

***Pan-Canadian Assessment Program
Council of Ministers of Education, Canada
PCAP 2007***

***Results for
13-year-old Québec students***

***Pan-Canadian Assessment Program
Council of Ministers of Education, Canada
PCAP 2007***

***Results for
13-year-old Québec students***

April 2008

Ministère de l'Éducation, du Loisir et du Sport

Direction de la sanction des études

Table of Contents

1	INTRODUCTION TO THE PAN-CANADIAN ASSESSMENT PROGRAM (PCAP)	1
1.1	CONTEXT OF THE STUDY	1
1.2	TARGET GROUP	1
1.3	SAMPLING PROCEDURE	1
2	PRESENTATION OF THE RESULTS FOR QUÉBEC STUDENTS IN READING.....	3
2.1	CONTEXT OF THE READING TEST	3
2.2	SUBDOMAINS FOR THE ASSESSMENT OF THE READING COMPONENT	3
2.3	TYPES OF TEXTS AND TEST DESIGN	4
2.4	PRESENTATION OF THE RESULTS FOR 13-YEAR-OLD QUÉBEC STUDENTS.....	4
2.5	EXPLANATION AND PRESENTATION OF THE RESULTS BY READING SUBDOMAIN ...	6
2.6	DESCRIPTION OF PERFORMANCE LEVELS IN READING.....	7
2.7	PRESENTATION OF THE RESULTS FOR ALL OF CANADA BY PERFORMANCE LEVEL	9
3	PRESENTATION OF THE RESULTS FOR QUÉBEC STUDENTS IN MATHEMATICS	11
3.1	CONTEXT OF THE MATHEMATICS TEST	11
3.2	SUBDOMAINS FOR THE ASSESSMENT OF THE MATHEMATICS COMPONENT	11
3.3	PRESENTATION OF THE RESULTS FOR 13-YEAR-OLD QUÉBEC STUDENTS.....	12
4	PRESENTATION OF THE RESULTS FOR QUÉBEC STUDENTS IN SCIENCE.....	15
4.1	CONTEXT OF THE SCIENCE TEST	15
4.2	SUBDOMAINS FOR THE ASSESSMENT OF THE SCIENCE COMPONENT	15
4.3	PRESENTATION OF THE RESULTS FOR 13-YEAR-OLD QUÉBEC STUDENTS.....	16
5	COMPARISONS OF AVERAGE SCORES ACCORDING TO GENDER.....	20
5.1	COMPARISON OF AVERAGE READING SCORES.....	20
5.2	COMPARISON OF AVERAGE MATHEMATICS SCORES.....	20
5.3	COMPARISON OF AVERAGE SCIENCE SCORES.....	20
6	COMPARISONS OF AVERAGE SCORES ACCORDING TO LANGUAGE OF INSTRUCTION.....	21
6.1	COMPARISON OF AVERAGE READING SCORES.....	21
6.2	COMPARISON OF AVERAGE MATHEMATICS SCORES.....	21
6.3	COMPARISON OF AVERAGE SCIENCE SCORES.....	21
7	CONCLUSION	22
	APPENDIX.....	23

List of Tables

TABLE 1	WEIGHTING BY SUBDOMAIN	4
TABLE 2	RANKING OF JURISDICTIONS ACCORDING TO THEIR AVERAGE SCORE IN READING	6
TABLE 3	AVERAGE SCORE IN READING AND CONFIDENCE INTERVAL ACCORDING TO JURISDICTION AND SUBDOMAIN	7
TABLE 4	DESCRIPTION OF PERFORMANCE CORRESPONDING TO EACH LEVEL OF THE GENERAL SCALE	8
TABLE 5	PERCENTAGE OF STUDENTS IN EACH READING PERFORMANCE LEVEL ACCORDING TO JURISDICTION	10
TABLE 6	RANKING OF JURISDICTIONS ACCORDING TO THEIR AVERAGE SCORE IN MATHEMATICS	13
TABLE 7	AVERAGE SCORE IN MATHEMATICS AND CONFIDENCE INTERVAL ACCORDING TO JURISDICTION AND LANGUAGE OF INSTRUCTION	14
TABLE 8	RANKING OF JURISDICTIONS ACCORDING TO THEIR AVERAGE SCORE IN SCIENCE	18
TABLE 9	AVERAGE SCORE IN SCIENCE AND CONFIDENCE INTERVAL ACCORDING TO JURISDICTION AND LANGUAGE OF INSTRUCTION	19
TABLE 10	AVERAGE SCORES IN READING AND CONFIDENCE INTERVAL ACCORDING TO JURISDICTION AND LANGUAGE OF INSTRUCTION	23
TABLE 11	QUÉBEC-CANADA COMPARISON OF AVERAGE SCORES ACCORDING TO LANGUAGE OF INSTRUCTION AND SUBDOMAIN.....	24

List of Graphs

GRAPH 1	AVERAGE SCORE OF JURISDICTIONS IN READING.....	5
GRAPH 2	PERCENTAGE OF STUDENTS IN EACH READING PERFORMANCE LEVEL ACCORDING TO JURISDICTION	9
GRAPH 3	AVERAGE SCORE OF JURISDICTIONS IN MATHEMATICS.....	12
GRAPH 4	AVERAGE SCORE OF JURISDICTIONS IN SCIENCE	17

1 Introduction to the Pan-Canadian Assessment Program (PCAP)

1.1 *Context of the study*

In 2003, the provincial and territorial ministers of education, through the Council of Ministers of Education, Canada (CMEC), agreed to develop the Pan-Canadian Assessment Program (PCAP) to replace its School Achievement Indicators Program (SAIP). This new program will assess at regular intervals the reading, science, and mathematics knowledge and skills of 13-year-old students from across Canada. The major component of each PCAP assessment will be one of these areas of learning, but each assessment will include minor components of the other two. PCAP will provide an excellent opportunity to show the education community, as well as the general public, the efficacy of our education systems with regard to learning in these subject areas.

