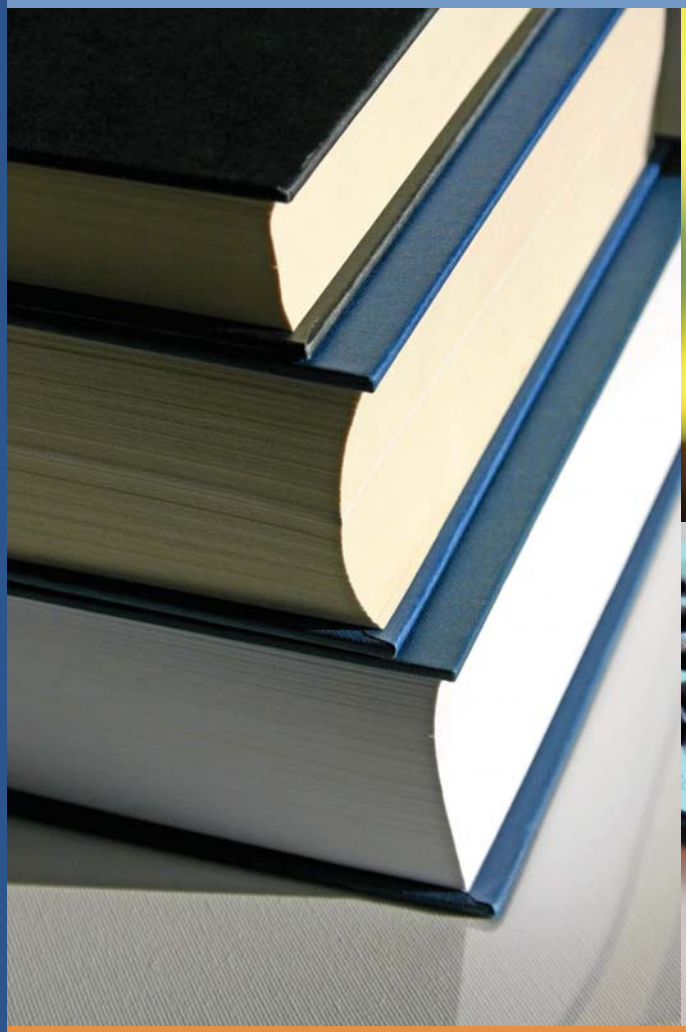
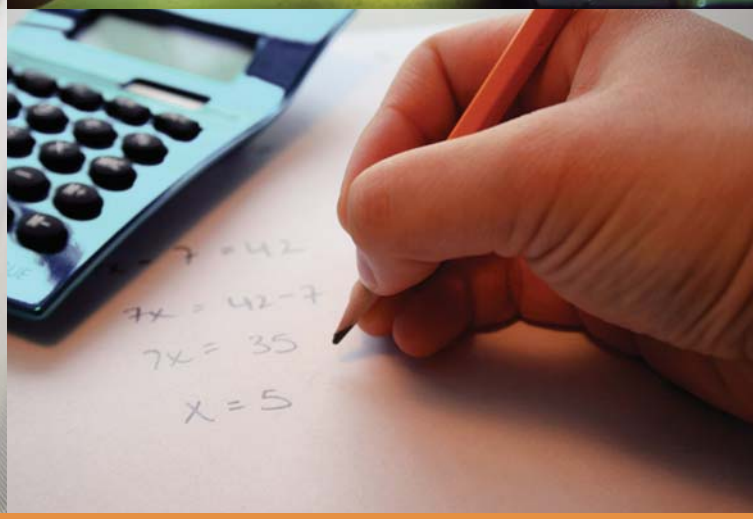
Pan-Canadian Assessment Program

PCAP-13 2007

Report on the Assessment of 13-Year-Olds in Reading, Mathematics, and Science





Council of Ministers of Education, Canada

Conseil des ministres de l'Éducation (Canada)

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Report on the Assessment of 13-Year-Olds in Reading, Mathematics, and Science

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The Council of Ministers of Education, Canada (CMEC) was formed in 1967 by the provincial and territorial ministers responsible for education to provide a forum in which they could discuss matters of mutual interest, undertake educational initiatives cooperatively, and represent the interests of the provinces and territories with national educational organizations, the federal government, foreign governments, and international organizations. CMEC is the national voice for education in Canada and, through CMEC, the provinces and territories work collectively on common objectives in a broad range of activities at the elementary, secondary, and postsecondary levels.

Through the CMEC Secretariat, the Council serves as the organization in which ministries and departments of education undertake cooperatively the activities, projects, and initiatives of particular interest to all jurisdictions[1]. One of the activities on which they cooperate is the development and implementation of pan-Canadian testing based on contemporary research and best practices in the assessment of student achievement in core subjects.

Note of appreciation

The Council of Ministers of Education (Canada) would like to thank the students, teachers, and administrators whose participation in the Pan-Canadian Assessment Program ensured its success. The quality of your commitment has made this study possible. We are truly grateful for your contribution to a pan-Canadian understanding of educational policy and practices in reading, mathematics, and science and among 13-year-olds.

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[1] In this report, "ministry" includes "department" and "jurisdictions" includes participating "provinces" and "territories."

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1 WHAT IS THE PAN-CANADIAN ASSESSMENT PROGRAM?

The Pan-Canadian Assessment Program (PCAP) is the CMEC's most recent commitment to informing Canadians on how well their education systems are meeting the needs of students and society. The information gained from such a pan-Canadian assessment gives the ministers of education a basis for examining the curriculum and other aspects of their school systems.

School curriculum programs vary from jurisdiction to jurisdiction across the country, so comparing results from these varied programs is a complex task. However, young Canadians in the different jurisdictions learn many similar skills in reading, mathematics, and science. PCAP has been designed to determine whether students across Canada reach similar levels of performance in these core disciplines at about the same age, and to complement existing assessments in each jurisdiction so they have comparative Canada-wide data on the achievement levels attained by 13-year-olds across the country.

Goals

When the ministers of education began planning the development of PCAP in 2003, they set out the following goals for a conceptually new pan-Canadian instrument of assessment designed to

- inform educational policies to improve approaches to learning
- focus on mathematics, reading, and science, with the possibility of including other domains as the need arises
- reduce the testing burden on schools through a more streamlined administrative process
- provide useful background information using complementary context questionnaires for students, teachers, and school administrators
- enable jurisdictions to use both national and international results to validate the results of their own assessment programs and to improve them

Table 1-1 provides CMEC's actual and proposed dates for administering PCAP to Canadian 13-year-olds.

TABLE 1-1 **Prospective PCAP administrations**

Actual or proposed date	Spring 2007	Spring 2010	Spring 2013
Major domain	Reading	Mathematics	Science
Minor domain	Mathematics	Science	Reading
Minor domain	Science	Reading	Mathematics

The development process

In August 2003, a PCAP working group of experienced and knowledgeable representatives from several jurisdictions and including an external authority on measurement theory, large-scale assessment, and educational policy began the development process. A concept paper was commissioned that would elaborate on issues of structure, development planning, operations, and reporting. Drawing on this concept paper, the working group defined PCAP as a testing program that would

- be administered at regular intervals
- be administered to students who are 13-year-olds at the start of the school year
- be based on the commonality of all current juristictional curricular outcomes across Canada
- assess reading, mathematics, and science
- provide a major assessment of one domain with a minor concentration on the two other domains
- focus on reading as the major domain in the first administration in 2007

For each subject area, a thorough review of curricula, current assessment practices, and research literature was then undertaken and reports were written to indicate the common expectations among all jurisdictions.

The working groups for bilingual framework development, established for each of the three subject areas, were composed of representatives from several jurisdictions with knowledge and experience in curriculum and assessment for the particular subject. Each working group also had an external expert in the assessment of the particular subject to advise and assist with the development of a framework statement establishing the theory, design, and performance descriptors for each domain. The framework statements were reviewed and accepted by all participating jurisdictions as the basis for test item development.

Bilingual teams for developing the test items were then established; members of these teams were subject area educators selected from all jurisdictions, with a subject assessment expert to supervise. Each subject framework provided a blueprint with its table of specifications describing the subdomains of each subject area, the types and length of texts and questions, the range of difficulty, and the distribution of questions assessing each specific curriculum expectation. Jurisdictions were also encouraged to submit texts and test-ready materials that they felt were appropriate for the age group and that were not currently in use in their jurisdiction. The results in reading, for example, provided sufficient items for three complete forms for field testing, each 90 minutes in duration.

Texts and questions were developed in both official languages and cross-translated to be equivalent in meaning and difficulty. Jurisdictions reviewed and confirmed the validity of the French-English translations to ensure fair and equitable testing in both languages.

All items were reviewed by outside validators and further revised by members of the item development team. These texts and items were then submitted to the framework development working group to be examined in light of the blueprint, and to be

structured into three comparable field-test forms. Each booklet contained both selected-response and constructed-response items with a range of difficulty accessible to the age group, based on scenarios meaningful to the age group, and reflecting Canadian values, culture, and content.

Field testing involved the administration of these temporary forms to a representative sample of students from an appropriate range of jurisdictions in both languages. Approximately 2,000 students in 100 schools across Canada were involved in the field testing. The tests were then scored by teams of educators from the jurisdictions in July 2006. Following analysis of the data from the field test, each framework development working group reviewed all items and selected the texts and items considered best, from a content and statistical viewpoint, to form two 90-minute booklets in reading, and half of a testing booklet for each of mathematics and science, each booklet totalling 90 minutes. The final test booklets were then reviewed and approved by all participating jurisdictions.

Design and development of contextual questionnaires

The accompanying questionnaires for students, teachers, and schools were designed to provide jurisdictions with contextual information that would contribute to the interpretation of the performance results. Such information could also be examined and used by researchers, policy makers, and practitioners to help determine what factors influence learning outcomes.

A questionnaire development group comprised of educators and research experts from selected jurisdictions who developed a framework to ensure that the questions asked of students, teachers, and school principals were consistent with predetermined theoretical constructs or important research questions. The group

- reviewed models of questionnaire design found in the three large-scale assessment programs — SAIP, IEA–TIMSS, and PISA
- worked to create a shorter, more streamlined model
- maximized research value by shaping the questionnaires around selected research issues for the 2007 administration of the test

Using initial drafts, a separate group (the chair of the questionnaire development working group and two reading experts) expanded the reading component of the questionnaire. This working group held briefing sessions with the chair of the reading working group and the CMEC Coordinator, Research and Statistics, who suggested some areas of interest derived from the most recent round of consultations on the Pan-Canadian Education Research Agenda (PCERA). It was determined that the main research focus would be on teaching and learning reading strategies. Additional areas of interest included the methods and uses of assessment and the ways in which special-needs students are accommodated in schools and classrooms.

Features of the administration of PCAP reading 2007

In the spring of 2007, the test was administered to a ***random sample*** of schools and students, representing the national cohort of 13-year-olds and of the jurisdictions. Booklets were randomly assigned to students.

Sampling

The ***sampling process*** refers to the way in which students were selected to write the assessment. It is necessary to select a large enough number of participants to allow for adequate representation of the population's performance; the word "population" refers to all eligible students within a jurisdiction and/or a linguistic group. This assessment adopted the following two-step ***stratified sampling*** process in the selection of participants:

1. the ***random selection of schools*** from each jurisdiction, drawn from a complete list of publicly funded schools provided by the jurisdiction
2. the ***random selection of students***, drawn from a list of all eligible participants within each school

In the case where numbers were smaller than the desired size, all schools and/or all students meeting the criteria within the jurisdiction were selected. This method assured that we had an adequate number of participants to allow for reporting on their achievement as if all students within the jurisdiction had participated.

The sampling process resulted in approximately 30,000 13-year-olds writing the test. Approximately 20,000 wrote the reading segment, the primary domain, and about 10,000 wrote the mathematics and science, the secondary domains. Approximately 15,000 were students who wrote the reading segment in English and 5,000 who wrote in French. For mathematics and science, the numbers were 7,500 in English and 2,500 in French.

Reporting results by language

The results obtained from students educated in the French system of their respective jurisdiction are reported as French. The results obtained from students educated in the English system of their respective jurisdiction are reported as English.

In most jurisdictions, the results achieved by French immersion students who wrote in French are calculated as part of the English results. However, in Manitoba, the results achieved by French immersion students are calculated as part of their French results.

All French and English students were expected to write for 90 minutes, with breaks deemed appropriate by the assessment administrator. Then they completed the context questionnaire at the back of their test booklet.

Participation

Each school received the assessment handbook that outlined the purposes of the assessment, the organization and administration requirements, and suggestions to encourage as full participation as possible. These suggestions included a common administration script to ensure all students encountered the testing process in a similar manner, and provided guidelines for accommodating special-needs students. PCAP

testing is intended to be as inclusive as possible in order to provide a complete picture of the range of performance for the age group. The students who were excused from participation were nevertheless recorded for statistical purposes; they included those with highly limited abilities in any one of the domains, those who would be adversely affected by the test, and those whose parents requested it.

Participation rates

In large-scale assessments, participation rates are calculated in a variety of ways and are used to guide school administrators when determining whether the number of students who completed the assessment falls within the established norm set for all schools. In the case of PCAP, a formula for this purpose is provided to the test administrators, thereby assuring that all schools use the same guidelines and that the set minimum of participating students is uniformly applied. Using this formula, the PCAP student participation rate was over 85%.

For additional information concerning student participation and sampling, refer to Table A-29 on page 131.

Schools were encouraged to prepare and motivate students for the test, aiming for the most positive participation and engagement in the process as possible by teachers, students, and parents. The materials provided included information pamphlets for parents and students; as well, the school handbook included sample questions in reading that illustrated the types of demands and the descriptions of achievement levels for each question provided.

Schools were also asked to have the Teacher Questionnaire completed by all the language arts teachers of the participating students in the school, and the School Questionnaire by the school principal. All questionnaires were linked to student results, but used unique identifiers to preserve confidentiality.

Scoring the student response booklets

The scoring was conducted concurrently in both languages in one location over a three-week period. After all student booklets had been submitted from the jurisdictions, the booklets were then scrambled into bundles of 10 so that any single bundle contained booklets from several jurisdictions. The scoring administration team, the table leaders, and the scorers themselves came from several jurisdictions. The whole scoring process included

- **parallel training** of both table leaders and scorers in each subject area
- a bilingual committee with responsibility for reviewing all instruments and **selecting anchor papers** to ensure comparability at every level
- twice daily **rater-reliability checks** in which all scorers marked the same student work in order to track the consistency of scoring on an immediate basis
- **double scoring** in which 300 of each of the three booklets were returned to the scoring bundles to be re-scored, providing an overall inter-rater reliability score

Presentation of performance results

The results of student performance on PCAP-13 2007, the Reading Assessment, are presented in this report in two ways: as overall mean scores on the Reading Assessment and as the percentage of students attaining achievement levels. The mean scale scores provide a snapshot of what students know and can do on the assessment instrument.

