ontario classrooms, teachers assign this task to students every day as compared to approximately 8% of Québec classrooms, while nearly 7% of Québec students are never assigned this task.

- Describe the style or structures of the text.
  Spending time on aesthetic considerations is not yet a widespread practice. Occasionally, i.e. once or twice a month, this task is assigned in a comparable proportion in both Québec and Ontario classrooms, and a similar percentage looks at this aspect of reading once or twice a week. Unfortunately, in 18% of Québec classrooms, this aspect of reading is not taken into account at all.

New vocabulary is systematically studied in approximately half of all classrooms once or twice a week, and in one third of all classrooms every day or almost every day. However, the fact remains that in Québec, 20% of Grade 4 classes study vocabulary only occasionally, that is, once or twice a month, while close to 60% of Ontario classrooms do so once or twice a week. When new vocabulary causes reading problems, roughly two thirds (60%) of teachers do not hesitate to take appropriate action, in Québec and Ontario alike.

In general, teachers consider reading important. In Canada, over 71% of them set aside time on a daily basis so that students can read to themselves, as compared to the international average of close to 60%. Here again, this reading time is allotted in a larger proportion in Ontario classrooms (74.4%, as compared to 65% in Québec). We are referring here to required reading for which a period of time is set aside.

When it comes to setting aside a daily period for students to read books they themselves have chosen, the international average plummets to 26%, but in 61% of both Ontario and Québec classrooms, students are given time to read works of their choice every day or almost every day.

Assigning questions to test reading comprehension remains a widespread practice in both provinces, occurring on average once or twice a week in the majority of classrooms.

However, when students are asked to respond to what they have read or simply to write about their reading, there is a marked discrepancy between Québec and Ontario.

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
ONTARIO	22.0%	51.2%	26.4%	0.4%
QUÉBEC	1.8%	17.1%	65.3%	15.8%

It may be observed that "reader response," which is highly popular in the United States, has a greater influence on English-language and Ontarian practices than on Québec practices. Thus, in Ontario, over 20% of teachers test reader response to the texts read almost every day, while more than 50% do so once or twice a week, which is comparable to the international average. In Québec, this practice, which was set out in the 1994 program, is just beginning to take hold. Although reader response is not tested at all in close to 16% of all classrooms, 65% of classrooms do so once or twice a month.

We have seen that written responses to questions about what has been read are widely used to test comprehension and elicit reactions. Students are also asked questions orally about what they have read, and they are encouraged to discuss their reading among themselves. In 50% of Québec and Ontario classrooms, students answer this type of question once or twice a week, and discussions tend to take place weekly or twice monthly; however, such discussions never take place in 20% of Québec classrooms or in 12% of Ontario classrooms.

The length of the responses given to comprehension questions varies according to the instructional approach used. In Québec and Ontario, questions requiring a short answer are assigned in over half the classrooms once or twice a week.

As for constructed-response questions testing students on what they have read and requiring an answer at least one paragraph long, they are assigned almost twice as frequently by Ontario teachers (38%) as by their Québec counterparts (20%). In a large proportion of classrooms, constructed-response questions are assigned once or twice a month, i.e. in half of Ontario classrooms and in one third of Québec classrooms. However, 10% of Québec students are never assigned this type of question.

	Every day or almost every day	Once or twice a week	Once or twice a month	Never or almost never
ONTARIO	38.1%	48.6%	9.0%	4.3%
QUÉBEC	19.8%	31.8%	18.0%	10.3%

In terms of making connections, it could interesting to compare books with their film adaptations. Despite this, in 82% of Québec classrooms, students never watch film adaptations of books; the same applies to 53% of Ontario students.

We did not focus specifically on other instructional practices because we felt they did not have as direct an impact on the results obtained.

3.6 Use of Computers

All the questions dealing with the use of computers in the home or at school lead to the same conclusion: moderate computer use boosts students' reading achievement. In this case, *moderate use* means anywhere from once or twice a week to once or twice a month. Students who never use computers or who use them every day score lower. Computer use includes word processing for writing, playing computer games for entertainment, surfing the Internet for information and sending E-mails or chatting for communication.

3.7 Students' Attitudes Toward Reading

The majority of students state that they enjoy reading and the more they enjoy it, the higher their scores on the reading test. Most students feel that knowing how to read is an essential skill for their future.

3.8 Students' Attitudes Toward School

As a rule, students have a positive attitude toward their school and their teachers. Students with a relatively positive attitude had the best scores.

3.9 School Climate

It is not surprising to learn that students who perceive their school as a safe, violence-free environment performed better on the reading test. Clearly, a healthy school climate makes for healthy readers!

3.10 Language Spoken at Home

Obviously, students who speak French or English at home (according to their language group at school) post a better reading performance. Similarly, students born in Québec scored higher on the reading test than those born elsewhere. Among the latter, those who arrived in the province at a young age generally scored higher.

3.11 Family Values and Reading

Students whose families have more books at home and a subscription to a daily newspaper generally have higher reading achievement; the same is true for children who have access to a home computer. Eighty-four percent of the Québec students who completed the questionnaire distributed to them said they had a computer at home.

3.12 Family environment

Students who come from a family with two children scored highest on the PIRLS assessment, followed by those who are part of a family with three children. However, the difference is not significant.

Part 4: Remarks and Conclusion

4.1 Justification of the Results

Canadian students performed exceptionally well in the PIRLS reading comprehension test, ranking 6th after Sweden, The Netherlands, England, Bulgaria and Latvia, but well ahead of France (18th) and the United States (9th).