The first PCAP assessment was administered in the spring of 2007. More than 35 000 students from more than 1500 schools across Canada responded to the assessment either in English or in French.

1.2 *Target group*

For the first assessment in 2007, reading was the major component, and science and mathematics were the minors. From May 14 to June 1, 2007, a random sample of 13-year-old students in schools across Canada participated in PCAP-13. In jurisdictions with small student populations, all the students were tested.

1.3 *Sampling procedure*

The number of participants must be high enough to adequately represent the performance of the population, which is made up of all eligible students in a given jurisdiction and linguistic group. The sample usually comprises 1000 students per jurisdiction, with the sample for Québec including close to 4000 students.

For this survey, stratified sampling was used. This included several stages of selection:

- random selection of a certain number of schools in each jurisdiction, using a complete list of publicly funded schools provided by each of the jurisdictions (public and private schools)
- random selection of students (20) using the list of all eligible students in each of the schools

Where the numbers were lower than the desired level, all schools or all students in the jurisdiction that met the criteria were tested.

In this way, 35 866 13-year-old students were selected and asked to take the assessment. Of these, 24 067 were selected for the reading test and 11 799, for the mathematics and science tests.

2 Presentation of the Results for Québec Students in Reading

2.1 Context of the reading test

Contemporary concepts of reading recognize that the process of reading depends on interaction between the reader, text, purpose and context before, during and after reading. It is also acknowledged that reading is not a finite set of skills, knowledge and concepts; rather, it is a process of continuous growth during which readers push the limits of their comprehension, interpretation, reaction and reflection regarding the text. In doing this, they work on mastering the entire reading process.

2.2 Subdomains for the assessment of the reading component

The reading component covers the three following subdomains:

- comprehension
- interpretation
- response to text

Comprehension

Readers construct the meaning of a text using the information provided explicitly and implicitly by the vocabulary, the parts of the text, its components and related events.

Interpretation

The students construct the meaning of a text by analyzing the parts, the elements and the events, and by combining them to obtain a broader perspective or a deeper meaning. They identify the theme or argument and substantiate their perception through references to details, events, symbols, patterns and characteristics of the text.

Response to text

Readers react to a text in various ways:

- in making personal connections between certain aspects of the text and what they have experienced, directly or through another person, their knowledge, their values and their own perspectives
- through an emotional reaction to the central ideas or certain aspects of the text
- by evaluating its quality or its value, possibly in relationship to other texts or to social or cultural factors

The reading curriculum makes a distinction between personal response and critical response to text.

A personal response implies that students think about their own experiences in light of the text or that they recognize themselves in certain aspects of the text. Students explain their reaction or the connections they make with the text by developing explanations, examples and arguments based on their own experience and knowledge. They find

material in the text to back up their assertions and personal opinions on the issues, themes, characters and situations.

A critical response implies that the readers are distancing themselves from the text, and evaluating the quality and relevance of it with respect to the world in general. They evaluate the content, the elements of style or the position of the author, and reflect on the choices of content, sources, quality, relevance in time or usefulness of the information, the relationships and the ideas. They justify their reaction using evidence, and precise, appropriate details taken from the text and other sources related to the problems, themes, characters and elements presented.

2.3 *Types of texts and test design*

The PCAP reading test usually includes texts that vary in type, form and difficulty, generally divided between fiction and everyday material. It should be kept in mind that a single text frequently combines various forms or types and has various purposes. These texts reflect the students' wide range of experiences of reading and, in particular, their experiences in language of instruction classes. The type and length of texts correspond both to activities in the language of instruction program and to the requirements in other subjects of Cycle One of secondary school in the area of reading.

The weighting of the subdomains corresponds to the importance accorded to each of these aspects of reading in the curriculum and in the language of instruction program for this cohort of students.

Table 1 Weighting by subdomain

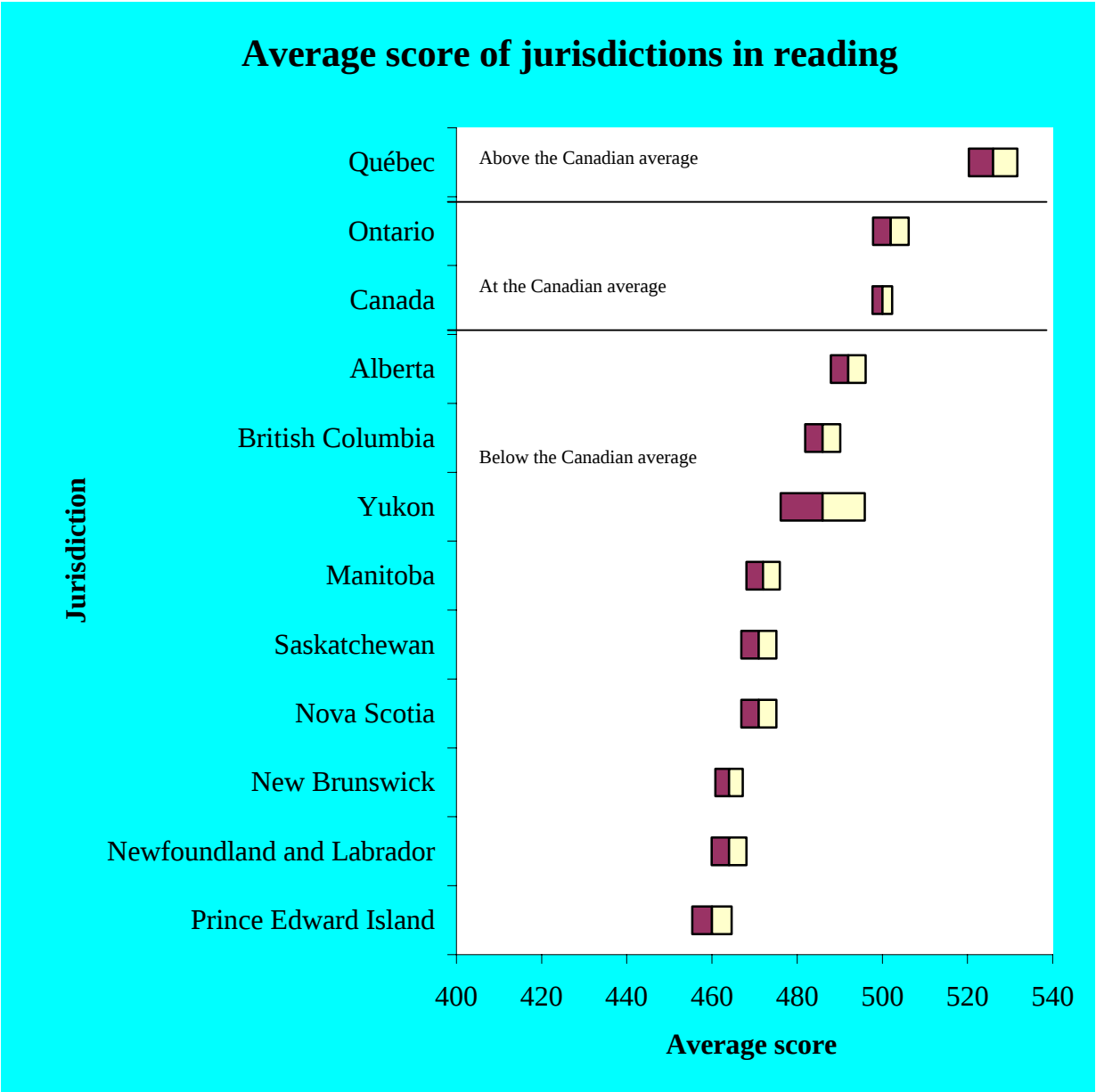
Subdomain	Weighting
Comprehension	40%
Interpretation	35%
Response to text	25%