The performance levels represent how jurisdictional performances measured up to the expected level of achievement on the integrated process of reading — Comprehension, Interpretation, and Response to text. To accomplish this, a standard-setting exercise involving outside validators set the "cut scores" for each level using the "bookmark" method; that is, determining the relative difficulty of the full set of assessment instruments and delineating the point that defines the achievement of each level of success, thus determining the "cut score." Once suitable cut scores were set, student performance within the range of cut scores could be described. These descriptors of achievement-level results indicate the degree to which performance meets expectations of what students should know and be able to do at each level.

The achievement results on the minor subject domains (mathematics and science) for all participating jurisdictions are reported as an overall mean score. Because the students responded to a small subset of items for these two minor subject areas, their results by subdomain or by achievement level are not reported.

Reading as primary domain

According to curricula across Canada, reading is a dynamic, interactive process whereby the reader constructs meaning from texts. The process of reading effectively involves the interaction of reader, text, purpose, and context before, during, and after reading.

The reader

In order to make meaning of a text, readers must make a connection between what is in the text and what they know or bring to the text. Readers' personal experiences, real and vicarious, allow a greater or lesser access to the content and forms of what they read.

Students' knowledge and skills determine their degree of access to particular types and forms of texts. Knowledge of language, facility with language strategies, and knowledge of the way language works in print affect the student's construction of meaning in the text.

The text

Writers produce texts for a variety of purposes and use a variety of forms. Currently, many of the traditional genres have been combined or used in novel ways. Students must read a variety of texts such as those generally considered fiction and those considered non-fiction. Within that range, texts have different degrees of complexity in structure, vocabulary, syntax, organization, ideas, rhetorical devices, and subject matter. In addition, the form or type of a text plays a part in determining students' success in accessing a particular text. For example, when students enter middle and secondary school, their interaction with non-fiction or expository texts often increases. To read these forms or types successfully, they need to recognize how these forms or types of text function in different situations.

The reader's purpose

The purpose of the reading activity affects the reader's construction of meaning. Students read texts for a variety of purposes, ranging from the pleasure they receive from the text's content and style to the practical information or point of view they acquire from engaging with it. Whereas particular forms or types of text are often considered aesthetic or pragmatic in intention, the reader's purpose may differ from that intent. For example, social studies students may be required to read a novel to develop knowledge of a particular culture, era, or event.

The context

Context is important in any reading act because it affects the stance the reader takes toward the printed word. Context refers specifically to the physical, emotional, social, and institutional environment at the time of reading. Pre-reading prompts in the PCAP test offered some sense of context beyond the testing situation.

As well, context refers more broadly to the *Weltbild* (world view) of the reader. Any meaning constructed by a reader is a reflection of the social and cultural environment in which the reader lives and reads. Peers, family, and community values affect the stance readers take as they engage with text.

The interaction

As mentioned above, contemporary concepts of reading recognize that the process of reading involves the interaction of reader, text, purpose, and context before, during, and after reading. There is also a recognition that reading is not a finite set of discrete skills, knowledge, and concepts. Rather, it is a process of continuous growth in which readers constantly expand the boundaries of their reading comprehension, interpretation, response, and reflection. In doing so, they refine the fluency of their integrated reading processes.

Subdomains of reading

In light of the interactive process of reader, text, purpose, and context, this assessment of the domain of reading considers the reader's engagement with text and response to it. Curricula across Canada identify Comprehension, Interpretation, and Response and reflection as major organizing aspects of reading literacy. In this assessment, three subdomains of the integrated process of reading are assessed:

- Comprehension
- Interpretation
- Response to text (includes response and reflection)

Comprehension

Students understand the explicit and implicit information provided by the text. In particular they understand the vocabulary, parts, elements, and events of the text.

Interpretation

Students make meaning by analyzing and synthesizing the parts/elements/events to develop a broader perspective and/or meaning for the text. They may identify theme/thesis and support that with references to details, events, symbols, patterns, and/or text features.

Response to text

In responding, the readers engage with the text in a number of possible ways:

- making personal connections between aspects of the text and their own real/vicarious/prior experiences, knowledge, values and/or point of view
- responding emotionally to central ideas or aspects of the text
- taking an evaluative stance about the quality or value of the text, possibly in relation to other texts and/or social or cultural factors

The curricula across Canada in reading generally distinguish personal and critical responses.

- ***In personal responses***, readers reflect on their own experiences in light of the text and/or identify themselves with aspects of the text. They elaborate personal connections and reactions to texts by providing some extended explanations, examples, and supporting arguments from their own experience and knowledge. They find evidence in the text to support personal claims and viewpoints about issues, themes, characters, and situations.
- ***In critical responses***, readers stand apart from the text, considering the text as an artifact, evaluating its quality and/or appropriateness to the world at large. Readers evaluate content, elements of style, or the author's stance. They reflect on the choice of content, sources, quality, currency, or relevance of information, relationships, and ideas. Readers support their responses by providing specific, appropriate details and evidence from the text and other sources about issues, themes, characterization, and elements of style.

Text types and test design

This assessment included a range and variety of text types and forms of varying levels of difficulty. These were broadly identified as fiction and non-fiction, recognizing that texts frequently mix forms or types for a variety of purposes. Texts selected in PCAP were consistent with a broad range of student reading experiences and, in particular, those in the language arts classroom. The variety of text types and text length corresponds to both the language arts classroom activities and the cross-curricular demands for reading in the intermediate program. The distribution of ***selected response*** and ***constructed response*** is based on the best use of student time to gather the most information in a limited time frame. The use of both types ensures that each student has fair and varied opportunities to demonstrate reading knowledge and skills.

Table 2-1 **Text types, text length, item types, and time allotment (approximate numbers)**

Section	Text types	Text length	Item types	Time allotment
Section A	Short narrative	200 words	Extended constructed response	20 minutes
Section B	Personal narrative	650 words	5 constructed response 6 selected response	20 minutes
Section C	Information text	450 words	8 selected response	20 minutes
Section D	Short story	1,050 words	5 constructed response 6 selected response	10 minutes
Section E	Editorial	350 words	9 selected response	10 minutes
Section F	Web site	325 words	8 selected response	10 minutes

Table 2-2 **Weighting by subdomain**

Subdomains	Weighting (%)
Comprehension	40
Interpretation	35
Response to text	25

The weighting of subdomains corresponds to the significance given to these reading activities in the curriculum and in the language arts classroom for this age group.

A distinct type of question

Students were required to respond to selected-response items with four options as well as to constructed-response items requiring approximately four lines of reader response. In addition, each booklet contained an initial short text and the following directions to the student:

> Read the text below and think about it carefully. On the following pages, suggest what the passage means to you. Make sure you explain your ideas thoughtfully.

A key assumption of the reading curricula across Canada is that students will learn to apply reading skills and effective strategies whenever they read a text. Therefore, this test includes an integrated task calling for an extended response. This "extended-constructed-response" test item requires the student to demonstrate the full reading process involving integrated use of Comprehension, Interpretation, and Response and reflection. The task examines the degree to which students move beyond denotation to connotation, beyond explicit to inferred meaning, beyond concrete references and illustrations to abstraction and application.

This measures student performance at problem definition as well as at problem resolution, as in science and mathematics problem solving. The students must structure the problem for themselves in order to solve it. Through comprehension, they must offer an interpretation, select a stance offering a reflection, and define for themselves the depth to which they choose to go as well as the depth to which they can go.

The coding of students' extended responses was based on performance descriptions for each of Comprehension, Interpretation, and Response to text as an integrated act. The scores for the three levels of achievement were based only on the degree to which the students engaged with the text. As well, the responses were scored solely as reading activities without reference to the quality of the writing.

Understanding the relationship of scores to responses

Actual results of tests are called "raw scores." Initial analysis of raw scores involves the examination of the range of scores and the calculation of the "mean (average) score" obtained by the total population of participating students.

When comparisons of scores obtained from different populations are to be made over time and on different versions of a test, it becomes necessary to develop a common way of reporting achievement scores that will allow for direct comparisons across populations and across tests. That common way or method is to numerically convert the raw scores to a "standard scale." In the case of PCAP, the raw score was converted onto a scale on which the average for the pan-Canadian population was set at 500 with a standard deviation of 100. From this conversion, the scores of two-thirds of all participating students fell within the range of 400 to 600 points, which represents a "statistically normal distribution" of scores.

These derived "scale scores" are used to interpret more accurately the performance of students in each assessment and from one administration of the assessment to another. As well, the performance of the sample of students can be shown, within statistical limits, to be representative of the performance of the whole population of 13-year-old students in Canada.

Once the set of scale scores has been established for the pan-Canadian population as a whole, it allows for the accurate comparison of achievement results of each jurisdiction's scores to the scale scores at the pan-Canadian level. It also allows the results of each jurisdiction to be accurately referenced to the levels of achievement. In the case of the PCAP-13 Reading Assessment 2007, the standards are represented by three levels of performance, where level 2 is designated as being the acceptable level of performance for 13-year-olds. Level 1 represents the performance of students achieving at a level below that expected of students in their age group. Level 3, then, represents a higher achievement than that expected of students within their age group.

Thus, the students' achievement in reading has been defined in three levels of proficiency, with students' work being assigned to the highest level at which they can perform most of the tasks. A student achieving at level 3 was able to correctly respond to the most challenging questions as well as to questions at levels 1 and 2. The description of a student's overall performance, therefore, is linked to specific ranges of the scale based on the range of question difficulty that the students in that range could answer effectively.

TABLE 2-3 **Performance descriptors for scores at each level of the general scale**

Level 1 Scores: 379 and below	**Description of sample item**
The student demonstrates a partial understanding of some fiction and non-fiction texts. The student understands directly stated information, relying on familiar vocabulary, concrete details, and explicit statements. In interpreting texts, the student provides a simplified or general perspective, often relying on directly stated conclusions or by connecting some aspects of the text to one another. The student demonstrates understanding of how some content and text features are used to accomplish particular purposes. In responding personally and critically to texts, the student's responses are often vague or general.	To demonstrate comprehension, students were asked to connect the image of a small map containing two identified islands to the content of the article. The content was about these islands.
Level 2 Scores: 380 – 575	**Description of sample item**
The student comprehends, interprets, and responds to a variety of texts in a clear and reasonable manner. The student understands both directly stated information and information implied by the text. The student connects general statements and supporting details, draws conclusions about the broader meaning and intent of the text, and interprets specific parts of the text based on inferences and figurative language. The student demonstrates knowledge of how texts are structured and organized to accomplish a variety of purposes. The student's personal and critical responses are supported with references to the text and other sources.	Students were asked to demonstrate comprehension by connecting a character's motivation for a particular decision to a statement about some other cultural idea.
Level 3 Scores: 576 and above	**Description of sample item**
The student comprehends, interprets, and responds to a variety of texts in a thoughtful and elaborated manner. The student understands directly stated information and information implied by the text, including implications arising from subtle aspects of style and tone. The student demonstrates insightful interpretation of the text by synthesizing several elements or by thoughtful analysis of one or more significant elements, often relying on subtle relationships among elements and ideas. The student demonstrates knowledge and insight of how writers structure texts and use other elements of style to accomplish a variety of purposes. The students provide extended personal and critical responses, sometimes including social and cultural implications or literary evaluation.	Students were asked to demonstrate comprehension by sifting through two different, biased viewpoints of a particular event presented in two different media forms (personal narrative and television reporting) to determine the first stage of the event.

Understanding the subdomains in reading

Each of the subdomains — Comprehension, Interpretation, and Response to text — was also scaled on three levels. The scores on each of these scales represent degrees of proficiency in a particular aspect of reading. For instance, a low score in Interpretation indicates that a student tends to be limited in this aspect, having provided a simplified interpretation relying on conclusions stated in the text or connecting some aspects of the text. In contrast, a student with a high score would have demonstrated a thoughtful or insightful interpretation by synthesizing several elements, relying on subtle relationships among elements and ideas.

Performance demands for levels in reading subdomains

The subdomains of Comprehension, Interpretation, and Response to text were separately coded through both selected-response items and constructed-response items. Each selected-response item was linked to a specific subdomain and required no interpretation on the part of coders. However, for the constructed-response items, coders were asked to judge them individually on the three subdomains, based on evidence of one of three levels of performance. They were trained in the use of a set of descriptors and exemplars for each of the three levels linked to the specific demands of the item, and were asked to assign the appropriate level code reflected in the student's response. The constructed responses were not judged for their writing quality; however, students' knowledge of language enhances their capacity for Comprehension, Interpretation, and Response to text in reading and is often manifest in their expression of that understanding.

The following text and test items are illustrated by actual student work in response to the narrative "When Worlds Collide" from Booklet 1, and show the levels assigned to the work by the scorers and their explanations for the score. For this narrative text, there were eleven test items — five requiring constructed responses and six selected responses.

Sometimes, it's hard to know what is right and what is wrong.

When Worlds Collide

In 2002, a strike began at the Oswejan Gold Mine at Oswejan Lake. The powerful union was in a standoff with the president of Imperial Mines. Gold prices were down and Oswejan Mine's ore was not producing. There was tremendous fear that wages and benefits would be negatively affected. At the end of negotiations, union members voted to reject Imperial Mines' offer and the company responded by locking miners out.

2,113 kilometres away.

He was pure agitation, excited, on edge, and vibrating.

That's how Jeremy Bonnington came into the grade 11 English Language Arts classroom on Monday, December 5, 2005.

He was nervous a lion's first time under the bright lights in the circus ring.

As soon as he dropped his books on his desk and his large body onto his seat, he demanded, "Did you see the show last night, Mrs. Hamblin? Did you see it?"

"Which show, Jeremy?"

"The Oswejan Mine one. . . what a joke. Did you see it? I can't believe what a waste of time that was." He snarled.

Something had been awakened in Jeremy.

Something I hadn't seen since he first arrived at the school that fall. I remember when he first came in to register. I took special care to observe new students' behaviour as they joined the school community. Some students were anxious to just fit in, while others were wary of the new climate in which they had been tossed. Jeremy fit the latter situation. He arrived looking over his shoulder, expecting trouble. When it didn't develop, his guarded demeanour softened and his bulk began to relax. It took months, but he eventually began to smile and everyone got to know an amicable, social Jeremy.

Today was different.

Jeremy's anxious attention was focused on me. After all, he had mentioned the week previous that the CBC film was going to be aired Sunday night. He expected me to watch it and I didn't.

Now I wish I had.

The strike was ugly. Some union members who did not agree with the union's hard line crossed the picket lines and replacement workers were flown in to keep the mine operating. Pinkerton guards were also hired to keep the angry strikers off Oswejan Mine's property. The striking miners were frustrated and furious. They were forced to watch as the mine continued production and this infuriated them. Not only were there bad feelings on the mine site, but also in the community as it divided along union and company lines. Men who once were close working partners and friends now hated the sight of each other.

"Did you see how those jokers portrayed the strikers? What a laugh. They don't even know what they're talking about."

I had no choice but to admit that I had not seen the movie.

"I'm sorry, Jeremy, but maybe someone else saw the movie?" I scanned the room.

"What movie was that?" someone asked.

"Oswejan Mine. It was about the Northern gold mine strike and bombings. It was pretty nasty, wasn't it? I think it happened a while ago. There were miners killed, weren't there, Jeremy?"