Although Québec students ranked 6th in the PIRLS assessment and can thus be considered among the best in the world, there is room for improvement, especially when their scores are compared with those of Ontario students, which are slightly higher.

In the context of the education reform, it is interesting to note that the Québec Education Program, in its section on language of instruction, emphasizes the importance not only of encouraging students to diversify their reading practices and compile a personalized list of works, but also of teaching them numerous, diversified reading strategies. These new elements will boost students' achievement even more, because they are intended to support the development of reading literacy.

The scores posted on the international test are interesting in many respects, emphasizing as they do the high quality of ministerial programs in Ontario and Québec and of the teaching materials used in the language of instruction. For the past several decades, the focus has been placed on developing processes of comprehension and top-down, knowledge-driven processes (summarizing and making inferences). Although the orientations pursued appear appropriate, certain interventions should be intensified. The apparent superiority of Ontario applies only to English-speaking students, and can clearly be attributed to the above-mentioned practices, mentioned above, which have emerged from the "Whole Language" approach and which do not always have a French equivalent. Indeed, the scores for French-speaking Ontario are lower than those for both English-speaking Ontario and French-speaking Québec. The suggestions set out in the Québec Education Program show promise for improvement in reading, since they encourage the use of strategies, discussion, personal reading and critical appraisal.

4.2 General and Specific Remarks

The texts given to the students are well presented, interesting and varied. However, they are not read with a veritable purpose in mind, despite implicit references to current research in reading instruction and explicit references to the two purposes for reading, which are highly commendable:

- reading for literary experience
- reading to acquire and use information

In actual fact, students taking this test read solely in order to answer questions they would not necessarily ask themselves for the purpose of showing the examiners that they have clearly understood the texts they have been given. It is true that the questions asked serve to verify the students' level of comprehension, but only in a specific sense and based on as many "right" answers as possible, rather than on a constructed or reader's response, despite the stated aims of PIRLS. There is no credible reason for this traditional, banal form of questioning, which is completely irrelevant to a purposeful reading situation comprising a plausible task.

This concept of comprehension gives rise to certain problems. Although the questions often go beyond focusing on and retrieving information by relying on inferences and summaries, they still cannot be justified and have no place in a valid reading project.

Although the reading test initially identifies a purpose for reading, it becomes irrelevant because no steps are taken to find out whether the reading experience was positive or satisfying, although this is one of the two purposes targeted. We are initially led to believe that students are supposed to read for aesthetic purposes (self-engagement with the text), whereas the second purpose, to look for ideas or information, appears to correspond to efferent reading (reading done to acquire information). Even though informational texts are much better suited to this type of reading than literary texts, there are few subtleties in the questions put to the students; they are formulaic and reflect the obsolete practices of past decades that predate the emergence of the "reading task", a concept that is much more demanding. The ultimate ideal is to read for a reason and accomplish a plausible reading task that resembles what can be done with reading in real life. Nonetheless, there are ways of justifying the use of reading recall as a memory development tool, analyzing the structure of a text to better integrate the information contained therein, taking notes, or drafting a table or a diagram in order to compare certain data.

The performance of Québec students can be attributed to the time they spend reading, the emphasis placed on reading in the school system, and the importance attached to reading comprehension. The French program of 1994 specifically targeted the reading of literary and informational texts, and the students who participated in PIRLS 2001 followed the prescriptions of that program. They likely experienced motivating reading situations thanks to their contact with enriched texts accompanied by often complex tasks, and this undoubtedly gave them a clear advantage over students from other participating countries. For this reason, the slight weaknesses observed in terms of instructional practices will eventually be offset by the orientations already set out in the current program.

4.3 Conclusion

Overall, Québec students performed very well, with girls outscoring boys and anglophones outperforming francophones. However, while English-speaking students are better at understanding narrative texts, their French-speaking counterparts excel in the comprehension of informational texts. Students are skilled at retrieving information from a text and making straightforward inferences from their reading, but there is room for improvement as concerns the evaluation of content, language and the ability to interpret.

The concept of reading for enjoyment and the strategies adopted by teachers to develop students' reading literacy are the predominant factors in the students' performance on the PIRLS reading test. Reading for fun is the prerogative of students, while reading instruction strategies and means of developing reading comprehension are the purview of teachers; a combination of the two can foster the development of reading literacy.

Appendix

Table 1

PIRLS OVERALL READING ACHIEVEMENT			
Average and standard error by country and by province			
Country or province	**Average scale score**	**Standard error**	**Average age**
Sweden	561 ↑	2.2	10.8
Netherlands	554 ↑	2.5	10.3
England	553 ↑	3.4	10.2
Ontario (English)	550 ↑	3.3	9.9
Bulgaria	550 ↑	3.8	10.9
Ontario (English, French)	548 ↑	3.3	9.9
Latvia	545 ↑	2.3	11.0
Canada (Ontario, Québec)	**544 ↑**	**2.4**	**10.0**
Lithuania	543 ↑	2.6	10.9
Hungary	543 ↑	2.2	10.7
Québec (English)	**543 ↑**	**3.5**	**10.2**
United States	542 ↑	3.8	10.2
Italy	541 ↑	2.4	9.8
Germany	539 ↑	1.9	10.5
Czech Republic	537 ↑	2.3	10.5
Québec (English, French)	**537 ↑**	**3.0**	**10.2**
Québec (French)	**537 ↑**	**3.3**	**10.2**
New Zealand	529 ↑	3.6	10.1
Scotland	528 ↑	3.6	9.8
Singapore	528 ↑	5.2	10.1
Russian Federation	528 ↑	4.4	10.3
Hong Kong	528 ↑	3.1	10.2
France	525 ↑	2.4	10.1
Greece	524 ↑	3.5	9.9
Slovak Republic	518 ↑	2.8	10.3
Iceland	512 ↑	1.2	9.7
Romania	512 ↑	4.6	11.1
Israel	509 ↑	2.8	10.0
Slovenia	502	2.0	9.8
International average	**500**	**0.6**	**10.3**
Norway	499	2.9	10.0
Cyprus	494	3.0	9.7
Ontario (French)	494	4.2	9.9
Moldova, Rep. of	492	4.0	10.8
Turkey	449	3.5	10.2
Macedonia, Rep. of	442	4.6	10.7
Colombia	422	4.4	10.5
Argentina	420	5.9	10.2
Islamic Republic ofIran	414	4.2	10.4
Kuwait	396	4.3	9.9
Morocco	350	9.6	11.2
Belize	327	4.7	9.8