2.4 *Presentation of the results for 13-year-old Québec students*

This section illustrates the overall performance in reading for 13-year-old Canadian students in the PCAP 2007 assessment by comparing the overall performance (expressed as an average score) of the ten Canadian provinces and one territory, the Yukon, with the average score for all Canadian students.

The graph below shows the average score for each jurisdiction in reading, and the related confidence intervals, in comparison with the average score for all of Canada.

Graph 1 Average score of jurisdictions in reading



The following table presents the ranking of jurisdictions according to their average score in reading.

Table 2 Ranking of jurisdictions according to their average score in reading

Ranking of jurisdictions according to their average score in reading			
Jurisdiction	Average score in reading	95% Confidence interval	Rank
Québec	526	5.7	1
Ontario	502	4.2	2
Canada	500	2.3	
Alberta	491	4.1	3
Yukon	486	9.9	4
British Columbia	486	4.1	5
Manitoba	472	3.9	6
Nova Scotia	471	4.1	7
Saskatchewan	471	4.1	8
Newfoundland and Labrador	464	4.1	9
New Brunswick	464	3.2	10
Prince Edward Island	460	4.6	11

2.5 Explanation and presentation of the results by reading subdomain

Each of the three subdomains—*comprehension*, *interpretation* and *response to text*—was also measured on a three-point scale. The scores obtained on each of the three scales represent the level of skill with regard to the subdomain in question. Thus, a low score on the *interpretation* scale means that the student frequently experiences limitations in this regard and only provides a simplified interpretation on the basis of conclusions stated in the text, or at best has established a link between certain aspects of the text. On the other hand, the student who gets a high score tends to give a thoughtful or effective interpretation that combines several elements and that is based on subtle relationships between elements and ideas.

Table 3 Average score in reading and confidence interval according to jurisdiction and subdomain

Average score in reading and confidence interval according to jurisdiction and subdomain						
Subdomain	Comprehension		Interpretation		Response to text	
Jurisdiction	Average score	95% Confidence interval	Average score	95% Confidence interval	Average score	95% Confidence interval
British Columbia	489	4.6	486	5	489	4.9
Alberta	493	4	491	4.1	494	4.3
Saskatchewan	480	4.4	469	4	471	3.7
Manitoba	480	4.3	472	4.2	473	4.6
Ontario	498	4.6	503	4.7	505	4.5
Québec	525	5.6	526	5.4	517	5.4
New Brunswick	474	3.2	462	3	466	3
Nova Scotia	481	4.4	468	4.1	470	4
Prince Edward Island	474	4.2	458	4	459	3.9
Newfoundland and Labrador	465	4.2	469	4.6	470	5.2
Yukon	479	8.8	489	9.7	493	11.3
Canada	500	2.3	500	2.3	500	2.3

2.6 Description of performance levels in reading

The method used consists in a digital conversion of raw scores to a standard scale. In the case of the PCAP, the number of correct answers is transferred digitally to a scale of 0 to 1000 points, with the average for the Canadian population having been set at 500 points. Following this conversion, two thirds of the results for the total population of participants fell within a range of 400 to 600 points, which is a statistically normal distribution.

Once the results have been reported on the scale for the Canadian population as a whole, it is possible to more precisely compare each jurisdiction's performance against the scores for Canada as a whole. It is also possible to compare each jurisdiction's results for each performance component. For the PCAP reading test, the standards take the form of performance levels (3), with Level 2 designated as the acceptable achievement for 13-year-old students. Level 1 is considered the basic performance, lower than what is expected for students in this age group, and Level 3 represents performance higher than that of most students in the same age group.

Reading achievement is therefore divided into three skill levels, with the students falling into the higher performance level for most tasks. The classification is based on the most difficult items that students may have answered. This means that at Level 3, the student may have correctly answered the most demanding questions in addition to answering the items for levels 1 and 2. The description of the overall performance for a student is linked to the specific intervals on the scale, according to the range of levels of difficulty of items that the students for this interval were able to answer correctly.