Throughout the first couple of months, some nasty acts of sabotage were committed. These were done in the mine to prove to the replacement workers that the striking miners had the ability to enter the mine at will. Then, on September 18, 2002, four months into the strike, the unthinkable happened. A bomb was planted along a rail in a shaft and nine miners, who were on their way to their work site, were killed. The blast was so strong that fragments of the miners' flesh and bones were embedded into the rock walls.

No one indicated that they had watched the film.

"Can they get away with that?" Jeremy asked. "Making out those miners like that?" He was still on high speed.

"Which miners, Jeremy?"

"The strikers! Did you see how they made them talk and stuff? They made them look so greasy. And, then you should have seen the clothes. He never wore stuff like that. It was pure…"

"Jeremy."

"Well, it was pure garbage."

I needed to divert attention from Jeremy.

"Well, Jeremy, it looks like no one else here watched the movie."

Then Chet, who was sitting two desks behind Jeremy, put up his hand. Chet was a quiet student who was relatively new to the school. He never spoke to anyone unless he was addressed first. And, when he was forced into a conversation, his eyes would twitch uncontrollably. I was careful not to put any pressure on him to speak in class. It was easy to almost forget he was there, but now he had raised his hand.

My curiosity was piqued.

"Yes, Chet?"

Since Chet spoke softly, I moved down the aisle and stood beside Jeremy.

"My brother was killed in that mine."

"What did you say, Chet?"

The classroom went silent. What did we just hear?

"My brother was killed in that mine."

Those killed were Malcolm Davidson, John Howie, Curtis Nichols, Sanjay Pandev, Shawn Huchilak, Bob Bowen, Adam Rykkuis, Morley Kuchler, and Martin Wadnoski. The strike would continue for another 14 months as police investigated the murders. Their prime suspects were Ron Sharma, Rodney Williams, and Tom Bonnington.

Jeremy froze. He turned abruptly in his seat, focusing on the source of this new information.

"What was his name?" Jeremy demanded.

"Sanjay Pandev."

Jeremy nodded and turned back in his seat. There was immediate recognition. His shoulders dropped and his head lowered. He looked up at me. There was no more agitation.

Silence.

"Okay, I think we should get down to work now."

In 2006, several strikers were found guilty of crimes. One of them was Tom Bonnington, who was convicted of breaking into the mine to paint anti-scab graffiti, setting an explosion and blowing a hole in a satellite dish. He was sentenced to three years in the Prince Albert Penitentiary. Tom's wife and two children, Jeff and Jeremy, moved to Prince Albert to be near him.

Sanjay Pandev was born in Vancouver. His dad had died of cancer. Sanjay began work at Oswejan Gold Mine in 2000 where he worked until his death. Sanjay's youngest brother was Chet.

Comprehension

Selected response Level 2 What is "2113 kilometres away"? A. the Oswejan mine B. the CBC production C. the English classroom * D. the owners of the mine	The reader demonstrates clear understanding by identifying an implicit aspect of the text. The quotation introduces the segment taking place in the classroom, a separate voice from the italicized segment that begins the story. The use of two voices and two different time periods makes this a challenging demand in reading. Nevertheless, a majority of students selected the correct answer.

Interpretation

After Jeremy says, "It was pure garbage," Chet raises his hand. Why does Chet raise his hand to speak at this time?	To offer a full interpretation in response to this question, a student would need to recognize and link elements of the text such as: • Chet is identified by the teacher as reluctant to speak out and generally nervous and shy. • He has been silent so far in response to Jeremy's extensive anger about the CBC report on the Mining Strike. • Jeremy's comments are hurtful to Chet, pushing him to act. • Chet has decided to enter the dialogue by revealing a different point of view of events.
Level 1 Because his brother died in the incident.	The reader demonstrates limited interpretation of events/characters of the story to account for Chet's raising his hand to speak. The student provides a reason with little or no support. The death of his brother is the underlying cause of the behaviour.
Level 2 Because it started to be a debate and he wanted them all to hear.	The reader demonstrates reasonable interpretation of events/characters of the story to account for Chet's raising his hand to speak. The student provides a reason and explains it with implicit support. The reference to "debate" suggests the need to challenge a point of view and "wanted them all to hear" implies the emotional need.
Level 3 because Chet believes that Jeremy is wrong and that it wasn't pure garbage. He wants Jeremy to know that what he is talking about is all wrong and it hurts Chet because his brother got killed by it.	The reader demonstrates thoughtful interpretation of events/characters of the story to account for Chet's raising his hand to speak. The student provides a reason and synthesizes motivation and emotional response to explain. The word "believe" suggests an emotional response to "pure garbage" that is explained by the reference to wanting to correct a wrong perspective and the motivation of his pain.

Response to text

The author leaves the question of responsibility unanswered. Can the tension between Jeremy and Chet be resolved? Explain your answer.	To respond to the questions, students have to reflect on the relationships of Jeremy and Chet and their individual characters as well as the many factors that contribute to the context of their lives: Jeremy's anger, Chet's hurt; Jeremy's outspoken voice and Chet's shyness as a new student; the larger sequence of events that damaged both their lives. Students were expected to take a position and provide a rationale for it.
Level 1 Yes, because Jeremy now knows it's true	The reader demonstrates a limited response to the question of whether or not Jeremy and Chet can resolve the tension between them. The student identifies a position on the issue and provides a general and vague explanation. (Assume the "it" refers to the CBC report.)
Level 2 Yes, I think it can be resolved because Jeremy would probably feel sorry for what he said and likely applogise to Chet for that.	The reader demonstrates an appropriate response to the question of whether or not Jeremy and Chet can resolve the tension between them. The student provides a rationale based on a reflection about the character of Jeremy and the impact of the new knowledge on him.
Level 3 I think that if they would talk about what had happend and made clear that Jeremy didn't have anything to do with the bombing or killing but that it was his father it would probably be resolved, because after all Jeremy couldn't be able to control his father.	The reader demonstrates an elaborated response to the question of whether or not Jeremy and Chet can resolve the tension between them by identifying a position and providing a significant rationale with reference to the social issue of blame. The student suggests a resolution can be found by talking about whether Jeremy should be accountable for his father's actions in the minds of both Jeremy and Chet.

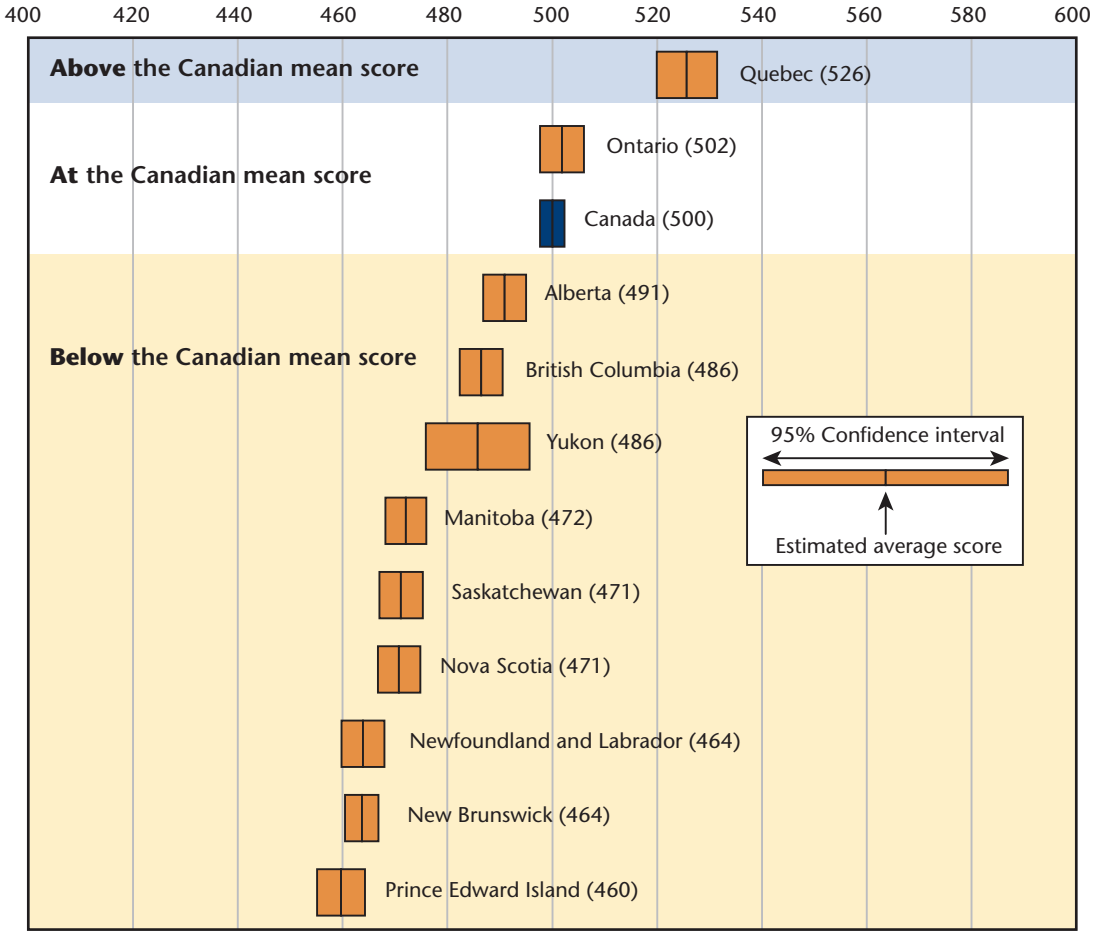
3 PAN-CANADIAN RESULTS IN READING

This section presents the overall performance of Canadian 13-year-olds on PCAP-13 Reading Assessment 2007 by comparing the overall performance of each jurisdiction (as expressed by a mean score) to the overall Canadian mean score.

Results in reading by jurisdiction

The following chart provides the mean scores with confidence intervals of the jurisdictions on the reading assessment in comparison with the mean score for Canada.

CHART 3–1 **Mean scores and confidence intervals for Canadian jurisdictions in reading**



Observations

The Canadian mean is set at 500 with a standard deviation of 100 (which means, for Canada overall, that two-thirds of the students have scored between 400 and 600). The weighting was applied for each population when calculating the Canadian mean.

The mean score of students in Quebec is significantly higher than that of Canadian students overall.

The mean score of students in Ontario is not significantly different from that of Canadian students overall.

The mean scores of students in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and Yukon are significantly lower than that of Canadian students overall.

Terminology used in the charts and tables

Differences

In this report the terms "difference" or "different," used in the context of performance levels and percentages, refer to a difference in a technical sense. They refer to a **statistically significant difference**. A difference is statistically different when there is no overlap of **confidence intervals** between different measurements.

Confidence intervals

In this assessment, the reported mean scores provide estimates of the achievement results students would have demonstrated if all students in the population had participated in the assessment. In addition, a degree of error is associated with the scores describing student skills because these scores are estimated, based on student responses to test items. This error is called the **error of measurement**. Because an estimate that is based on a sample is rarely exact and because the error of measurement exists, it is common practice to provide a range of scores for each jurisdiction within which the actual achievement level might fall. This range of scores expressed for each mean score is called a **confidence interval**. A 95% confidence interval is used in this report to represent the high- and low-end points between which the actual mean score should fall 95% of the time.

In other words, one can be confident that the actual achievement level of all students would fall somewhere in the established range 19 times out of 20, if the assessment were repeated with different samples randomly drawn from the same student population. In the charts in this report, confidence intervals are represented by the following symbol: ⊢⊣. If the confidence intervals overlap, the differences are defined as **not statistically significant**.

Comparisons between results for English and French

Caution is advised when comparing achievement results even though assessment instruments were prepared collaboratively with due regard for equity for students in both language groups. Every language has unique features that are not readily comparable. While the reading items, performance descriptors, scoring guides, and processes were judged equivalent in English and French, pedagogical and cultural differences related to differences in language structure and use render direct comparisons between languages inherently difficult and should be done with caution.

Overall results by language

The following table presents the mean score of each jurisdiction where students responded in English on the reading assessment in comparison with the mean score of the student population who responded in English across Canada.

Table 3-1 **Pan-Canadian results in reading — English**

	Jurisdiction	Mean score and confidence interval
Above Canada English mean score	ONe	503 ± 5
At Canada English mean score	CANe	492 ± 3
	ABe	491 ± 4
	BCe	486 ± 5
	YTe	486 ± 11
Below Canada English mean score	QCe	479 ± 5
	MBe	476 ± 5
	SKe	471 ± 4
	NSe	471 ± 4
	NBe	466 ± 4
	NLe	464 ± 5
	PEe	459 ± 4

The mean score of students responding in English in Ontario is significantly higher than that of Canadian students responding in English overall.

The mean scores of students responding in English in British Columbia, Alberta, and Yukon are not significantly different from that of the Canadian students responding in English overall.

The mean scores of students responding in English in Saskatchewan, Manitoba, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador are significantly lower than that of Canadian students responding in English overall.

The following table presents the mean score of each jurisdiction where students responded in French on the reading assessment in comparison with the mean score of the student population who responded in French across Canada.

TABLE 3-2 **Pan-Canadian results in reading — French**

	Jurisdiction	Mean score and confidence interval
At Canada French mean score	QCf	532 ± 6
	CANf	524 ± 5
Below Canada French mean score	ABf	505 ± 8
	ONf	478 ± 5
	NSf	477 ± 10
	BCf	473 ± 14
	NBf	458 ± 4
	MBf[2]	436 ± 8

The mean score for students responding in French in Quebec is not significantly different from that of Canadian students responding in French overall.

The mean scores of students responding in French in British Columbia, Alberta, Manitoba, Ontario, New Brunswick, and Nova Scotia are significantly lower than that of Canadian students responding in French overall.

Due to the small sample size, results for students responding in French in Saskatchewan, Prince Edward Island, Newfoundland and Labrador, and Yukon have not been indicated on this table. They are however included in the calculations for the overall mean score in each jurisdiction.

[2] In Manitoba, French immersion students participated in French and are included in Manitoba-French results.

Pan-Canadian results by levels of performance

Although using the mean score to describe achievement is useful in assessing the overall performance of students, further light can be cast by examining the relative distribution of scores in the three levels of performance as described on page 12. Each level of performance is expressed as the percentage of students who have obtained a score within the range of scores attributed to a specific level. Level 2 is designated as the acceptable level of performance for 13-year-olds.