↑ Country average significantly higher than international average
Source: IEA, PIRLS 2003

Table 2

PIRLS OVERALL READING ACHIEVEMENT, BY GENDER			
Average and standard error by country and by province			
Gender	**Female**	**Male**	**Difference**
Country or province	**Average scale score**	**Average scale score**	
Italy	545 (2.6) ↑	537 (2.7)	8 (2.5)
France	531 (2.7) ↑	520 (3.0)	11 (3.3)
Colombia	428 (5.1) ↑	416 (4.7)	12 (4.3)
Russian Federation	534 (4.3) ↑	522 (4.8)	12 (2.3)
Czech Republic	543 (2.8) ↑	531 (2.6)	12 (2.8)
Germany	545 (2.2) ↑	533 (2.5)	13 (2.7)
Québec (English)	**550 (3.7) ↑**	**537 (4.1)**	**13 (3.3)**
Québec (English, French)	**544 (3.4) ↑**	**530 (3.1)**	**14 (2.7)**
Romania	519 (4.2) ↑	504 (5.7)	14 (3.8)
Hungary	550 (2.4) ↑	536 (2.5)	14 (2.1)
Netherlands	562 (2.7) ↑	547 (2.8)	15 (2.2)
Slovak Republic	526 (3.0) ↑	510 (3.3)	16 (3.0)
Québec (French)	**545 (3.8) ↑**	**529 (3.5)**	**16 (3.2)**
Lithuania	552 (3.0) ↑	535 (2.7)	17 (2.7)
Scotland	537 (3.9) ↑	519 (4.2)	17 (4.0)
Canada (Ontario, Québec)	**553 (2.6) ↑**	**536 (2.6)**	**17 (2.1)**
United States	551 (3.8) ↑	533 (4.9)	18 (4.1)
Ontario (French)	503 (4.7) ↑	485 (4.8)	18 (4.4)
Argentina	428 (6.2) ↑	410 (6.5)	18 (4.7)
Hong Kong	538 (3.0) ↑	519 (3.5)	19 (2.9)
Iceland	522 (1.9) ↑	503 (1.5)	19 (2.4)
Ontario (English)	560 (3.8) ↑	541 (3.3)	19 (2.8)
Turkey	459 (4.0) ↑	440 (3.7)	19 (3.1)
International average	**510 (0.7) ↑**	**490 (3.7)**	**20 (0.7)**
Ontario (English, French)	558 (3.8) ↑	538 (3.4)	20 (2.7)
Morocco	361 (9.6) ↑	341 (10.9)	20 (6.8)
Greece	535 (3.8) ↑	514 (4.0)	21 (3.9)
Macedonia, Rep. of	452 (5.1) ↑	431 (4.8)	21 (3.6)
Norway	510 (3.5) ↑	489 (3.4)	21 (3.9)
Slovenia	512 (2.5) ↑	491 (2.4)	22 (2.8)
Latvia	556 (3.1) ↑	534 (2.6)	22 (3.4)
Israel	520 (3.4) ↑	498 (3.7)	22 (4.3)
Sweden	572 (2.6) ↑	550 (2.5)	22 (2.6)
England	564 (3.9) ↑	541 (3.7)	22 (3.3)
Cyprus	506 (3.3) ↑	482 (3.6)	24 (3.5)
Bulgaria	562 (3.7) ↑	538 (4.7)	24 (3.6)
Singapore	540 (5.3) ↑	516 (5.7)	24 (4.1)
Moldova, Rep. of	504 (4.7) ↑	479 (4.0)	25 (4.0)
New Zealand	542 (4.7) ↑	516 (4.2)	27 (5.4)
Islamic Republic ofIran	426 (5.7) ↑	399 (5.6)	27 (8.1)
Belize	341 (5.3) ↑	314 (5.2)	27 (4.8)
Kuwait	422 (5.6) ↑	373 (6.3)	48 (8.4)