Table 4 Description of performance corresponding to each level of the general scale

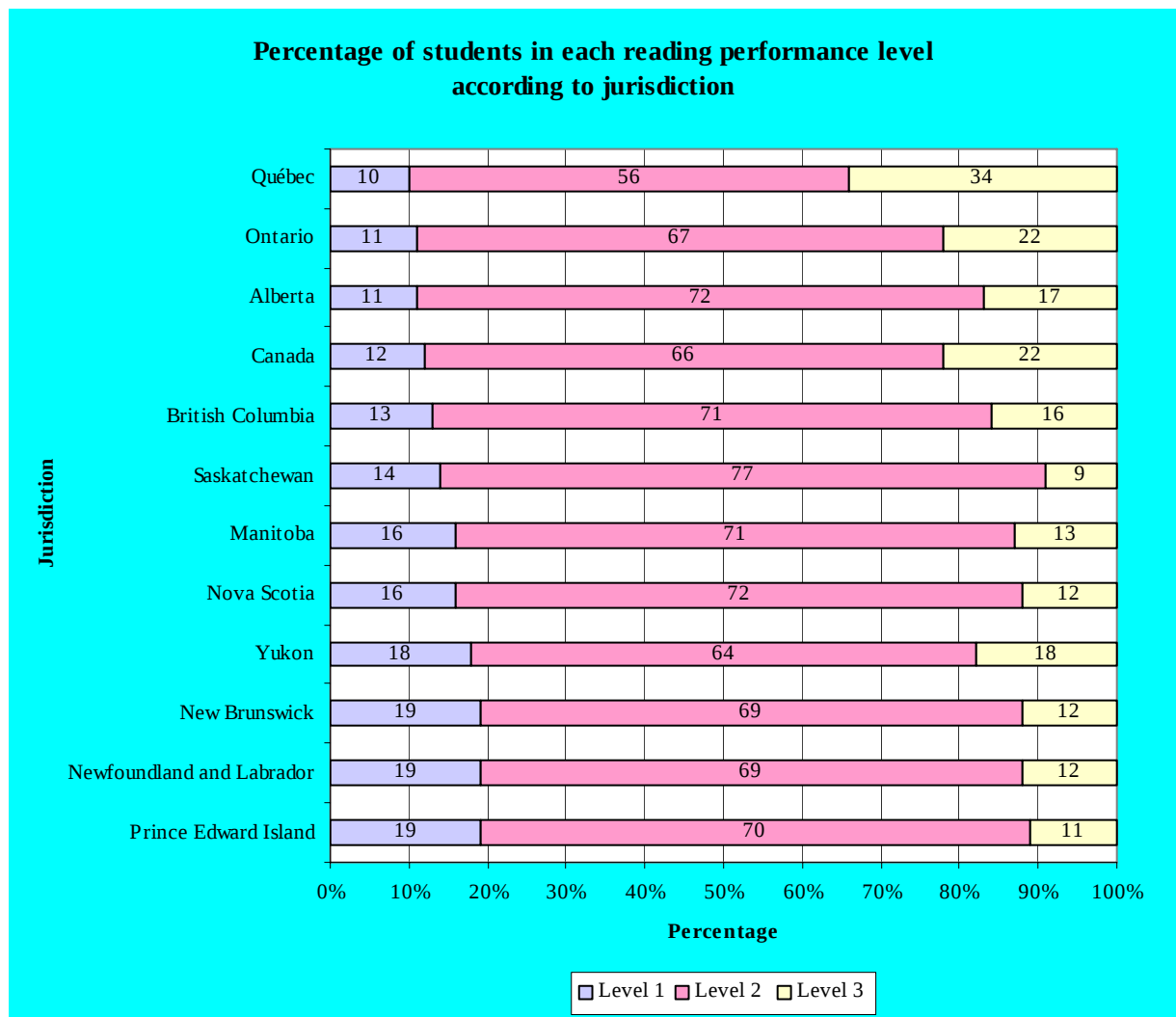
Level 1	Scores: Less than 380	Example
The student demonstrated a partial comprehension of certain fiction texts and certain everyday material texts. The student understands the elements of information that are clearly expressed, guided by familiar vocabulary, concrete details and explicit statements. In terms of the interpretation of texts, the student provides a simplified or general perspective, often based on directly formulated conclusions or piecing together certain aspects of the text. The student demonstrates a comprehension of the way in which certain characteristics of the text or certain content elements are used for specific purposes. With respect to personal or critical response to texts, the student's answers are frequently vague or general.		To show their comprehension, the students had to make a connection between a small map on which two islands were identified and the content of an article. The article in question was about those islands.
Level 2	Scores: 380 – 575	
The student comprehends, interprets and reacts to various texts clearly and reasonably. The student comprehends both the explicit and implicit elements of information in the text. The student links the general ideas and, with the support of details, draws conclusions about more general meaning and about the argument of the text, and he or she interprets specific parts of the text on the basis of implicit elements and figurative language. The student demonstrates knowledge of the way in which the texts are structured and organized for various purposes. The student's personal and critical response is supported with references to the text and other sources.		The students had to show their comprehension of the text by making a link between the reason that motivated a character to make a certain decision and a statement related to another cultural concept.
Level 3	Scores: 576 or more	
The student comprehends, interprets and reacts to various texts thoughtfully and with sophistication. The student comprehends the explicit and implicit elements of information in the text, including what is implied by subtle aspects of style and tone. The student does an insightful interpretation of the text by combining several elements or the thoughtful analysis of one or more significant elements, often based on subtle connections between the elements and the ideas. The student demonstrates his or her knowledge and insightfulness regarding how authors structure their texts and use other elements of style for various purposes. The student gives elaborate answers that are personal and critical, frequently marked by social and cultural interpretations or evaluations of the literary qualities of the text.		The students had to show their comprehension of a text after reading two conflicting opinions, each expressing a bias with respect to an event described in two ways (personal account and television report) in order to determine what had been the first phase of the event.