Level 2 performance in reading

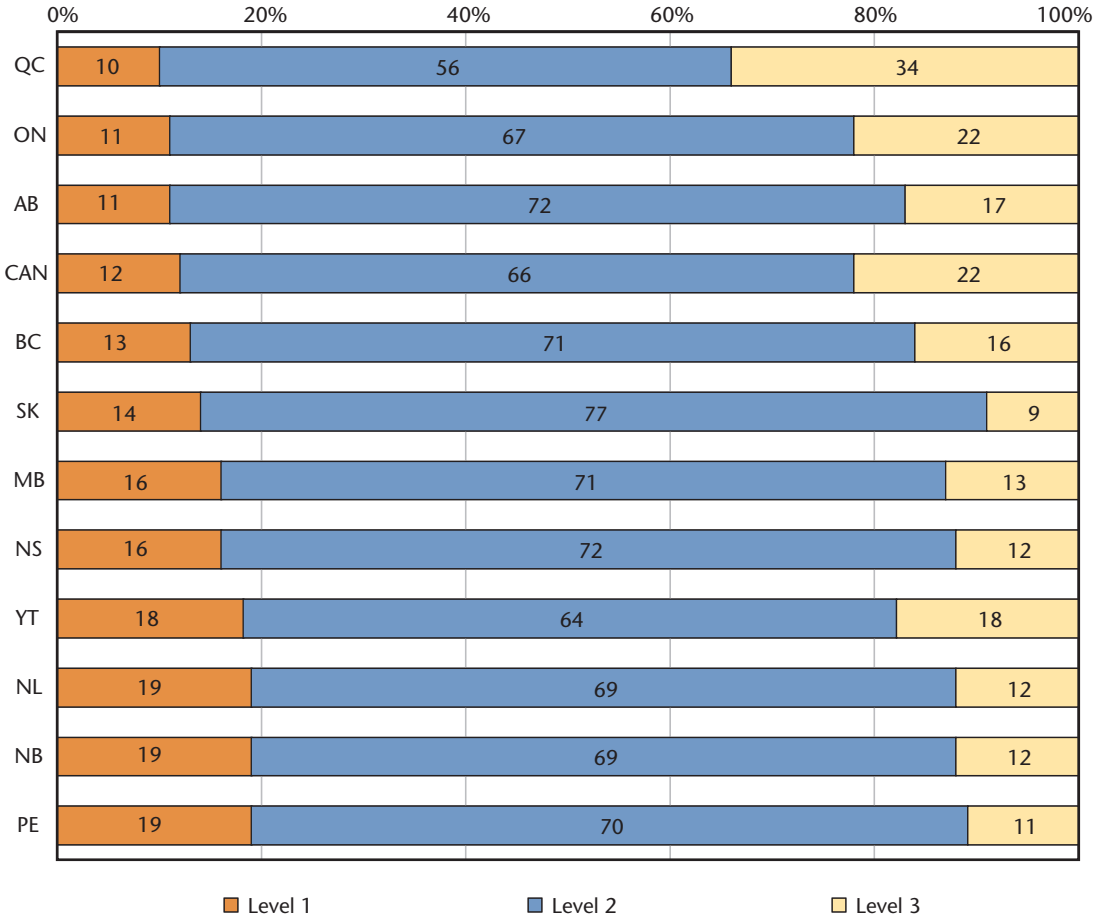
What students can typically do

- The student comprehends, interprets, and responds to a variety of texts in a clear and reasonable manner.
- The student understands both directly stated information and information implied by the text.
- The student connects general statements and supporting details, draws conclusions about the broader meaning and intent of the text, and interprets specific parts of the text based on inferences and figurative language.
- The student demonstrates knowledge of how texts are structured and organized to accomplish a variety of purposes.
- The student's personal and critical responses are supported with references to the text and other sources.

In general, based on curriculum expectations in reading, the performance of the vast majority of 13-year-olds across Canada was at level 2, the acceptable level of achievement.

Chart 3-2 shows the distribution of the three levels of performance by jurisdiction with the corresponding proportion of students.

CHART 3-2 **Percentage of students performing at each level by jurisdiction***



*The jurisdictions are listed in order from those with the highest percentages of students achieving at level 2 and above to those with the lowest.

Some students were exempted by their school from participating in PCAP-13 Reading Assessment 2007 because of their limited proficiency in reading, deemed to be below level 1 by the school (see Table A-29). In the remainder of this report, all data include only those students who wrote the assessment.

The pan-Canadian results by levels of performance indicate that, in general, most Canadian 13-year-olds achieve at or above the expected level of performance, that is, level 2 and above. Across jurisdictions, the percentage of Canadian students at level 2 and above ranges from 81% to 90%. In five of the jurisdictions, 85% or more of the students have demonstrated performance at or above the Canadian expectation for this age group.

Percentage of students performing at each level, by language

Table 3-3 **Levels of performance in reading by language — English**

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)	Level 2 and above (%)
ONe	10	67	23	90
ABe	11	73	16	89
CANe	12	70	18	88
BCe	13	71	16	87
SKe	14	77	9	86
MBe	15	72	13	85
QCe	16	70	14	84
NSe	16	72	12	84
YTe	17	65	18	83
NBe	17	72	11	83
NLe	19	69	12	81
PEe	19	70	11	81

The percentage of students responding in English in Alberta and Ontario, who demonstrate performance at level 2 and above, is higher than the corresponding percentage of Canadian students responding in English overall.

The percentage of students responding in English performing at level 3 in Ontario is higher than the percentage of Canadian students responding in English overall at this level.

Table 3-4 **Levels of performance in reading by language — French**

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)	Level 2 and above (%)
QCf	9	54	37	91
CANf	11	55	34	89
ABf	14	58	28	86
NSf	17	67	16	83
ONf	19	62	19	81
BCf	22	55	23	78
NBf	24	62	14	76
MBf	31	58	11	69

The percentage of students responding in French in Quebec who demonstrate performance at level 2 and above is higher than the corresponding percentage of Canadian students responding in French overall.

The percentage of students responding in French at level 3 in Quebec is higher than the percentage of Canadian students performing in French overall at this level.

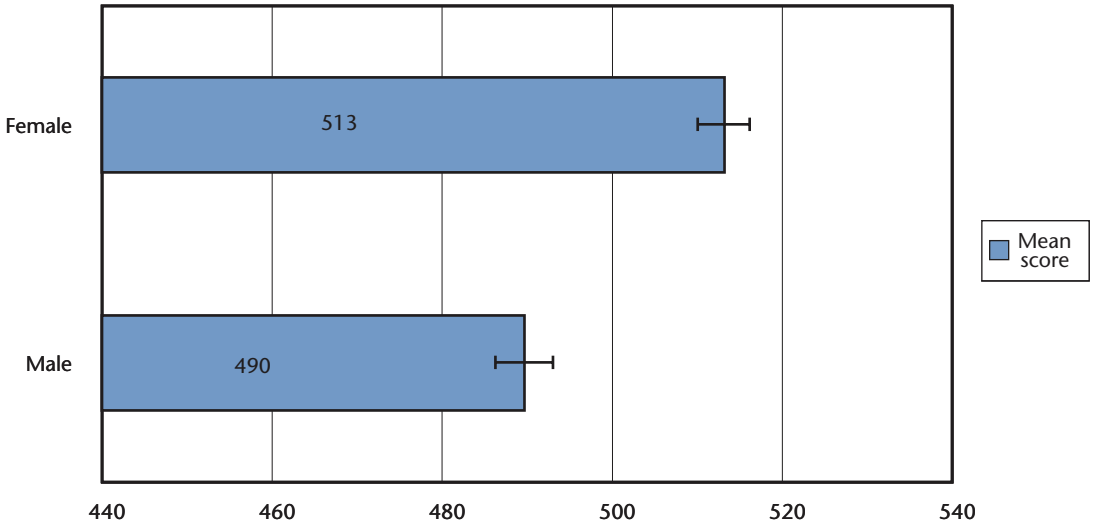
Pan-Canadian results in reading by gender

> *Policy makers* [including educators at all levels, parents, and other interested parties] *have an interest in reducing gender disparities in educational performance. Such performance coupled with their motivation and attitude towards learning influence both educational and occupational pathways of boys and girls.*
>
> (Measuring Up: Canadian Results of the OECD PISA Study, 2006, p.37)

Generally, gender differences in assessment results in reading tend to be more significant than the results in science and in mathematics. The differences exhibited in the PCAP-13 Reading Assessment are consistent with international, Canadian, and provincial testing during the past decade. However, a focused examination might provide a more helpful understanding of results if the gender distinction can be made for the subdomains of Comprehension, Interpretation, and Response to text.

The data presented in this segment focus on gender differences by overall mean scores and by the percentages of students achieving at the different levels of performance.

CHART 3-3 **Comparison of overall Canadian mean score by gender[3]**



Considering confidence intervals, female students in Canada have a significantly higher mean score in reading than do male students.

TABLE 3-5 **Comparison of overall Canadian results by levels, by gender**

Gender	Level 1 (%)	Level 2 (%)	Level 3 (%)	Level 2 and above (%)
Male	13	68	19	87
Female	9	65	26	91

The proportion of female students achieving level 2 and above is higher by 4 percentage points than that of male students.

The proportion of male students performing at level 1 is 4 percentage points higher than that of female students.

Correspondingly, the proportion of female students performing at level 3 is 7 percentage points higher than that of male students at this level.

[3] Because some students did not indicate their gender on the questionnaires, their responses could not be included in the gender averages. However, all students are included in the Canadian average of 500.

Pan-Canadian results by subdomain in reading

The test design of the reading component of the assessment focused on the more specific reading subdomains of Comprehension, Interpretation and Response to text. Items and specific mean scores were assigned to these subdomains. The following section examines the pan-Canadian results with regard to these elements.

The assessment of these three key aspects of "engaging text" or "reading" is what specifically makes the PCAP-13 test of reading a curriculum-based test. The current jurisdictional curricula have these subdomains in common as overriding elements of program and classroom practices.

Subdomains

Comprehension

Students understand the explicit and implicit information provided by the text.

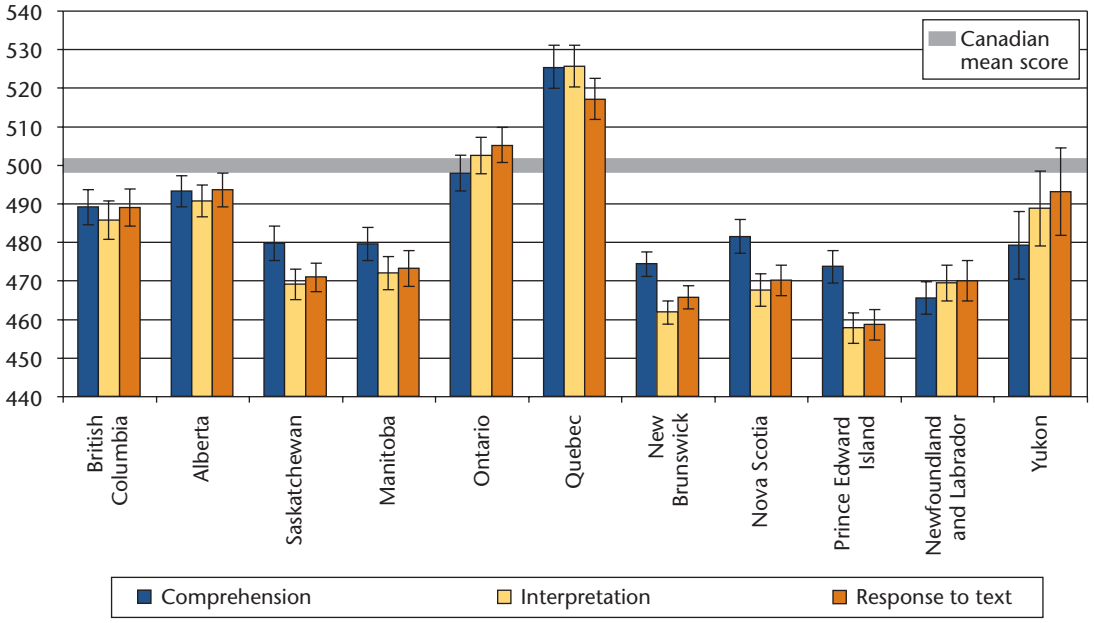
Interpretation

Students make meaning by analyzing and synthesizing the parts/elements/events to develop a broader perspective and/or meaning for the text.

Response to text

In responding to texts, the readers engage with the text, making personal connections between aspects of the text and their own knowledge and experiences.

CHART 3-4 **Results by subdomain**



Generally, there is no significant difference in the performance of students in all three subdomains within most jurisdictions. In four provinces (Saskatchewan, New Brunswick, Nova Scotia, and Prince Edward Island), the mean score is significantly lower for Interpretation and Response to text than for Comprehension.

Considering confidence intervals, the mean score in Comprehension for students in Quebec is significantly higher than that of Canadian students overall while, in Ontario, the mean score is not significantly different from that of Canadian students overall.

Considering confidence intervals, the mean score in Interpretation for Quebec students is significantly higher than that of Canadian students overall while the mean score for Ontario and Yukon is not significantly different from that of Canadian students overall.

When confidence intervals are considered, the mean score in Response to text for Quebec students is significantly higher than that of Canadian students overall, while the mean score for Alberta, Ontario, and Yukon is not significantly different from that of Canadian students overall.

Results by subdomain, by language

TABLE 3-6 **Results (and confidence intervals) by subdomain by language — English**[4]

Jurisdiction	Comprehension	Interpretation	Response to text
BCe	489 ± 5	486 ± 4	489 ± 4
ABe	493 ± 4	491 ± 4	493 ± 4
SKe	**480 ± 4**	**469 ± 4**	**471 ± 4**
MBe	**483 ± 5**	**475 ± 5**	**476 ± 5**
ONe	499 ± 5	**503 ± 4**	**506 ± 4**
QCe	**483 ± 6**	**477 ± 6**	**482 ± 6**
NBe	**475 ± 4**	**463 ± 4**	**467 ± 4**
NSe	**482 ± 4**	**467 ± 4**	**470 ± 4**
PEe	**473 ± 4**	**457 ± 4**	**458 ± 4**
NLe	**466 ± 4**	**469 ± 4**	**470 ± 5**
YTe	479 ± 12	489 ± 11	494 ± 11
CANe	492 ± 2	492 ± 3	495 ± 2

In Comprehension, the mean score for students responding in English in British Columbia, Alberta, Ontario, and Yukon is not significantly different from the mean score for Canadian students responding in English overall.

In Interpretation, the mean score for students performing in English in Ontario is significantly higher than that of Canadian students performing in English overall, while that of students in British Columbia, Alberta, and Yukon is not significantly different from that of Canadian students performing in English overall.

In Response to text, the mean score for students performing in English in Ontario is significantly higher than that of Canadian students performing in English overall, while that of students in British Columbia, Alberta, and Yukon is not significantly different from that of Canadian students performing in English overall.

[4] Mean scores in bold are statistically significantly different from that of Canada overall.

Table 3-7 **Results (and confidence intervals) by subdomain by language — French**

Jurisdiction	Comprehension	Interpretation	Response to text
BCf	**479 ± 14**	**483 ± 15**	**469 ± 15**
ABf	**503 ± 7**	**509 ± 6**	**499 ± 7**
MBf	**445 ± 8**	**444 ± 8**	**445 ± 8**
ONf	**477 ± 5**	**482 ± 6**	**484 ± 6**
QCf	531 ± 6	532 ± 7	522 ± 6
NBf	**472 ± 4**	**459 ± 4**	**462 ± 4**
NSf	**480 ± 8**	**482 ± 9**	**480 ± 8**
CANf	524 ± 6	525 ± 6	516 ± 6

The mean score for students performing in French in Quebec is not significantly different from that of Canadian students performing in French overall in all three subdomains.