↑ Average significantly higher than other gender
Source: IEA, PIRLS 2003

Table 3

PIRLS OVERALL READING ACHIEVEMENT, BY QUARTILE OF PERFORMANCE						
Percentage per quartile, by country and by province						
	Upper quartile (25%)		**Median (50%)**		**Lower quartile (75%)**	
Country or province	**% Female**	**% Male**	**% Female**	**% Male**	**% Female**	**% Male**
Germany	28 (1.5) ⚷	22 (1.2)	54 (1.5) ⚷	46 (1.6)	78 (1.2) ⚷	72 (1.5)
England	29 (1.8) ⚷	21 (1.5)	55 (2.2) ⚷	45 (2.0)	79 (1.6) ⚷	71 (1.7)
Argentina	28 (2.3) ⚷	22 (2.0)	54 (2.7) ⚷	46 (2.8)	78 (2.5) ⚷	72 (2.9)
Belize	29 (2.1) ⚷	21 (1.9)	55 (2.0) ⚷	45 (2.1)	80 (1.8) ⚷	71 (2.2)
Bulgaria	30 (1.7) ⚷	20 (1.7)	55 (2.1) ⚷	44 (2.4)	79 (1.7) ⚷	70 (2.3)
Canada (Ontario, Québec)	**29 (1.5) ⚷**	**21 (1.5)**	**54 (1.7) ⚷**	**46 (1.5)**	**79 (1.1) ⚷**	**71 (1.2)**
Cyprus	30 (1.7) ⚷	20 (1.5)	55 (1.9) ⚷	45 (2.1)	80 (1.4) ⚷	71 (1.7)
Colombia	28 (2.3) ⚷	22 (1.9)	52 (2.5) ⚷	48 (2.5)	77 (2.1)	74 (2.5)
Scotland	29 (2.0) ⚷	21 (2.0)	54 (2.0) ⚷	46 (2.4)	78 (1.7) ⚷	72 (1.9)
United States	27 (2.2)	23 (2.0)	53 (2.1) ⚷	47 (2.5)	79 (1.8) ⚷	71 (2.1)
Russian Federation	28 (2.4) ⚷	22 (2.2)	54 (2.4) ⚷	46 (2.3)	78 (2.1) ⚷	72 (2.3)
France	27 (1.4) ⚷	23 (1.5)	52 (1.9)	48 (1.8)	77 (1.4) ⚷	73 (1.7)
Greece	29 (2.1) ⚷	21 (2.1)	55 (2.5) ⚷	45 (2.5)	80 (2.1) ⚷	70 (2.1)
Hong Kong	29 (1.8) ⚷	21 (1.7)	56 (2.4) ⚷	44 (2.4)	80 (1.7) ⚷	70 (2.1)
Hungary	28 (1.6) ⚷	22 (1.4)	54 (1.7) ⚷	46 (2.0)	72 (1.4) ⚷	71 (1.4)
International average	**29 (0.3) ⚷**	**21 (0.3)**	**55 (0.4) ⚷**	**45 (0.4)**	**79 (0.3) ⚷**	**71 (0.3)**
Iceland	28 (1.5) ⚷	22 (1.3)	55 (1.5) ⚷	45 (1.3)	80 (0.9) ⚷	70 (0.8)
Israel	29 (1.6) ⚷	21 (1.5)	55 (1.7) ⚷	45 (1.6)	79 (1.4) ⚷	71 (1.5)
Italy	27 (1.3)	24 (1.6)	53 (1.6) ⚷	47 (1.7)	77 (1.7) ⚷	73 (1.6)
Kuwait	33 (3.0) ⚷	18 (2.0)	61 (2.7) ⚷	40 (2.6)	85 (1.5) ⚷	66 (2.8)
Netherlands	29 (1.9) ⚷	21 (1.5)	55 (2.2) ⚷	45 (2.0)	80 (1.6) ⚷	71 (2.0)
Latvia	32 (2.1) ⚷	18 (1.6)	58 (2.2) ⚷	43 (1.8)	80 (1.6) ⚷	70 (1.7)
Lithuania	30 (1.8) ⚷	20 (1.6)	55 (2.1) ⚷	45 (1.9)	79 (1.6) ⚷	71 (1.8)
Morocco	28 (3.2) ⚷	23 (3.6)	54 (3.0) ⚷	47 (3.8)	78 (2.6)	73 (3.1)
Moldova, Rep. of	30 (2.4) ⚷	21 (1.9)	56 (2.8) ⚷	44 (2.3)	81 (2.1) ⚷	69 (2.0)
Norway	28 (1.9) ⚷	22 (1.6)	55 (1.9) ⚷	45 (1.8)	81 (1.7) ⚷	70 (1.6)
New Zealand	29 (2.1) ⚷	21 (1.6)	55 (2.3) ⚷	45 (1.9)	80 (1.8) ⚷	70 (1.6)
Ontario (English)	30 (2.3) ⚷	21 (1.8)	55 (2.6) ⚷	45 (1.8)	79 (1.7) ⚷	71 (1.8)
Ontario (English, French)	29 (0.3) ⚷	21 (0.3)	55 (2.3) ⚷	45 (1.8)	79 (1.5) ⚷	71 (1.6)
Ontario (French)	28 (2.5) ⚷	21 (2.6)	55 (3.4) ⚷	44 (3.0)	79 (2.8) ⚷	70 (2.5)
Québec (English)	**28 (2.4) ⚷**	**22 (2.1)**	**54 (2.3) ⚷**	**46 (3.3)**	**77 (2.0)**	**73 (2.4)**
Québec (English, French)	**29 (1.9) ⚷**	**21 (1.8)**	**54 (2.0) ⚷**	**46 (2.0)**	**78 (1.9) ⚷**	**71 (1.7)**
Québec (French)	**28 (2.2) ⚷**	**22 (1.8)**	**54 (2.8) ⚷**	**45 (2.4)**	**79 (2.3) ⚷**	**71 (2.3)**
Macedonia, Rep. of	29 (1.8) ⚷	21 (1.5)	54 (2.5) ⚷	46 (2.1)	78 (2.0) ⚷	72 (2.0)
Islamic Republic ofIran	29 (2.6) ⚷	20 (2.1)	56 (2.8) ⚷	43 (2.7)	80 (1.9) ⚷	70 (2.3)
Slovak Republic	28 (1.8) ⚷	22 (1.6)	55 (1.8) ⚷	45 (1.9)	80 (1.5) ⚷	71 (1.8)
Czech Republic	27 (1.8) ⚷	23 (1.5)	54 (1.9) ⚷	46 (2.2)	79 (1.7) ⚷	72 (1.8)
Romania	27 (2.0) ⚷	23 (2.1)	53 (2.2) ⚷	47 (2.4)	77 (1.7) ⚷	73 (2.3)
Singapore	29 (2.5) ⚷	21 (1.8)	55 (2.5) ⚷	45 (2.5)	79 (2.0) ⚷	71 (2.3)
Slovenia	29 (1.5) ⚷	21 (1.3)	57 (1.4) ⚷	43 (1.5)	80 (1.3) ⚷	70 (1.5)
Sweden	30 (1.7) ⚷	20 (1.2)	56 (1.8) ⚷	44 (1.7)	81 (1.4) ⚷	69 (1.6)
Turkey	28 (1.9) ⚷	22 (1.6)	54 (2.1) ⚷	46 (1.8)	79 (1.6) ⚷	71 (1.5)