2.7 Presentation of the results for all of Canada by performance level

As a general rule, the vast majority of 13-year-old students across Canada completed the reading tasks corresponding to the expectations expressed in the curricula and to Level 2, that is, the acceptable performance level. Québec has the highest percentage of students in Level 3 and is second (behind Alberta) in terms of the percentage of students who attained at least Level 2.

The graph below illustrates the performance levels by jurisdiction as well as the corresponding percentage of students at each level. The jurisdictions are ranked according to the percentage of students who participated in the assessment and who attained at least Level 2.

Graph 2 Percentage of students in each reading performance level according to jurisdiction



Certain students were exempted from the reading component by their schools because of their weakness in the subject (in other words, the school believed that they would not achieve Level 1, as it is defined). The data in the rest of the report thus cover only students who took part in the reading test, from all jurisdictions.

Table 5 Percentage of students in each reading performance level according to jurisdiction

Percentage of students in each reading performance level according to jurisdiction					
	Level 1	Level 2	Level 3	Levels 2 and 3	
Jurisdiction	Lower achievement than expected	Expected achievement	Higher achievement than expected	Desired achievement	Rank
Québec	10	56	34	90	1
Québec (French)	9	54	37	91	1
Québec (English)	16	70	14	84	6
Ontario	11	67	22	89	2
Alberta	11	72	17	89	2
Canada	12	66	22	88	
British Columbia	13	71	16	87	4
Saskatchewan	14	77	9	86	5
Manitoba	16	71	13	84	6
Nova Scotia	16	72	12	84	6
Yukon	18	64	18	82	8
Newfoundland and Labrador	19	69	12	81	9
New Brunswick	19	69	12	81	9
Prince Edward Island	19	70	11	81	9

3 Presentation of the Results for Québec Students in Mathematics

3.1 *Context of the mathematics test*

The mathematics curricula in various jurisdictions in Canada are structured on a number of mathematical processes deemed essential to the effective study of this subject. These generally include problem solving, reasoning and justifying thinking, reflecting, using appropriate tools and computation strategies, making connections within and outside the discipline, representing and communicating mathematically. The processes reflect the way in which students acquire and apply their mathematical skills and knowledge and should not be separated from the skills and knowledge acquired through curriculum content.

The fundamental principle of the test is that applying mathematics is an integrated act and that the skills and concepts from one domain are by their very nature linked to various other domains. For the purposes of this test, mathematics is generally defined as the study of patterns and relations and as a discipline that involves processes, connections and conceptual comprehension.

The scope of this test is limited to concepts and skills that are found and used in the classroom by most 13-year-old students in Canada. However, it does not cover all the concepts and skills that a 13-year-old student is expected to have acquired in a given school system.

3.2 *Subdomains for the assessment of the mathematics component*

The mathematics component covers the four following subdomains:

- number concepts and operations (properties, representations of equivalence and length)
- geometry and measurement (properties of two-dimensional and three-dimensional shapes, relative position, transformations and measurements)
- patterns and relations (algebraic patterns and expressions, linear relations and equations)
- data management and probabilities (gathering and analysis of data, experimental and theoretical probability)

It also covers the following three processes (competencies):

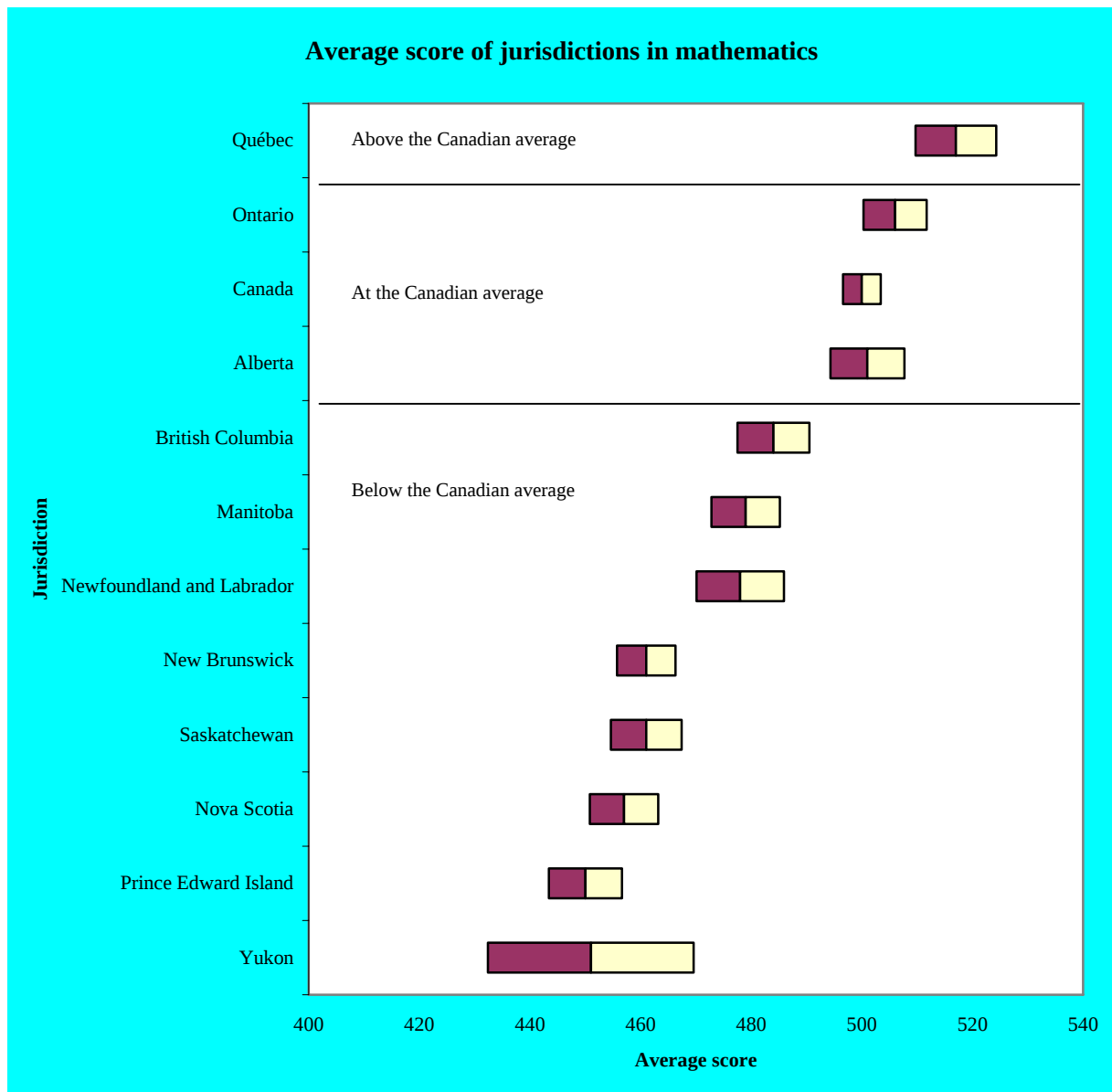
- problem solving
- communicating and representing
- reasoning and making connections