Mathematics assessment

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

The mathematics component in PCAP 2007 is aligned with the jurisdictions' own curricula as well as the standards of the National Council of Teachers of Mathematics (NCTM). The overriding principle of the assessment is that the application of mathematics is an integrated act in which the skills and concepts of various content areas are inherently linked.

Organization of the domain

For the purposes of PCAP, the domain of mathematics was divided into four subdomains and three processes.

The four subdomains were:

- Numbers and Operations (percentages, equivalent representations, rates, ratio, and proportionality)
- Geometry and Measurement (properties of 2-D figures and 3-D shapes, relative position, transformations, and measurement)
- Patterns and Relationships (patterns and algebraic expressions, linear relations, and equations)
- Data Management and Probability (data collection and analysis, experimental and theoretical probability)

The three processes were:

- Problem Solving
- Communication/Representation
- Reasoning/Connections

The subdomains are traditional groupings of skills and knowledge, while the processes are used in the application of all subdomains.

The PCAP 2007 mathematics component included test items drawing from the specifications of all four subdomains and related to the competencies (processes) of problem solving, communication/representations, and reasoning/connections. In

In this assessment, where mathematics was a minor domain, items only assessed algebraic and proportional thinking across all subdomains.

addition, an attempt was made to ensure that the contexts of the various scenarios were drawn from situations that were relevant, appropriate, and sensible for Canadian 13-year-olds.

The scope of this assessment was limited to those concepts and skills encountered and used by most 13-year-olds in their courses of study in Canada. However, it was not a comprehensive assessment of all the concepts and skills that a particular system expects 13-year-olds to master.

Specific considerations

While calculators and manipulatives (learning materials) were not provided and not necessary to complete the assessment, their use was allowed as part of this PCAP Mathematics assessment if the participating students requested them. However, the use of computers was not permitted.

Science assessment

The concept of "scientific literacy" is generally accepted as the overarching goal of science curricula across Canada.

The PCAP Science Assessment is founded on a definition of scientific literacy that advocates that students' evolving competencies in using science-related attitudes, skills, and knowledge as well as an understanding of the nature of science enable them to conduct inquiries, solve problems, and make evidence-based decisions about science-related issues. Embedded in this definition of scientific literacy is the supposition that students have knowledge of the life sciences, physical sciences (chemistry and physics), and Earth and space sciences, as well as an understanding of the nature of science as a human endeavour.

As reflected in most science curriculum documents, three competencies are associated with demonstrating scientific literacy: science inquiry, problem solving, and decision making. Each of these competencies requires understanding of the nature of science, applying relevant scientific knowledge, using skills, and demonstrating attitudes as a reflection of scientific literacy. For the purposes of PCAP 2007, all of these are considered interrelated and mutually supportive.

Additionally, one of the purposes of PCAP as identified by CMEC was to align itself with international assessments that are conducted through the Organisation for Economic Co-operation and Development (OECD) such as the Programme for International Student Assessment (PISA). Adopting a similar definition of scientific literacy enhances the possibility of finding some areas of comparability between the two.

Finally, although the design of this framework and resulting items has been consistent with the intent of science curricula across Canada, PCAP-13 Science is not a comprehensive assessment that includes every aspect of science and all the content knowledge in every science curriculum for Canadian 13-year-olds.

Organization of the domain

As in the mathematics assessment, the science assessment comprises items associated with the competencies and subdomains that provide opportunities for students to demonstrate their use of science-related attitudes, skills, and knowledge.

The competencies and the combination of the five interrelated subdomains as defined by curricula across Canada as well as the statements in the CMEC's *Common Framework of Science Learning Outcomes* provided the foundation for the development of test items.

The competencies:

- Science Inquiry (addressing questions about the nature of things, involving broad explorations as well as focused investigations)
- Problem Solving (seeking answers to practical problems requiring the application of their science knowledge in new ways)
- Decision Making (identifying questions or issues, researching science knowledge for information about the question or issue, and making personal judgments or decisions)

The subdomains:

- Nature of Science (understanding the nature of scientific knowledge and the processes by which that knowledge develops)
- Nature of Technology (recognizing the interrelationships between science and technology)
- Knowledge of Science (knowing theories, models, concepts, and principles in the various strands of science: life sciences [biology], physical sciences [chemistry and physics], and Earth and space sciences.
- Skills (applying competencies to real-life situations in order to solve problems and make informed decisions). The subdomain of skills has been categorized into four strands: initiating and planning, performing and recording, analyzing and interpreting, and communication.
- Attitudes (developing positive attitudes such as interest in science, awareness of science-related issues, respect and support for evidence-based knowledge, and awareness of sustainable development and stewardship)

As in the mathematics component, the PCAP 2007 science component comprised sets of items, each set defined (contextualized) by a specific scenario. Scenarios included test items drawn from the specifications of all five subdomains and related to the competencies of science inquiry, problem solving, and decision making. Efforts were made to ensure that the contexts of the various scenarios were drawn from situations that were relevant, appropriate, and sensible for Canadian 13-year-olds.

Both the PCAP-13 mathematics domain and the PCAP-13 science domain were in one test booklet. Students were expected to respond to a total of 54 questions in 90 minutes. The items in both domains varied in style, ranging from selected-response items, short constructed-response items, and longer constructed-response items. The number of items per scenario could vary slightly, depending on the distribution of item types in the scenario. However, no scenario contained only one type of item. The item developers also recognized that the assessment should be accessible to all participating students; therefore the reading level and vocabulary used were appropriate for 13-year-olds.

Reporting scales for the minor domains

As was the case for reading, one mean scale score for each of the minor domains has been used for reporting the achievement results. The pan-Canadian mean score was set at 500 with a standard deviation of 100.

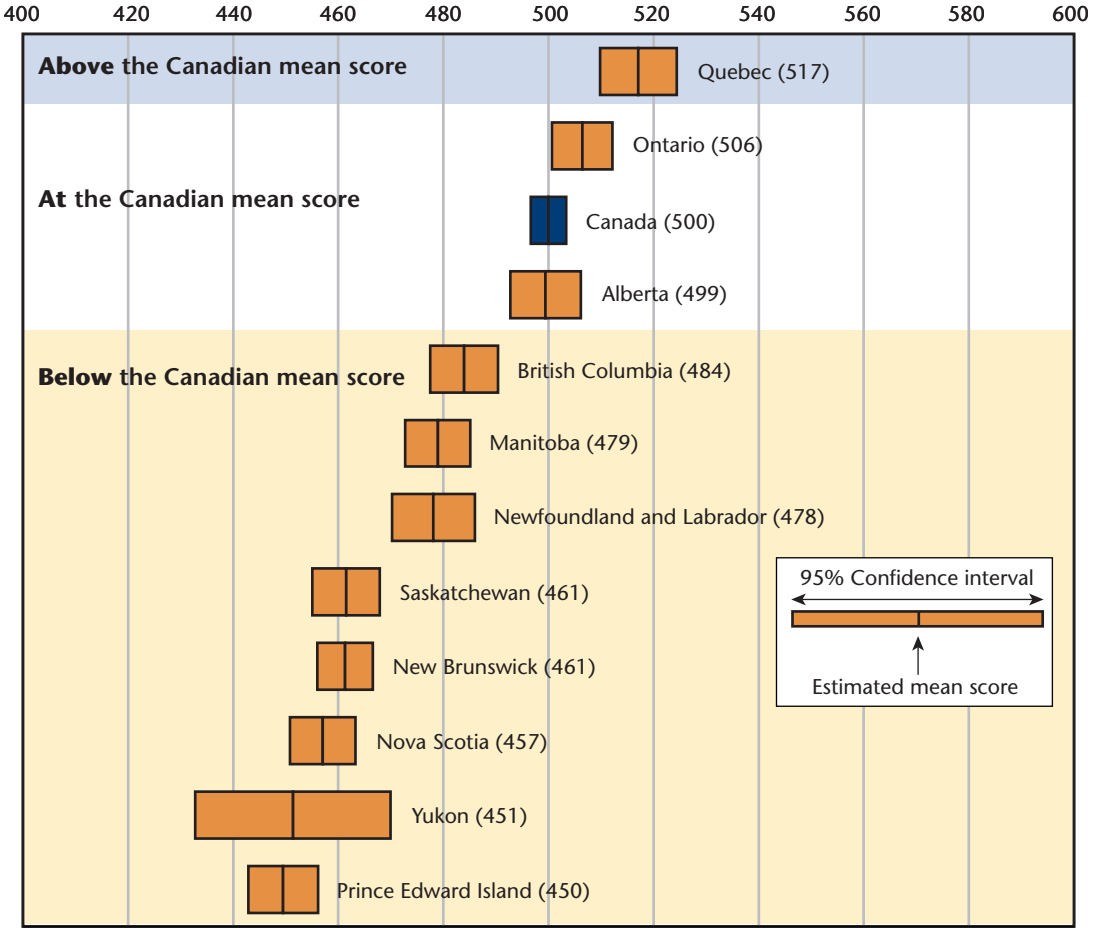
Pan-Canadian results for mathematics and science

This section presents the overall performance of Canadian 13-year-olds in the PCAP 2007 mathematics and science components by comparing the performance of each jurisdiction (as expressed by a mean score) to the overall Canadian mean score. It should be noted that since these two subject areas were assessed as minor domains in PCAP 2007, no levels of performance are reported.

Results in mathematics by jurisdiction

The following chart provides the mean scores with confidence intervals of the jurisdictions on the mathematics assessment in comparison with the mean score for Canada.

Chart 4-1 **Mean scores and confidence intervals for Canadian jurisdictions in mathematics**



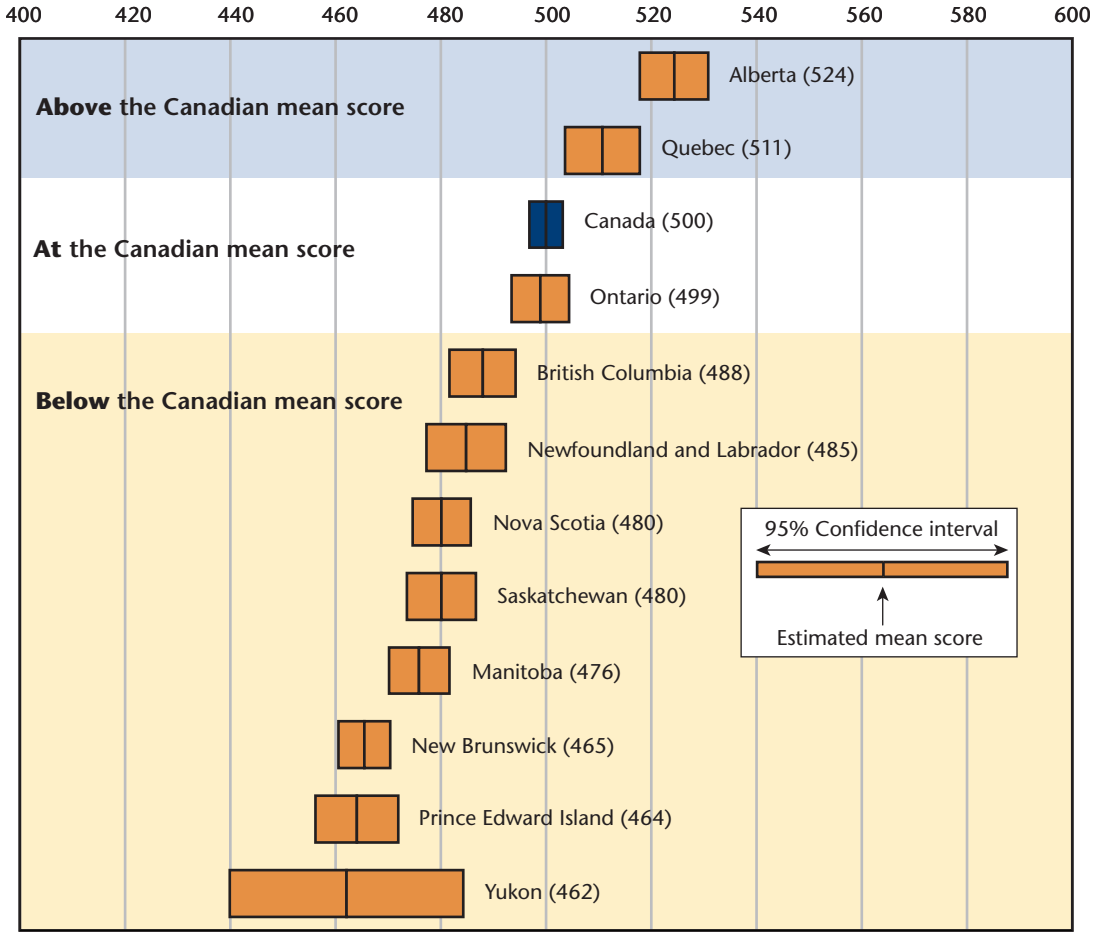
Considering confidence intervals, the mean score for Quebec students in mathematics is significantly higher than that obtained by Canadian students overall. Mean scores for Ontario and Alberta students are not statistically different from that of Canadian students overall.

The mean scores for students in British Columbia, Saskatchewan, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and Yukon are significantly lower than that of Canadian students overall.

Results in science by jurisdiction

The following chart provides the mean scores with confidence intervals of the jurisdictions on the science assessment in comparison with the mean score for Canada.

CHART 4-2 **Mean scores and confidence intervals for Canadian jurisdictions in science**



Considering confidence intervals, the mean scores for the students in Alberta and Quebec in science are significantly higher than that obtained by Canadian students overall. Ontario students obtained a mean score that is not statistically different from that of Canadian students overall.

The mean score for the students in British Columbia, Saskatchewan, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, and Yukon are significantly lower than that of Canadian students overall.

Results in mathematics by language

Table 4-1 **Pan-Canadian results in mathematics — English**

	Jurisdiction	Mean score and confidence interval
Above Canada English mean score	ONe	508 ± 7
At Canada English mean score	QCe	510 ± 10
	ABe	500 ± 7
	CANe	496 ± 4
Below Canada English mean score	BCe	484 ± 7
	MBe	479 ± 8
	NLe	478 ± 7
	NBe	462 ± 6
	SKe	461 ± 6
	NSe	457 ± 6
	PEe	449 ± 8
	YTe	448 ± 19

Considering confidence intervals, the mean score for Ontario students responding in English in mathematics is significantly higher than that obtained by Canadian students responding in English overall. Alberta and Quebec students responding in English obtained a mean score that is not statistically different from that of Canadian students responding in English overall.

Table 4-2 **Pan-Canadian results in mathematics — French**

	Jurisdiction	Mean score and confidence interval
At Canada French mean score	QCf	518 ± 8
	CANf	512 ± 6
Below Canada French mean score	ABf	478 ± 14
	MBf	474 ± 14
	ONf	471 ± 6
	BCf	467 ± 26
	NSf	464 ± 17
	NBf	460 ± 7

Considering confidence intervals, the mean score for Quebec students responding in French in mathematics is not statistically different from that obtained by Canadian students responding in French overall.