⚷ Average significantly higher than other gender

Source: IEA, PIRLS 2003

Table 4

PIRLS PURPOSES FOR READING - FOR LITERARY EXPERIENCE Average and standard error by country and by province			
Country or province	**Average scale score**	**Standard error**	**Average age**
Sweden	559 ↑	2.4	10.8
England	559 ↑	3.9	10.2
Ontario (English)	553 ↑	3.5	9.9
Netherlands	552 ↑	2.5	10.3
Ontario (English, French)	551 ↑	3.3	9.9
United States	550 ↑	3.8	10.2
Bulgaria	550 ↑	3.9	10.9
Hungary	548 ↑	2.0	10.7
Lithuania	546 ↑	3.1	10.9
Québec (English)	**546 ↑**	**4.2**	**10.2**
Canada (Ontario, Québec)	**545 ↑**	**2.6**	**10.0**
Italy	543 ↑	2.7	9.8
Latvia	537 ↑	2.2	11.0
Germany	537 ↑	1.9	10.5
Czech Republic	535 ↑	2.3	10.5
Québec (English, French)	**534 ↑**	**3.0**	**10.2**
Québec (French)	**533 ↑**	**3.4**	**10.2**
New Zealand	531 ↑	3.9	10.1
Scotland	529 ↑	3.5	9.8
Singapore	528 ↑	5.6	10.1
Greece	528 ↑	3.3	9.9
Russian Federation	523 ↑	3.9	10.3
Iceland	520 ↑	1.3	9.7
France	518 ↑	2.6	10.1
Hong Kong	518 ↑	3.1	10.2
Slovak Republic	512 ↑	2.6	10.3
Romania	512 ↑	4.7	11.1
Israel	510 ↑	2.6	10.0
Norway	506 ↑	2.7	10.0
International average	**500**	**0.6**	**10.3**
Slovenia	499	1.8	9.8
Cyprus	498	2.5	9.7
Ontario (French)	488	4.3	9.9
Moldova, Rep. of	480 ↓	3.7	10.8
Turkey	448 ↓	3.4	10.2
Macedonia, Rep. of	441 ↓	4.5	10.7
Colombia	425 ↓	4.2	10.5
Islamic Republic ofIran	421 ↓	4.5	10.4
Argentina	419 ↓	5.8	10.2
Kuwait	394 ↓	3.8	9.9
Morocco	347 ↓	8.4	11.2
Belize	330 ↓	4.9	9.8

↑ Country average significantly higher than international average
↓ Country average significantly lower than international average
Source: IEA, PIRLS 2003

Table 5

PIRLS PURPOSES FOR READING - TO ACQUIRE AND USE INFORMATION			
Average and standard error by country and by province			
Country or province	**Average scale score**	**Standard error**	**Average age**
Sweden	559 ↑	2.2	10.8
Netherlands	553 ↑	2.6	10.3
Bulgaria	551 ↑	3.6	10.9
Latvia	547 ↑	2.3	11.0
England	546 ↑	3.6	10.2
Ontario (English)	544 ↑	3.3	9.9
Ontario (English, French)	542 ↑	3.2	9.9
Canada (Ontario, Québec)	**541 ↑**	**2.4**	**10.0**
Québec (English, French)	**541 ↑**	**2.9**	**10.2**
Québec (French)	**541 ↑**	**3.3**	**10.2**
Lithuania	540 ↑	2.7	10.9
Québec (English)	**539 ↑**	**4.0**	**10.2**
Germany	538 ↑	1.9	10.5
Hungary	537 ↑	2.2	10.7
Hong Kong	537 ↑	2.9	10.2
Czech Republic	536 ↑	2.7	10.5
Italy	536 ↑	2.4	9.8
United States	533 ↑	3.7	10.2
France	533 ↑	2.5	10.1
Russian Federation	531 ↑	4.3	10.3
Singapore	527 ↑	4.8	10.0
Scotland	527 ↑	3.6	9.8
New Zealand	525 ↑	3.8	10.1
Slovak Republic	522 ↑	2.7	10.3
Greece	521 ↑	3.7	9.9
Romania	512 ↑	4.6	11.1
Israel	507 ↑	2.9	10.0
Moldova, Rep. of	505	4.7	10.8
Iceland	504 ↑	1.5	9.7
Slovenia	503	1.9	9.8
Ontario (French)	501	4.2	9.9
International average	**500**	**0.6**	**10.3**
Norway	492 ↓	2.8	10.0
Cyprus	490 ↓	3.0	9.7
Turkey	452 ↓	3.8	10.2
Macedonia, Rep. of	445 ↓	5.2	10.7
Colombia	424 ↓	4.3	10.5
Argentina	422 ↓	5.4	10.2
Islamic Republic ofIran	408 ↓	4.6	10.4
Kuwait	403 ↓	4.5	9.9
Morocco	358 ↓	10.9	11.2
Belize	332 ↓	4.9	9.8