3.3 Presentation of the results for 13-year-old Québec students

This section illustrates the overall performance in mathematics for 13-year-old Canadian students in the PCAP 2007 assessment by comparing the overall performance (expressed as an average score) of the ten Canadian provinces and one territory, the Yukon, with the average score for all Canadian students.

The graph below shows the average score for each jurisdiction in mathematics, and the related confidence intervals, in comparison with the average score for all of Canada.

Graph 3 Average score of jurisdictions in mathematics



The following table presents the ranking of jurisdictions according to their average score in mathematics.

Table 6 Ranking of jurisdictions according to their average score in mathematics

Ranking of jurisdictions according to their average score in mathematics			
Jurisdiction	Average score in mathematics	95% Confidence interval	Rank
Québec	517	7.3	1
Ontario	506	5.7	2
Canada	500	3.4	
Alberta	499	6.7	3
British Columbia	484	6.5	4
Manitoba	479	6.2	5
Newfoundland and Labrador	478	7.9	6
Saskatchewan	461	6.4	7
New Brunswick	461	5.3	8
Nova Scotia	457	6.2	9
Yukon	451	18.6	10
Prince Edward Island	450	6.6	11

Table 7 Average score in mathematics and confidence interval according to jurisdiction and language of instruction

Average score in mathematics and confidence interval according to jurisdiction and language of instruction						
	Combined score		French, language of instruction		English, language of instruction	
Jurisdiction	Average score	95% Confidence interval	Average score	95% Confidence interval	Average score	95% Confidence interval
British Columbia	484	6.5	467	26.2	484	6.7
Alberta	499	6.7	478	14.4	500	6.8
Saskatchewan	461	6.4			461	6.3
Manitoba	479	6.2	474	14	479	7.7
Ontario	506	5.7	471	6.1	508	6.8
Québec	517	7.3	518	7.7	510	9.9
New Brunswick	461	5.3	460	6.9	462	5.9
Nova Scotia	457	6.2	464	17.3	457	6
Prince Edward Island	450	6.6			449	8.2
Newfoundland and Labrador	478	7.9			478	7
Yukon	451	18.6			448	19.2
Canada	500	3.4	512	6.4	496	4.3

4 Presentation of the Results for Québec Students in Science

4.1 *Context of the science test*

The concept of “scientific literacy” is generally accepted as the overarching goal of science curricula in Canada. The PCAP science test defines scientific literacy as the development of competencies through which students can implement attitudes, skills and knowledge related to the sciences, as well as an understanding of the nature of science that makes it possible to do research, solve problems and make decisions based on evidence with respect to scientific questions.

The definition encompasses knowledge of natural sciences, physical sciences (chemistry and physics) and earth and space sciences, as well as a comprehension of the nature of science as a realm of human activity.

Three competencies are associated with demonstrating scientific literacy: scientific inquiry, problem solving, and decision making. Each of these competencies requires that students understand the nature of science, apply relevant scientific knowledge, use certain skills, and demonstrate certain attitudes that are reflective of scientific literacy. For the purposes of the PCAP science component, these three competencies are considered to be interdependent and interrelated.

Finally, even though the PCAP-13 science test was designed to respect the intent of science curricula across Canada, it is not an exhaustive assessment and therefore does not include all aspects and content from every science curriculum for 13-year-old students in Canada.

4.2 *Subdomains for the assessment of the science component*

The science component covers the following five subdomains:

- Nature of science: Understand the nature of scientific knowledge and the methods that promote its development.
- Nature of technology: Recognize how science and technology are interrelated.
- Knowledge of science: Be familiar with the fundamental theories, models, concepts and principles of life sciences (biology), physical sciences (chemistry and physics) and earth and space sciences.
- Skills: Apply competencies to real situations in order to solve problems and make informed decisions. This subdomain is divided into four broad areas of skills: initiating and planning, performing and recording, analyzing and interpreting, and communication and teamwork.
- Attitudes: Take an interest in and be aware of science-related issues; respect and support evidence-based knowledge; and be conscious of sustainable development and of one’s responsibility for the environment.

The science component also covers the following three processes (competencies):

- Scientific inquiry: Ask questions on the nature of things, using broad exploration and focused investigation.
- Problem solving: Try to solve practical problems by finding original ways to apply scientific knowledge.
- Decision making: Choose questions or specific issues and conduct scientific inquiry in order to clarify each question or issue.