Results in science by language

TABLE 4-3 **Pan-Canadian results in science — English**

	Jurisdiction	Mean score and confidence interval
Above Canada English mean score	ABe	524 ± 6
At Canada English mean score	ONe	499 ± 7
	CANe	496 ± 4
	BCe	488 ± 7
	NLe	485 ± 7
Below Canada English mean score	SKe	480 ± 7
	NSe	479 ± 6
	MBe	477 ± 8
	NBe	468 ± 6
	QCe	467 ± 10
	PEe	464 ± 8
	YTe	458 ± 21

Considering confidence intervals, the mean score for Alberta students responding in English in science is significantly higher than that obtained by Canadian students responding in English overall.

British Columbia, Ontario, and Newfoundland and Labrador students responding in English obtained a mean score that is not statistically different from that of Canadian students responding in English overall.

TABLE 4-4 **Pan-Canadian results in science — French**

	Jurisdiction	Mean score and confidence interval
At Canada French mean score	QCf	516 ± 9
	ABf	514 ± 16
	CANf	512 ± 7
	NSf	503 ± 16
	BCf	475 ± 32
Below Canada French mean score	ONf	485 ± 6
	MBf	470 ± 13
	NBf	460 ± 6

Considering confidence intervals, the mean scores for the British Columbia, Alberta, Quebec, and Nova Scotia students responding in French in science are not statistically different from that obtained by Canadian students responding in French overall.

Pan-Canadian results in mathematics and science by gender

CHART 4-3 **Mean scores in mathematics by gender**

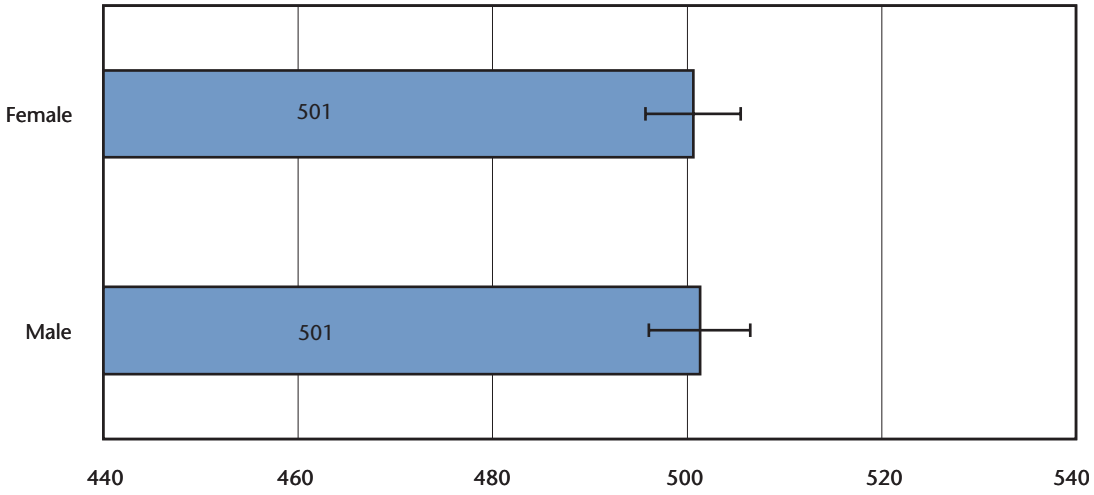
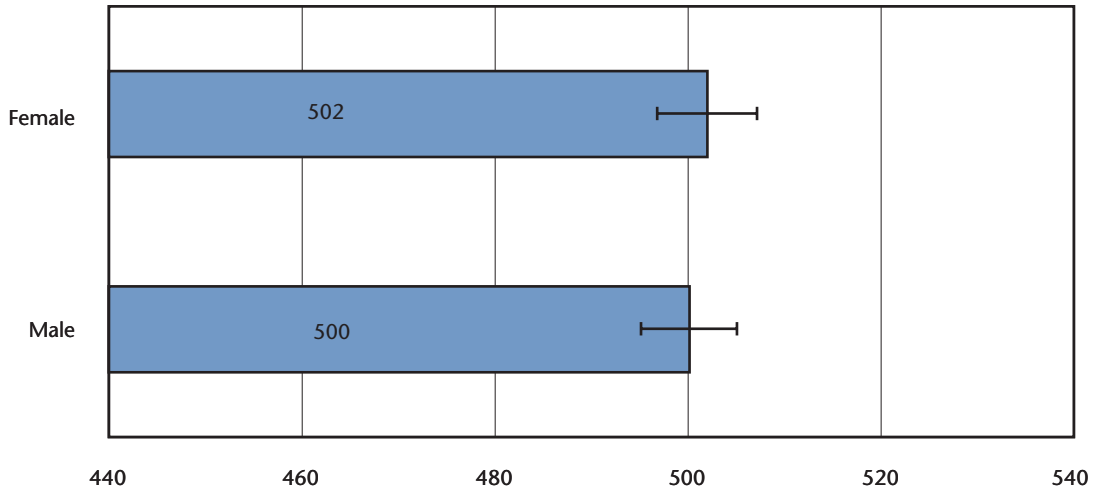


CHART 4-4 **Mean scores in science by gender**



Considering confidence intervals, there are no significant differences in either mathematics or science assessments in the mean scores of Canadian students, male and female, overall.

BRITISH COLUMBIA

Context statement

Social context

British Columbia has a population of approximately 4 million. Eighty-six per cent of the population lives in urban areas, the largest portion of which is concentrated in the Greater Vancouver region. The province promotes achievement for all students, regardless of their background. (**http://www.gov.bc.ca/**)

Organization of the school system

Approximately 600,000 students are enrolled in the public school system, 60,000 in independent schools, and over 4,000 in home schools. The province has 60 school districts, including the Conseil scolaire francophone. Most 13-year-old students are in grade 8 or 9. (**http://www.gov.bc.ca/bced/**)

Language arts teaching

The British Columbia curriculum for K–12 language arts is published in Integrated Resource Packages (IRPs), available in both English and French, and consists of the provincially prescribed curriculum (learning outcomes), suggested ideas for instruction, a list of recommended learning resources (books, videos, electronic resources, etc.), and possible methods for teachers to use in evaluating students' progress.

All students in British Columbia are required to take language arts from kindergarten through grade 12. The provincial curriculum integrates the six broad areas of language arts (reading, writing, listening, speaking, viewing, representing) on three main levels: among the curriculum strands, across the curriculum, and in life outside the school. Learning outcomes (what students should know and be able to do) are grouped according to three curriculum organizers: Comprehend and Respond, Communicate Ideas and Information, and Self and Society. (**http://www.bced.gov.bc.ca/irp/irp_ela.htm**)

Language arts assessment

British Columbia assesses students in grades 4 and 7 annually on a census basis in reading comprehension, writing, and numeracy through the Foundation Skills Assessment (FSA). The main purpose of the assessment is to help the province, school districts, schools, and school planning councils evaluate how well students are achieving basic skills and make plans to improve student achievement. (**http://www.bced.gov.bc.ca/assessment/fsa/**)

British Columbia has also developed a set of performance standards in reading, writing, numeracy, and social responsibility for voluntary use in schools. Focusing on performance assessment, these standards are used as a resource to support ongoing

instruction and assessment. They exemplify a criterion-referenced approach to student assessment and enable teachers, students, and parents to relate student performance to provincial expectations. (**http://www.bced.gov.bc.ca/perf_stands/**)

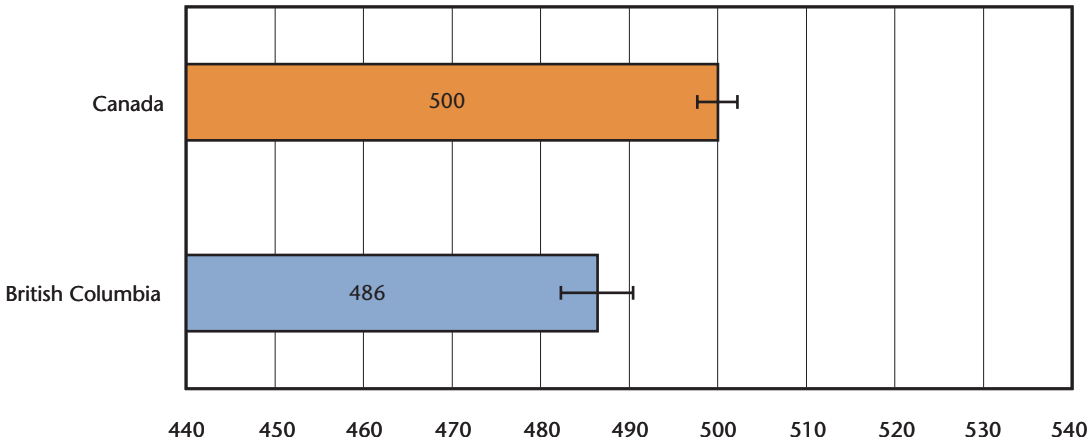
To graduate in British Columbia, students are required to write subject exams, including a grade 10 and a grade 12 Language Arts exam. The exam score at grade 10 counts for 20% of the final grade; the grade 12 exam score counts for 40%. (**http://www.bced.gov.bc.ca/exams/**)

British Columbia students also participate in international assessments: PIRLS, TIMSS, and PISA. (**http://www.bced.gov.bc.ca/assessment/nat_int_assess.htm**)

Results in reading

Canada — British Columbia: Mean scores in reading

Chart BC1



Considering confidence intervals, the mean score for British Columbia students is significantly lower than that obtained by Canadian students overall.

Canada — British Columbia: Comparison of results in reading by language

Table BC(E)1

Jurisdiction	Mean score[5] and confidence interval
CANe	492 ± 3
BCe	486 ± 5

Considering confidence intervals, the mean score for British Columbia students responding in English in reading is not significantly different from that obtained by Canadian students responding in English overall.

[5] Mean scores in bold are statistically significantly different from that of Canada overall.

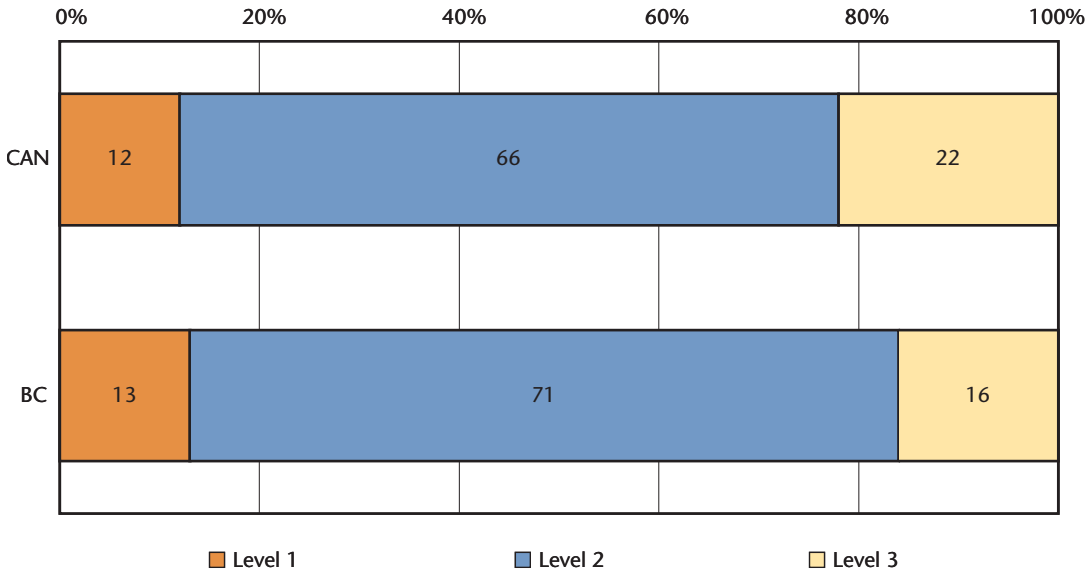
Table BC(F)1

Jurisdiction	Mean score and confidence interval
CANf	524 ± 5
BCf	**473 ± 14**

Considering confidence intervals, the mean score for British Columbia students responding in French in reading is significantly lower than that obtained by Canadian students responding in French overall.

Canada — British Columbia: Comparison of results in reading by levels

Chart BC2



The proportion of British Columbia students performing at level 2 and above is approximately 1 percentage point lower than that of Canadian students overall.

The proportion of students performing at level 1 is 1 percentage point higher than that of Canadian students overall.

Canada — British Columbia: Comparison of results in reading by levels, by language

Table BC(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
BCe	13	71	16

The proportion of British Columbia students responding in English and performing at level 2 and above is about 1 percentage point lower than that of Canadian students responding in English overall.

The proportion of students responding in English and performing at level 1 is 1 percentage point higher than that of Canadian students responding in English overall.

Table BC(F)2

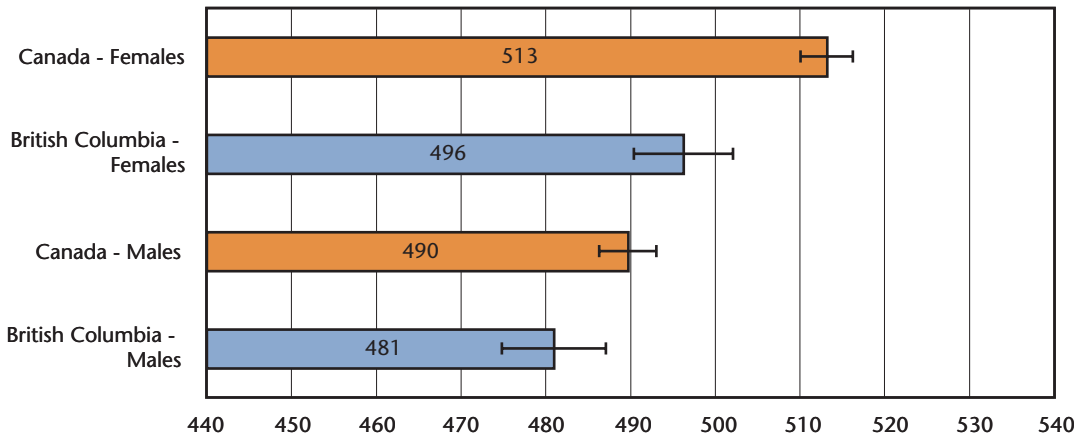
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
BCf	22	55	23

The proportion of British Columbia students responding in French and performing at level 2 and above is about 11 percentage points lower that of students responding in French across Canada.

The proportion of students responding in French performing at level 1 is about 11 percentage points higher than that of students responding in French across Canada.

Canada — British Columbia: Comparison of results in reading by gender

Chart BC3



Considering confidence intervals, the mean score for British Columbia male students in reading is not significantly different from that of Canadian males overall.

The mean score for females is significantly lower than that of Canadian females overall.

Canada — British Columbia: Comparison of results (and confidence intervals) in reading by subdomain

Table BC3

Subdomain	CAN	BC
Comprehension	500 ± 2	**489 ± 5**
Interpretation	500 ± 2	**486 ± 5**
Response to text	500 ± 2	**489 ± 5**

The mean scores of British Columbia students across the three subdomains are not significantly different, but are significantly lower than that of Canadian students overall in all three subdomains.