↑ Country average significantly higher than international average
↓ Country average significantly lower than international average
Source: IEA, PIRLS 2003

Table 6

PIRLS DIFFERENCE BETWEEN LITERARY AND INFORMATIONAL TEXTS			
Average and standard error by country and by province			
Type of text	**Literary texts**	**Informational texts**	
Country or province	**Average scale score**	**Average scale score**	**Difference**
United States	550 (3.8)	533 (3.7)	17 (1.2)
Iceland	520 (1.3)	504 (1.5)	16 (1.3)
Norway	506 (2.7)	492 (2.8)	14 (1.3)
England	559 (3.9)	546 (3.6)	14 (1.8)
Islamic Republic ofIran	421 (4.5)	408 (4.6)	12 (1.9)
Hungary	548 (2.0)	537 (2.2)	11 (1.1)
Ontario (English, French)	551 (3.3)	542 (3.2)	10 (1.3)
Ontario (English)	553 (3.5)	544 (3.3)	9 (2.5)
Cyprus	498 (2.5)	490 (3.0)	8 (1.2)
Italy	543 (2.7)	536 (2.4)	7 (1.2)
Greece	528 (3.3)	521 (3.7)	7 (1.7)
Québec (English, French)	**534 (3.0)**	**541 (2.9)**	**7 (1.8)**
New Zealand	531 (3.9)	525 (3.8)	7 (2.2)
Québec (English)	**546 (4.2)**	**539 (4.0)**	**7 (4.1)**
Lithuania	546 (3.1)	540 (2.7)	6 (2.3)
Israel	510 (2.6)	507 (2.9)	3 (0.9)
Canada (Ontario, Québec)	**545 (2.6)**	**541 (2.4)**	**3 (1.6)**
Scotland	529 (3.5)	527 (3.6)	2 (1.5)
Colombia	425 (4.2)	424 (4.3)	2 (1.3)
Singapore	528 (5.6)	527 (4.8)	1 (1.1)
Sweden	559 (2.4)	559 (2.2)	1 (1.1)
International average	**500 (0.6)**	**500 (0.7)**	**0 (0.2)**
Netherlands	552 (2.5)	553 (2.6)	1 (0.9)
Romania	512 (4.7)	512 (4.6)	1 (1.5)
Czech Republic	535 (2.3)	536 (2.7)	1 (1.7)
Germany	537 (1.9)	538 (1.9)	2 (1.3)
Bulgaria	550 (3.9)	551 (3.6)	2 (1.6)
Belize	320 (4.9)	332 (4.9)	3 (2.5)
Argentina	419 (5.8)	422 (5.4)	3 (1.8)
Turkey	448 (3.4)	452 (3.8)	4 (1.4)
Slovenia	499 (1.8)	503 (1.9)	4 (1.3)
Macedonia, Rep. of	441 (4.5)	445 (5.2)	4 (1.5)
Québec (French)	**533 (3.4)**	**541 (3.3)**	**8 (1.7)**
Russian Federation	523 (3.9)	531 (4.3)	8 (1.7)
Kuwait	394 (3.8)	403 (4.5)	9 (1.4)
Latvia	537 (2.2)	547 (2.3)	10 (1.9)
Slovak Republic	512 (2.6)	522 (2.7)	10 (1.3)
Morocco	347 (8.4)	358 (10.9)	11 (3.7)
Ontario (French)	488 (4.3)	501 (4.2)	14 (3.2)
France	518 (2.6)	533 (2.5)	15 (1.2)
Hong Kong	518 (3.1)	537 (2.9)	20 (0.9)
Moldova, Rep. of	480 (3.7)	505 (4.7)	25 (1.9)