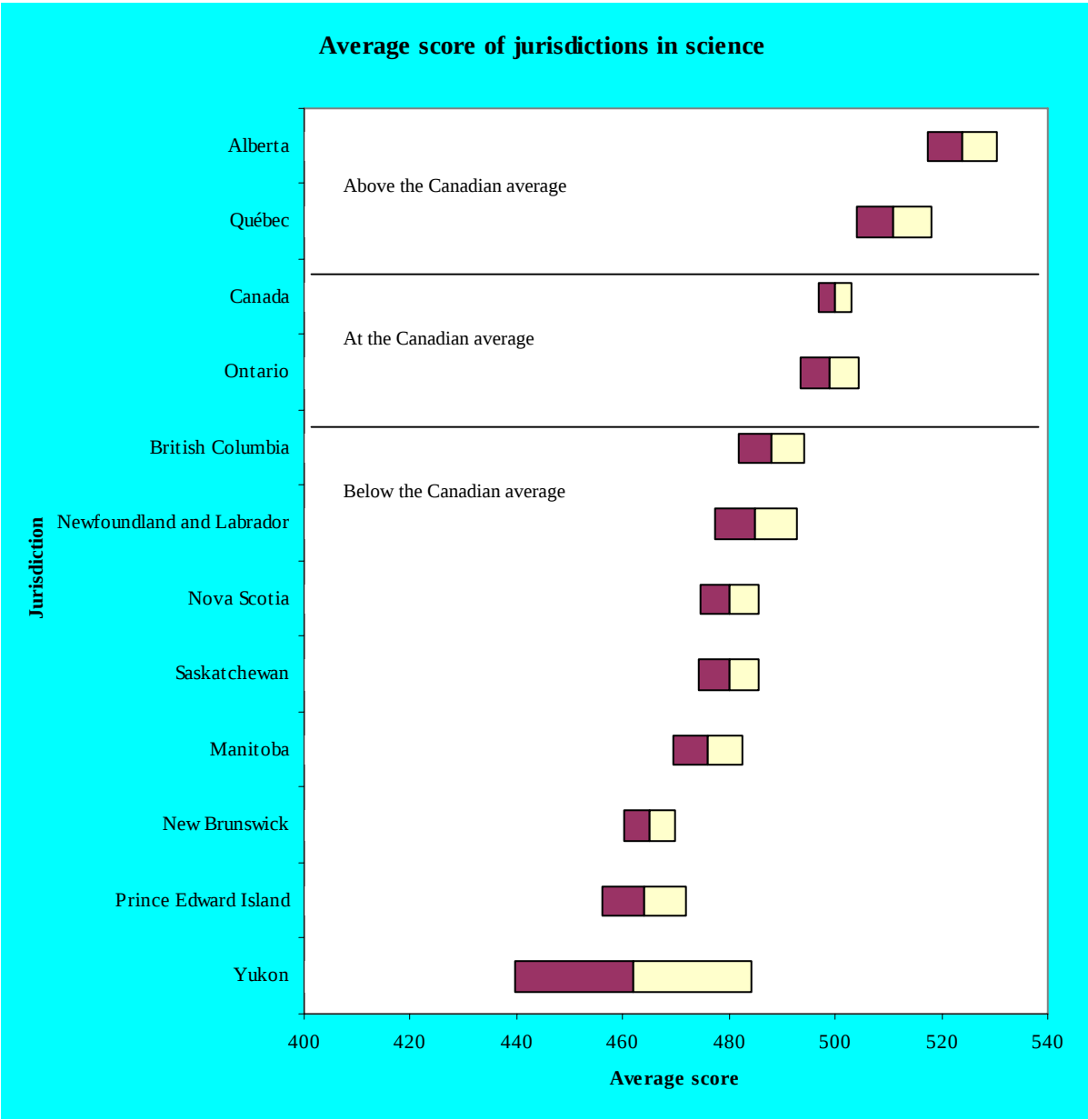
The competencies and the combination of the four interrelated subdomains defined in the curricula of the provinces and territories, as well as the principles outlined in the *Common Framework of Science Learning Outcomes*, form the basis for the items developed for the science test.

4.3 *Presentation of the results for 13-year-old Québec students*

This section illustrates the overall performance in science for 13-year-old Canadian students in the PCAP 2007 assessment by comparing the overall performance (expressed as an average score) of the ten Canadian provinces and one territory, the Yukon, with the average score for all Canadian students.

The graph below shows the average score for each jurisdiction in science, and the related confidence intervals, in comparison with the average score for all of Canada.

Graph 4 Average score of jurisdictions in science



The following table presents the ranking of jurisdictions according to their average score in science.

Table 8 Ranking of jurisdictions according to their average score in science

Ranking of jurisdictions according to their average score in science			
Jurisdiction	Average score in science	95% Confidence interval	Rank
Alberta	524	6.5	1
Québec	511	7.1	2
Canada	500	3.1	
Ontario	499	5.4	3
British Columbia	488	6.3	4
Newfoundland and Labrador	485	7.6	5
Manitoba	480	6.5	6
Nova Scotia	480	5.5	7
Saskatchewan	476	5.7	8
New Brunswick	465	4.9	9
Prince Edward Island	464	7.8	10
Yukon	462	22.2	11

Table 9 Average score in science and confidence interval according to jurisdiction and language of instruction

Average score in science and confidence interval according to jurisdiction and language of instruction						
	Combined score		French, language of instruction		English, language of instruction	
Jurisdiction	Average score	95% Confidence interval	Average score	95% Confidence interval	Average score	95% Confidence interval
British Columbia	488	6.3	475	31.9	488	6.8
Alberta	524	6.5	514	16	524	5.8
Saskatchewan	476	5.7			480	7.1
Manitoba	480	6.5	470	12.7	477	7.8
Ontario	499	5.4	485	6.3	499	6.5
Québec	511	7.1	516	9	467	9.6
New Brunswick	465	4.9	460	6.4	468	6
Nova Scotia	480	5.5	503	16.5	479	5.9
Prince Edward Island	464	7.8			464	7.5
Newfoundland and Labrador	485	7.6			485	7.2
Yukon	462	22.2			458	21.4
Canada	500	3.1	512	7	496	4.1

5 Comparisons of Average Scores According to Gender

5.1 *Comparison of average reading scores*

Hardly surprisingly, the results show us once again that girls do better than boys in reading. In the different jurisdictions, the gaps vary from 15 to 34 points in favour of the girls. However, the average score for Québec boys surpasses most of the average scores for girls in the other provinces, except for those in Ontario, where it is 1 point higher.