Canada — British Columbia: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table BC4

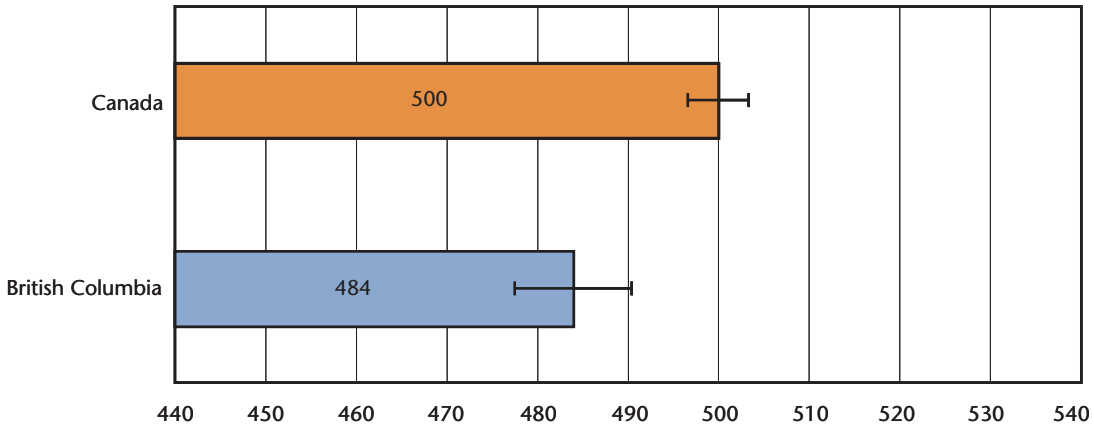
Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
BCe	489 ± 5	486 ± 4	489 ± 4
CANf	524 ± 6	525 ± 6	516 ± 6
BCf	**479 ± 14**	**483 ± 15**	**469 ± 15**

Considering confidence intervals, the mean scores of British Columbia students responding in English are not significantly different across the three subdomains. As well, they are not significantly different from those of Canadian students responding in English overall in all three subdomains.

The mean scores of British Columbia students responding in French are not significantly different across the three subdomains. However, the mean scores are significantly lower than those of Canadian students responding in French overall in all three subdomains.

Canada — British Columbia: Mean scores in mathematics

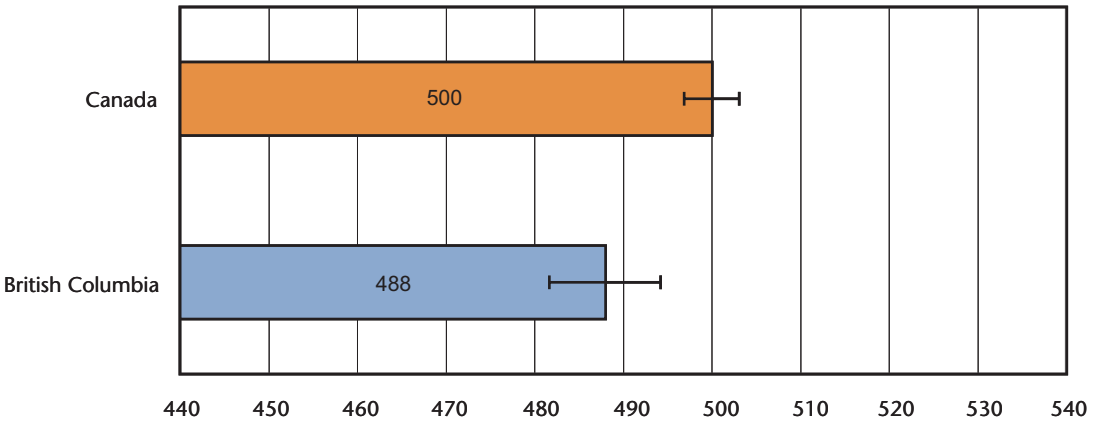
Chart BC4



Considering confidence intervals, the mean score in mathematics for British Columbia students is significantly lower than that of Canadian students overall.

Canada — British Columbia: Mean scores in science

Chart BC5



Considering confidence intervals, the mean score in science for British Columbia students is significantly lower than that of Canadian students overall.

Canada — British Columbia: Comparison of results in mathematics by language

Table BC(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
BCe	**484 ± 7**

Considering confidence intervals, the mean score in mathematics for British Columbia students responding in English is significantly lower than that obtained by Canadian students responding in English overall.

Table BC(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
BCf	**467 ± 26**

Considering confidence intervals, the mean score for British Columbia students responding in French in mathematics is significantly lower than that obtained by Canadian students responding in French overall.

Canada — British Columbia: Comparison of results in science by language

Table BC(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
BCe	488 ± 7

Considering confidence intervals, the mean score in science for British Columbia students responding in English is not significantly different from that obtained by Canadian students responding in English overall.

Table BC(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
BCf	475 ± 32

Considering confidence intervals, the mean score for British Columbia students responding in French in science is not significantly different from that obtained by Canadian students responding in French overall.

ALBERTA

Context statement

Social context

Alberta has a multicultural population of approximately 3 million. All children are required to attend school from age 6 to age 16. The provincial government has the primary responsibility for education in grades 1 through 12 and shares this responsibility with local school boards.

Organization of the school system

In the 2006–07 school year in Alberta, 601,790 students were registered in 2,167 schools. Of these students, 70% attended public schools, 22% attended separate schools, and the remaining 8% attended a variety of private, charter, special, and federal schools. About 4,900 students (0.8%) were enrolled in the French-first-language programs offered by the five francophone school authorities.

Nearly all 13-year-old students (99.3%) were enrolled in junior high schools, 5.4% in grade 7, 66.1% in grade 8, and 27.8% in grade 9. All students in each grade, regardless of program, enrol in English language arts. Likewise, all students registered in francophone programs enrol in Français (French first language).

The senior high school English language arts program has three course sequences: English Language Arts 10–1, 20–1, and 30–1; English Language Arts 10–2, 20–2, and 30–2; and English Language Arts 16, 26, and 36.

The senior high school Français program, which is designed for francophone students, also has three course sequences: Français 10, 20, and 30; Français 10–2, 20–2, and 30–2; and Français 16, 26, and 36. The French language arts program, which is designed for immersion students, has three courses: French Language Arts 10, 20, and 30.

The first sequence listed in both English language arts and Français is designed for students in academic programs; the second sequence is for general program students; and the 16, 26, 36 sequence is for students enrolled in the Knowledge & Employability Program. Students may transfer from one course sequence to another, provided they meet certain requirements.

As the population of students who speak English as a Second Language (ESL) continues to grow by an average of 14% each year, more ESL programs are offered to students whose level of English language proficiency precludes them from full participation in the learning experiences provided in Alberta schools without additional support in English language development.

Language arts teaching

Alberta schools provide a variety of learning experiences so that students can read for information, understanding, and enjoyment and also write and speak clearly, accurately, confidently, and appropriately for the context.

The following principles provide the framework for the English language arts program.

- Language skills are applied throughout life.
- Language facilitates the development of thinking skills, enabling students to reflect on and control their own thinking and learning processes.
- The six language arts strands — listening and speaking, reading and writing, viewing and representing — are interrelated and interdependent. Facility in one strengthens and supports the others.
- Literature plays an integral part in the language-learning program.
- Language is used to communicate understandings, ideas, and feelings, and it assists social and personal development.
- Language skills are essential throughout the entire curriculum.
- Language is closely interwoven with experiences in all learning situations. Print, on-line, and other media present ideas in diverse and characteristic ways.
- Language skills expand with practice.

In the case of French-first-language students, the development of language skills goes hand in hand with the development of one's francophone identity. The following principles provide the framework for developing French language arts for French-first-language students.

- Language is a communication tool.
- Language is considered in its totality.
- Numerous opportunities are available to use language, especially in interactive situations.
- Students are exposed to a wide variety of presentations, texts, passages, and excellent language models.
- Learning is geared toward finding meaning.
- Risk-taking is encouraged in a climate of trust.
- Learning situations are meaningful and interactive.
- Learning situations take into consideration student interests and needs.
- Learning situations allow students to make choices.
- Learning situations allow for diversity in learning styles and forms of intelligence.
- Numerous contacts are made with the francophone community/world and with its linguistic and cultural diversity.
- Evaluation methods reflect and support the above-mentioned principles.

The English language arts curriculum has five general outcomes, and each general outcome includes numerous specific outcomes that students are to achieve by the end of each grade level. The outcomes are interrelated and interdependent, and each is to be achieved through a variety of listening, speaking, reading, writing, viewing, and representing experiences.

The Français programs of study reflect the current curriculum and also make explicit the planning, monitoring, and evaluation strategies used by effective communicators.

In ESL teaching, the ESL program of studies (senior high), various ESL instructional guides, and authorized resources developed by the Alberta Ministry of Education provide teachers with strategies for teaching those students. Examples include literature-based reading programs, literacy scaffolds, attention to phonics, and various pre-reading strategies. Many of the accommodations and effective strategies for teaching ESL students are similar to those used with other students who have special needs.

Language arts assessment

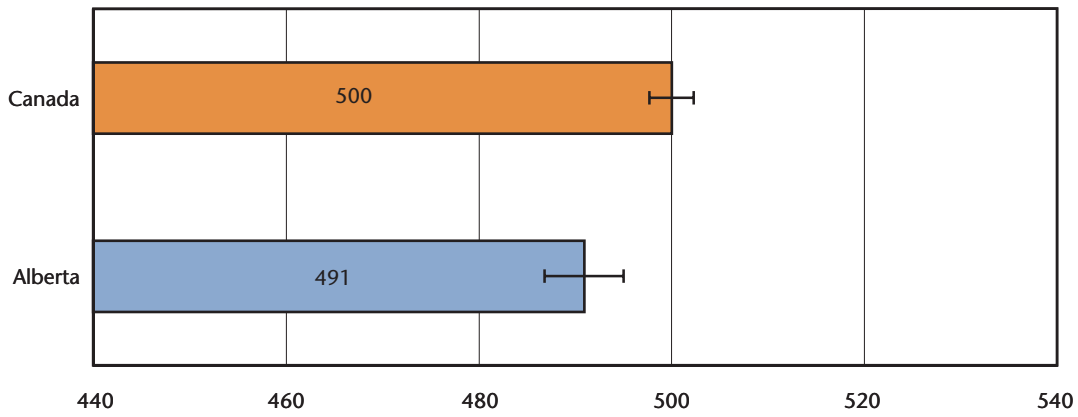
In addition to extensive classroom assessment, student achievement in language arts has been monitored through curriculum-based provincial achievement tests that are administered annually at grades 3, 6, and 9. As well, provincial diploma examinations, which count for 50% of a student's final mark in grade 12 language arts courses such as English Language Arts 30–1 and 30–2, Français 30, and French Language Arts 30, are administered five times each year. All the language arts achievement tests and diploma examinations include an extensive written component, worth 50% of the total examination/test mark. These tests and examinations are based on provincial standards and provide information on the degree to which students in the province have met these standards. Following each major test administration, detailed reports at the district, school, class, and individual student levels based on the data collected from the provincial assessment are generated and sent back to schools. Teachers and other school and jurisdictional personnel use these reports to help identify their students' strengths and areas for instructional improvement.

For more information, see Alberta Education's Web site at **http://education.alberta.ca** (English) or **http://education.alberta.ca/francais.aspx** (French).

Results in reading

Canada — Alberta: Mean scores in reading

Chart AB1



Considering confidence intervals, the mean score for Alberta students in reading is significantly lower than that obtained by Canadian students overall.

Canada — Alberta: Comparison of results in reading by language

Table AB(E)1

Jurisdiction	Mean score[6] and confidence interval
CANe	492 ± 3
ABe	491 ± 4

Considering confidence intervals, the mean score for Alberta students responding in English in reading is not significantly different from that obtained by Canadian students responding in English overall.

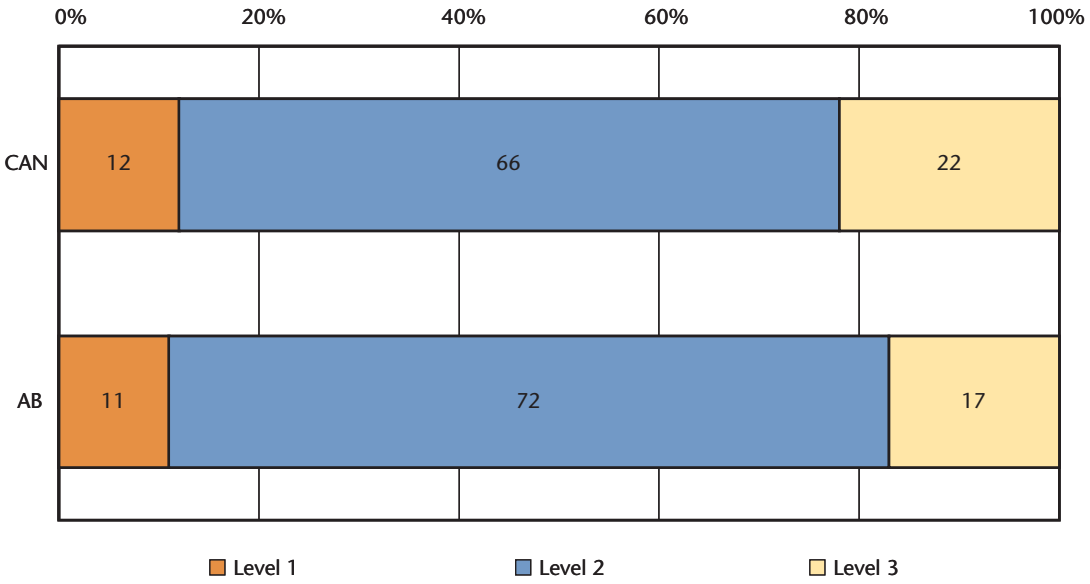
Table AB(F)1

Jurisdiction	Mean score and confidence interval
CANf	524 ± 5
ABf	**505 ± 8**

Considering confidence intervals, the mean score for Alberta students responding in French in reading is significantly lower than that obtained by Canadian students responding in French overall.

Canada — Alberta: Comparison of results in reading by levels

Chart AB2



The proportion of Alberta students performing at level 2 and above is about 1 percentage point higher than that of Canadian students overall.

The proportion of students performing at level 1 is about 1 percentage point lower than that of Canadian students overall.

[6] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Alberta: Comparison of results in reading by levels, by language

Table AB(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
ABe	11	73	16

The proportion of Alberta students responding in English at level 2 and above is about 1 percentage point higher than that of Canadian students responding in English overall.

The proportion of students responding in English at level 1 is about 1 percentage point lower than that of Canadian students responding in English overall.