Source: IEA, PIRLS 2003

Table 7

PIRLS DIFFERENCE BETWEEN LITERARY AND INFORMATIONAL TEXTS, BY GENDER						
Average and standard error by country and by province						
	Literary texts			Informational texts		
Country or province	**Female average scale score**	**Male average scale score**	**Difference M/F**	**Female average scale score**	**Male average scale score**	**Difference M/F**
Germany	544 (2.1)	529 (2.4)	14 (2.4)	543 (2.5)	533 (2.1)	10 (2.6)
England	574 (4.9)	544 (4.0)	30 (4.3)	554 (4.0)	537 (4.0)	17 (3.5)
Argentina	429 (6.2)	408 (6.2)	21 (4.6)	429 (6.0)	415 (5.9)	15 (4.9)
Belize	340 (5.3)	320 (5.6)	20 (5.1)	349 (5.1)	316 (5.9)	32 (5.0)
Bulgaria	563 (4.2)	535 (5.1)	28 (5.4)	561 (3.4)	541 (4.2)	20 (3.1)
Canada (Ontario, Québec)	**554 (3.0)**	**535 (2.7)**	**19 (2.2)**	**549 (3.0)**	**534 (2.6)**	**16 (2.7)**
Cyprus	512 (2.9)	485 (3.3)	26 (3.7)	500 (3.1)	480 (3.5)	20 (2.8)
Colombia	431 (4.9)	419 (4.8)	12 (4.6)	430 (5.2)	417 (4.9)	12 (5.4)
Scotland	538 (4.0)	519 (4.1)	19 (3.9)	534 (4.3)	520 (4.1)	14 (4.4)
United States	558 (4.2)	542 (4.6)	16 (4.3)	541 (4.1)	525 (4.3)	16 (4.0)
Russian Federation	531 (3.9)	517 (4.3)	14 (2.9)	536 (4.5)	527 (4.6)	9 (2.8)
France	524 (2.9)	513 (3.2)	11 (3.2)	540 (2.9)	527 (3.1)	12 (3.3)
Greece	539 (3.8)	516 (3.7)	23 (3.5)	529 (3.9)	513 (4.4)	15 (3.8)
Hong Kong	528 (3.4)	507 (3.4)	21 (3.4)	546 (2.8)	529 (3.6)	17 (3.1)
Hungary	558 (2.1)	538 (2.6)	20 (2.5)	542 (2.5)	532 (2.6)	10 (3.0)
International average	**511 (0.7)**	**490 (0.7)**	**21 (0.7)**	**509 (0.7)**	**491 (0.8)**	**18 (0.8)**
Iceland	531 (1.9)	509 (1.7)	21 (2.4)	512 (1.9)	496 (2.0)	16 (2.6)
Israel	521 (3.3)	498 (3.2)	23 (3.9)	518 (3.5)	495 (3.6)	23 (4.2)
Italy	549 (2.7)	538 (3.3)	11 (2.8)	539 (2.7)	533 (2.6)	6 (2.6)
Kuwait	416 (5.2)	373 (5.4)	43 (7.4)	430 (6.1)	378 (6.7)	52 (9.1)
Netherlands	561 (2.8)	544 (3.2)	17 (3.3)	559 (2.9)	547 (2.9)	11 (2.4)
Latvia	548 (2.8)	527 (2.2)	21 (2.4)	558 (2.8)	537 (2.6)	22 (2.8)
Lithuania	554 (3.4)	536 (3.7)	18 (3.8)	548 (2.9)	532 (2.9)	16 (2.8)
Morocco	358 (8.5)	340 (9.1)	19 (5.1)	370 (10.8)	349 (11.9)	20 (6.3)
Moldova, Rep. of	492 (4.3)	468 (3.6)	23 (3.4)	516 (5.5)	494 (4.7)	23 (4.5)
Norway	519 (3.4)	494 (3.1)	24 (3.6)	499 (3.7)	486 (3.1)	14 (3.9)
New Zealand	546 (4.7)	517 (4.0)	30 (5.1)	536 (4.5)	514 (4.4)	21 (4.6)
Ontario (English)	564 (4.0)	543 (3.6)	22 (2.8)	553 (3.7)	536 (3.7)	17 (3.6)
Ontario (English, French)	563 (4.0)	540 (3.3)	24 (3.2)	550 (3.9)	533 (3.4)	17 (3.5)
Ontario (French)	497 (5.1)	477 (4.8)	20 (4.7)	509 (4.6)	493 (5.1)	16 (4.4)
Québec (English)	**553 (4.8)**	**539 (4.4)**	**15 (3.8)**	**544 (4.6)**	**534 (4.2)**	**10 (3.9)**
Québec (English, French)	**541 (3.5)**	**526 (3.4)**	**15 (3.5)**	**546 (3.3)**	**535 (3.1)**	**10 (2.9)**
Québec (French)	**541 (3.8)**	**524 (3.5)**	**17 (3.0)**	**548 (3.6)**	**533 (3.7)**	**15 (3.4)**
Macedonia, Rep. of	453 (4.6)	430 (4.5)	22 (3.3)	454 (5.6)	437 (5.8)	17 (4.8)
Islamic Republic ofIran	433 (5.7)	406 (6.4)	28 (8.7)	419 (6.4)	395 (6.1)	24 (8.8)
Slovak Republic	519 (2.9)	505 (2.9)	14 (2.8)	530 (2.8)	514 (3.4)	16 (3.3)
Czech Republic	543 (2.7)	528 (2.7)	14 (2.8)	541 (3.3)	532 (3.1)	9 (3.5)
Romania	518 (4.2)	505 (6.1)	13 (4.4)	519 (4.6)	506 (5.6)	13 (4.3)
Singapore	541 (5.7)	516 (6.0)	25 (4.2)	538 (4.9)	517 (5.3)	21 (3.8)
Slovenia	509 (2.4)	490 (2.4)	19 (3.1)	514 (2.6)	492 (2.5)	21 (3.4)
Sweden	572 (2.9)	547 (2.6)	25 (2.8)	568 (2.8)	550 (2.6)	18 (3.2)
Turkey	460 (3.8)	437 (3.6)	22 (2.9)	460 (4.6)	444 (4.2)	16 (4.5)