In the subdomain of *comprehension*, the gap between boys and girls is smaller and not significant. In the case of the other two subdomains of *interpretation* and *response to text*, the gap is substantial and significant.

5.2 *Comparison of average mathematics scores*

Unlike all the other international surveys, in Canada, the average scores for boys and girls are identical. Usually the boys have a slight advantage over the girls; however, the PCAP-13 2007 shows that the girls did as well as boys in mathematics.

5.3 *Comparison of average science scores*

In Canada, the girls had a slight, insignificant, advantage of 2 points over the boys. The PCAP-13 2007 tells us that girls and boys have almost identical results in science.

6 Comparisons of Average Scores According to Language of Instruction

6.1 *Comparison of average reading scores*

The Québec students assessed in French did very well on the PCAP-13 2007 reading test. In the combined results, there was a gap of 53 points between them and the Québec students assessed in English. Obviously this difference is significant and it occurs in each of the subdomains assessed. It was in the subdomain of *interpretation* that the gap was the greatest at 55 points. In *comprehension*, the gap was 48 points and in *response to text*, it was 40 points.

Francophone students ranked first among the provinces and territories assessed in the PCAP-13 2007. Québec's anglophone students ranked fifth among the provinces and territories assessed in English. In the combined score, Québec students also ranked first in this reading assessment.

6.2 *Comparison of average mathematics scores*

The average scores for francophone students and anglophone students were very close, with an insignificant difference of 8 points. The average score for all Québec students places Québec first among the provinces and territories that participated in the PCAP-13 2007 mathematics test.

6.3 *Comparison of average science scores*

The Québec students assessed in French did very well on the PCAP-13 2007 science test. There was a significant gap of 49 points between Québec students assessed in English and those assessed in French. Only two provinces and one territory obtained an average score lower than that of Québec anglophone students in science. In the combined score, Québec ranked second (behind Alberta) among the provinces and territories that took part in this science test.

7 Conclusion

This report summarizes the performance of 13-year-old students in the first *PCAP-13 Reading, Mathematics and Science Assessment (2007)*. Reading was the main component of the assessment, while mathematics and science were minor components.

The results of this assessment confirm what recent international tests have shown with regard to the high achievement of Québec students in reading, mathematics and science. In this first edition of PCAP-13, the first cohort of Québec students schooled under the education reform did very well on the whole. Québec ranked first in Canada in reading and mathematics, and second in science. However, significant gaps appeared in the reading test, both in the combined results and in each of the subdomains, between the student population with French as the language of instruction and those with English as the language of instruction. In addition, there was also a significant gap between these two populations in the science component of the PCAP-13. In the mathematics component, there was an insignificant gap of 8 points between the two populations, but they both obtained average scores higher than all the other student populations in Canada.

Québec girls obtained better average scores than boys in reading and in the three subdomains studied. In science, Canadian girls obtained scores slightly higher than those of Canadian boys, but the gap was not significant. The Canadian boys did not maintain their superiority in mathematics, since Canadian girls did just as well in this component as the boys.

It can be concluded that the performance of 13-year-old Québec students is very promising for their individual futures as well as for the future of Québec as a whole. It will be interesting to see if these results are maintained at the same high level in the next assessment, PISA 2009, since the same components will be used as were for PCAP-13 2007.

Appendix

Table 10 Average scores in reading and confidence interval according to jurisdiction and language of instruction

Average scores in reading and confidence interval according to jurisdiction and language of instruction						
	Combined score		French, language of instruction		English, language of instruction	
Jurisdiction	Average score	95% Confidence interval	Average score	95% Confidence interval	Average score	95% Confidence interval
British Columbia	486	4.1	473	13.9	486	4.6
Alberta	491	4.1	505	7.5	491	4
Saskatchewan	471	4.1			471	4
Manitoba	472	3.9	436	7.7	476	4.6
Ontario	502	4.2	478	5.3	503	4.6
Québec	526	5.7	532	6.3	479	5.4
New Brunswick	464	3.2	458	3.9	466	3.9
Nova Scotia	471	4.1	477	10.3	471	3.9
Prince Edward Island	460	4.6			459	4
Newfoundland and Labrador	464	4.1			464	5.1
Yukon	486	9.9			486	10.6
Canada	500	2.3	524	4.9	492	2.7

Table 11 Québec-Canada comparison of average scores according to language of instruction and subdomain

Québec-Canada comparison of average scores according to language of instruction and subdomain				
Reading				
	Combined score	Comprehension	Interpretation	Response to text
French Québec	532 ± 6.3	531 ± 5.9	532 ± 6.6	522 ± 5.6
French Canada	524 ± 4.9	524 ± 5.8	525 ± 5.6	516 ± 5.8
English Québec	479 ± 5.4	483 ± 6.3	477 ± 6.1	482 ± 5.7
English Canada	492 ± 2.7	492 ± 2.2	492 ± 2.6	495 ± 2.5
Québec	526 ± 5.7	525 ± 5.6	526 ± 5.4	517 ± 5.4
Canada	500 ± 2.3	500 ± 2.3	500 ± 2.3	500 ± 2.3
Mathematics				
French Québec	518 ± 7.7			
French Canada	512 ± 6.4			
English Québec	510 ± 9.9			
English Canada	496 ± 4.3			
Québec	517 ± 7.3			
Canada	500 ± 3.4			
Science				
French Québec	516 ± 9.0			
French Canada	512 ± 7.0			
English Québec	467 ± 9.6			
English Canada	496 ± 4.1			
Québec	511 ± 7.1			
Canada	500 ± 3.1			