Source: IEA, PIRLS 2003

Table 8

PIRLS PROCESSES OF COMPREHENSION					
Scores (%) by province and by language					
Processes of comprehension	**Province**	**%**	**Female %**	**Male %**	**Difference M/F**
Focus on and retrieve explicitly stated information (20%)	Ontario (English)	77 (0.7)	79 (0.9)	75 (0.8)	4 (0.9) ⚷
	Ontario (French)	63 (1.0)	67 (1.3)	59 (1.3)	7 (1.6) ⚷
	Québec (English)	**77 (0.9)**	**79 (1.0)**	**76 (1.0)**	**2 (0.9) ⚷**
	Québec (French)	**75 (0.8)**	**76 (1.0)**	**75 (0.9)**	**1 (1.0)**
Examine and evaluate content, language and textual elements (15%)	Ontario (English)	60 (0.8)	63 (0.9)	58 (0.9)	6 (1.0) ⚷
	Ontario (French)	44 (1.2)	46 (1.5)	42 (1.5)	4 (1.6) ⚷
	Québec (English)	**58 (1.1)**	**58 (1.1)**	**57 (1.4)**	**2 (1.3)**
	Québec (French)	**54 (0.9)**	**56 (1.1)**	**52 (1.1)**	**4 (1.2) ⚷**
Interpret and integrate ideas and information (25%)	Ontario (English)	58 (0.9)	61 (1.0)	55 (0.9)	6 (0.8) ⚷
	Ontario (French)	44 (1.1)	46 (1.3)	42 (1.2)	5 (1.3) ⚷
	Québec (English)	**57 (0.9)**	**58 (1.0)**	**55 (1.1)**	**3 (1.1) ⚷**
	Québec (French)	**54 (0.9)**	**56 (1.1)**	**52 (0.9)**	**4 (1.0) ⚷**
Make straightforward inferences (40%)	Ontario (English)	71 (0.8)	73 (1.0)	69 (0.9)	4 (1.0) ⚷
	Ontario (French)	56 (1.1)	58 (1.4)	54 (1.2)	4 (1.4) ⚷
	Québec (English)	**70 (0.9)**	**71 (1.1)**	**69 (0.9)**	**2 (0.9) ⚷**
	Québec (French)	**69 (0.8)**	**71 (1.1)**	**66 (1.0)**	**4 (0.9) ⚷**

⚷ Average significantly higher than other gender
Source: IEA, PIRLS 2003

Table 9

PIRLS READING ACHIEVEMENT SCORES FOR SELECTED TEXTS					
Scores (%) by province and by language					
Text titles	**Province**	**%**	**Female %**	**Male %**	**Difference**
The Upside-Down Mice	Ontario (English)	71 (1.1)	73 (1.2)	68 (1.4)	5 (1.7) ⚷
	Ontario (French)	53 (1.5)	54 (2.0)	51 (1.9)	3 (2.5)
	Québec (English)	**71 (1.1)**	**72 (1.8)**	**70 (1.4)**	**2 (2.3)**
	Québec (French)	**66 (1.2)**	**67 (1.6)**	**66 (1.4)**	**1 (1.9)**
The Little Lump of Clay	Ontario (English)	64 (1.2)	67 (1.7)	61 (1.4)	6 (2.0) ⚷
	Ontario (French)	45 (1.6)	48 (2.2)	42 (1.8)	7 (2.5) ⚷
	Québec (English)	**62 (1.4)**	**64 (1.5)**	**61 (1.9)**	**3 (2,0)**
	Québec (French)	**56 (1.2)**	**58 (1.4)**	**55 (1.7)**	**3 (2.0)**
Flowers on the Roof	Ontario (English)	73 (0.9)	76 (1.4)	70 (1.1)	6 (1.7) ⚷
	Ontario (French)	54 (1.6)	57 (2.2)	51 (1.6)	6 (2.0) ⚷
	Québec (English)	**71 (1.3)**	**74 (1.6)**	**67 (1.7)**	**7 (2.0)** ⚷
	Québec (French)	**64 (1.3)**	**67 (1.5)**	**61 (1.1)**	**6 (1.7)** ⚷
Introducing Antarctica	Ontario (English)	75 (1.0)	76 (1.2)	73 (1.3)	4 (1.5) ⚷
	Ontario (French)	65 (1.5)	67 (1.6)	63 (2.0)	5 (1.9) ⚷
	Québec (English)	**75 (1.1)**	**79 (1.2)**	**72 (1.7)**	**7 (1.9)** ⚷
	Québec (French)	**77 (1.0)**	**78 (1.3)**	**76 (1.1)**	**1 (1.5)**
Leonardo da Vinci	Ontario (English)	55 (1.2)	58 (1.6)	53 (1.2)	5 (1.7) ⚷
	Ontario (French)	42 (1.2)	44 (1.6)	40 (1.6)	4 (2.1)
	Québec (English)	**54 (1.4)**	**53 (1.9)**	**55 (1.6)**	**-2 (2.1)**
	Québec (French)	**49 (1.0)**	**49 (1.1)**	**49 (1.4)**	**0 (1.7)**
River Trail	Ontario (English)	61 (1.2)	62 (1.5)	59 (1.5)	4 (1.8) ⚷
	Ontario (French)	53 (1.6)	54 (1.6)	52 (1.8)	2 (2.3)
	Québec (English)	**61 (1.3)**	**62 (1.6)**	**61 (1.6)**	**1 (1.7)**
	Québec (French)	**64 (1.1)**	**66 (1.6)**	**63 (1.4)**	**2 (2.2)**
Hare Heralds the Earthquake	Ontario (English)	71 (0.9)	73 (1.1)	69 (1.1)	4 (1.4) ⚷
	Ontario (French)	58 (1.5)	61 (1.8)	56 (2.0)	5 (2.2) ⚷
	Québec (English)	**70 (1.2)**	**73 (1.4)**	**68 (1.6)**	**5 (1.9)** ⚷
	Québec (French)	**71 (1.0)**	**74 (1.1)**	**68 (1.3)**	**6 (1.4)** ⚷
Night of the Pufflings	Ontario (English)	59 (1.3)	61 (1.7)	56 (1.5)	5 (1.9) ⚷
	Ontario (French)	44 (1.7)	47 (2.1)	41 (1.7)	6 (2.0) ⚷
	Québec (English)	**54 (1.2)**	**55 (1.5)**	**54 (1.8)**	**0 (2.3)**
	Québec (French)	**56 (1.1)**	**59 (1.4)**	**52 (1.5)**	**7 (2.1)** ⚷

⚷ Average significantly higher than other gender
Source: IEA, PIRLS 2003

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