Table AB(F)2

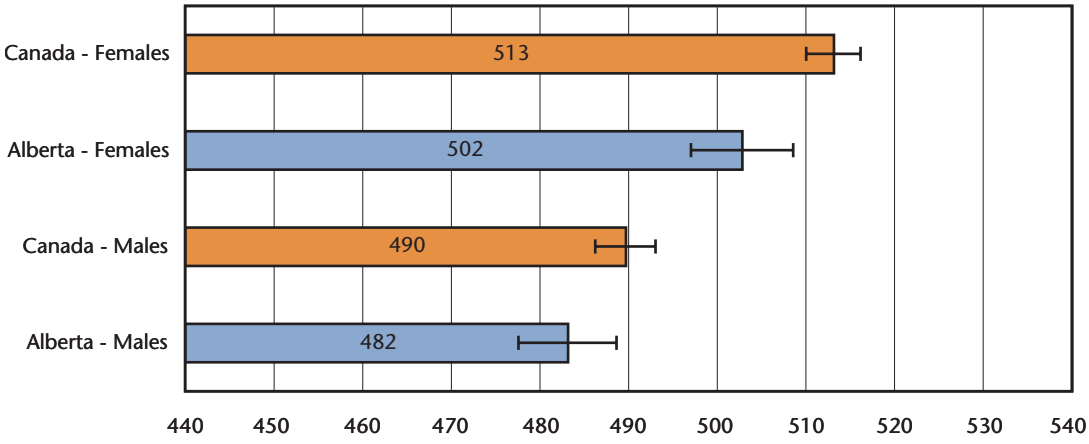
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
ABf	14	58	28

The proportion of Alberta students responding in French at level 2 and above is 3 percentage points lower than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is about 3 percentage points higher than that of Canadian students responding in French overall.

Canada — Alberta: Comparison of results in reading by gender

Chart AB3



Considering confidence intervals, the mean score for Alberta male students is not significantly different from that obtained by Canadian male students overall.

The mean score for Alberta female students is significantly lower than that of Canadian female students overall.

Canada — Alberta: Comparison of results (and confidence intervals) in reading by subdomain

Table AB3

Subdomain	CAN	AB
Comprehension	500 ± 2	**493 ± 4**
Interpretation	500 ± 2	**491 ± 4**
Response to text	500 ± 2	494 ± 4

Considering confidence intervals, the mean scores for Alberta students are not significantly different across all three subdomains. The mean score in Response to text is not significantly different from that obtained by Canadian students overall. In Comprehension and Interpretation, the mean score of Alberta students is significantly lower than those obtained by Canadian students overall.

Canada — Alberta: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table AB4

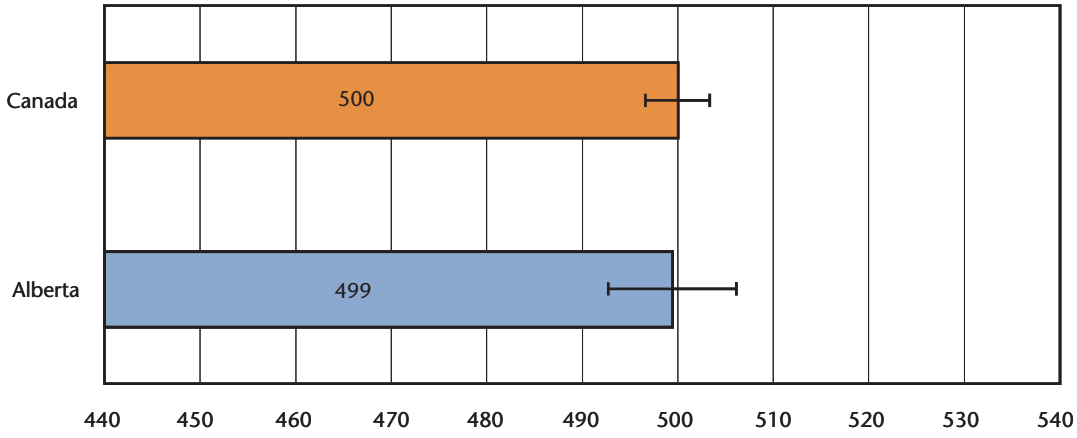
Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
ABe	493 ± 4	491 ± 4	493 ± 4
CANf	524 ± 6	525 ± 6	516 ± 6
ABf	**503 ± 7**	**509 ± 6**	**499 ± 7**

Considering confidence intervals, the mean scores of Alberta students responding in English are not significantly different across the three subdomains. As well, these scores are not significantly different from those of Canadian students responding in English overall in all three subdomains.

The mean scores of Alberta students responding in French are not significantly different across all three subdomains. The mean scores of Alberta students responding in French are significantly lower than those of Canadian students responding in French overall in all three subdomains.

Canada — Alberta: Mean scores in mathematics

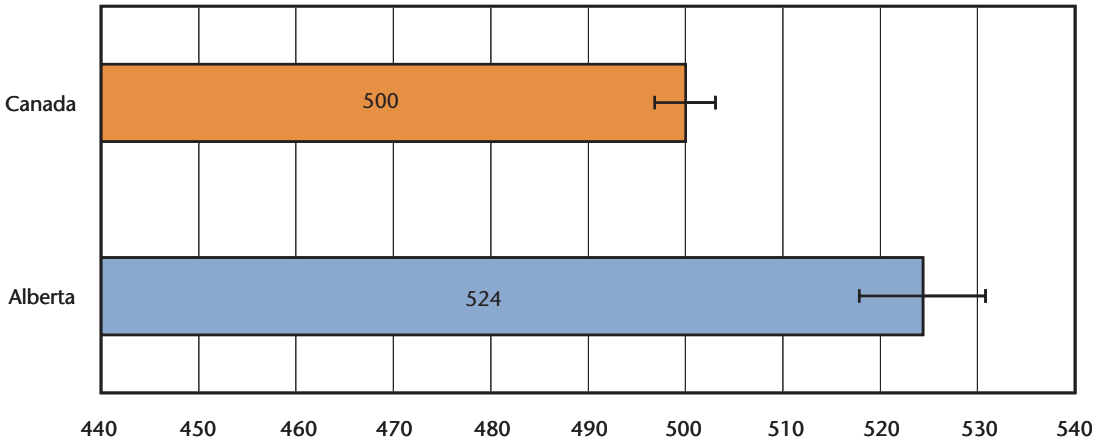
Chart AB4



Considering confidence intervals, the mean score for Alberta students in mathematics is not significantly different from that obtained by Canadian students overall.

Canada — Alberta: Mean scores in science

Chart AB5



Considering confidence intervals, the mean score for Alberta students in science is significantly higher than that obtained by Canadian students overall.

Canada — Alberta: Comparison of results in mathematics by language

Table AB(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
ABe	500 ± 7

Considering confidence intervals, the mean score for Alberta students responding in English in mathematics is not significantly different from that obtained by Canadian students responding in English overall.

Table AB(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
ABf	478 ± 14

Considering confidence intervals, the mean score for Alberta students responding in French in mathematics is significantly lower than that obtained by Canadian students responding in French overall.

Canada — Alberta: Comparison of results in science by language

Table AB(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
ABe	524 ± 6

Considering confidence intervals, the mean score for Alberta students responding in English in science is significantly higher than that obtained by Canadian students responding in English overall.

Table AB(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
ABf	514 ± 16

Considering confidence intervals, the mean score for Alberta students responding in French in science is not significantly different from that obtained by Canadian students responding in French overall.

SASKATCHEWAN

Context statement

Social context

Saskatchewan has a population of approximately 1 million, spread across a large geographic area. About half of Saskatchewan's population lives in towns, villages, and rural municipalities or on Indian reserves, making a strong rural influence on the province. Potash and uranium mining, oil production, agriculture, and forestry are major industries. Saskatchewan has a diverse cultural and ethnic heritage, including a large and growing First Nations and Métis population.

Organization of the school system

Saskatchewan has approximately 163,311 kindergarten to grade 12 students in 747 provincially funded schools. About 90% of elementary/secondary students attend publicly funded, provincial schools; 8% attend First Nations schools; and the remainder attend independent schools or are home-schooled. Average class size is about 18.4 students per class; however, about one-quarter of all classes have more than 25 students.

For the group that participated in PCAP, most 13-year-old students were in grade 8.

Language arts teaching

The purpose of the Saskatchewan language arts curriculum is to guide the continuous growth and development of students' speaking, listening, reading, writing, viewing, representing, and thinking abilities. An integrated, resource-based approach to instruction aims to develop students' understanding and appreciation of language and literature. The general goals of Saskatchewan's English language arts curricula are to

- encourage the enjoyment of, and develop proficiency in, speaking, listening, reading, writing, viewing, and representing
- develop appreciation of, and response to, literature
- develop students' English language abilities as a function of their thinking abilities
- promote personal growth and social development by developing students' knowledge and use of the English language

Language arts assessment

Classroom teachers in Saskatchewan are responsible for assessment, evaluation, and promotion of students from kindergarten through grade 11. At grade 12, non-accredited teachers are responsible for at least 60% of each student's final mark, and those teachers accredited in a particular subject are responsible for assigning 100% of the grade 12 final mark.

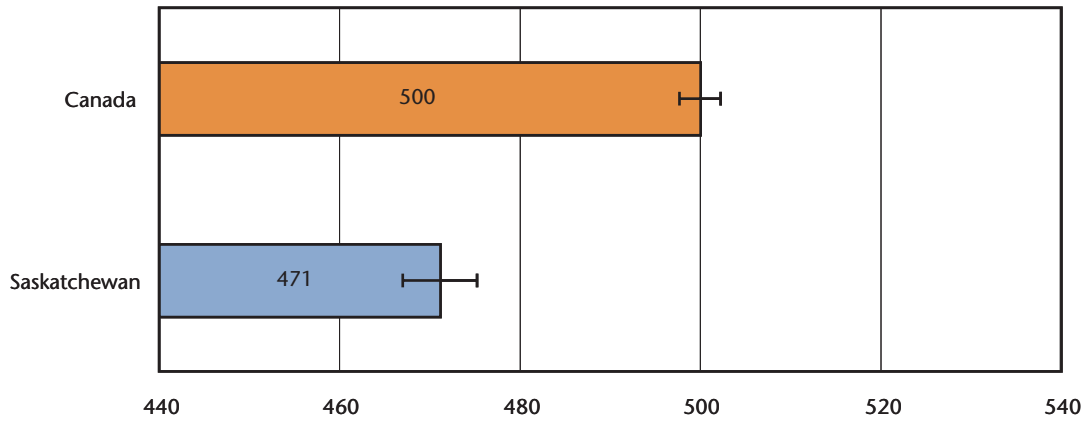
Students are assessed on the full range of knowledge, skills, attitudes, and values they have been using and developing during instruction. Teachers are encouraged to develop diversified evaluation plans that reflect the various instructional methods they use in adapting instruction to each class and to each student.

For more information, visit Saskatchewan Learning's Web site at **http://www.sasked.gov.sk.ca**.

Results in reading

Canada — Saskatchewan: Mean scores in reading

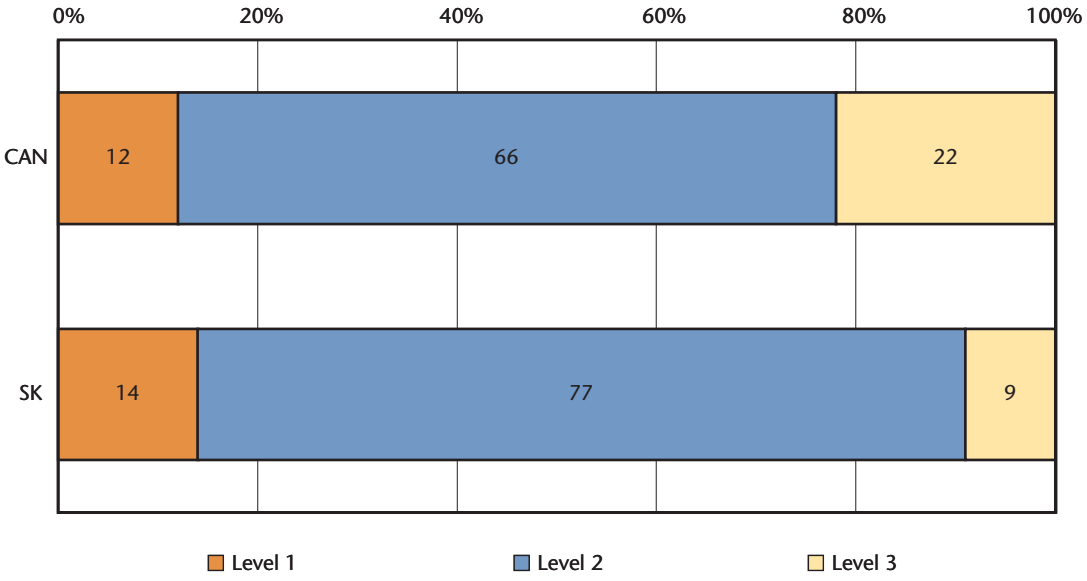
Chart SK1



Considering confidence intervals, the mean score for Saskatchewan students in reading is significantly lower than that obtained by Canadian students overall.

Canada — Saskatchewan: Comparison of results in reading by levels

Chart SK2

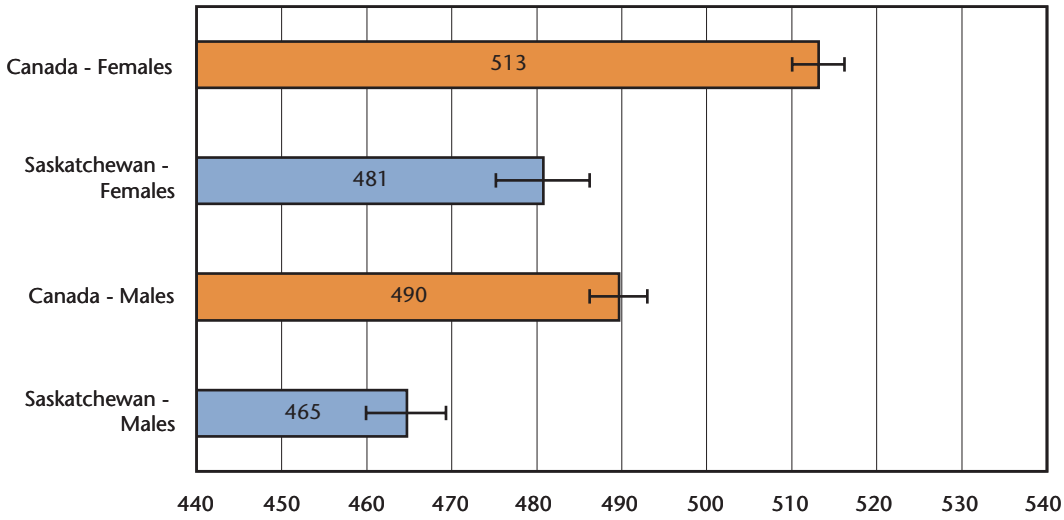


The proportion of students performing at level 2 and above is about 2 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is about 2 percentage points higher than that of Canadian students overall.

Canada — Saskatchewan: Comparison of results in reading by gender

Chart SK3



Considering confidence intervals, the mean score for Saskatchewan male students is significantly lower than that of Canadian male students overall.

As well, the mean score for female students is significantly lower than that of Canadian female students overall.

Canada — Saskatchewan: Comparison of results (and confidence intervals) in reading by subdomain

Table SK1

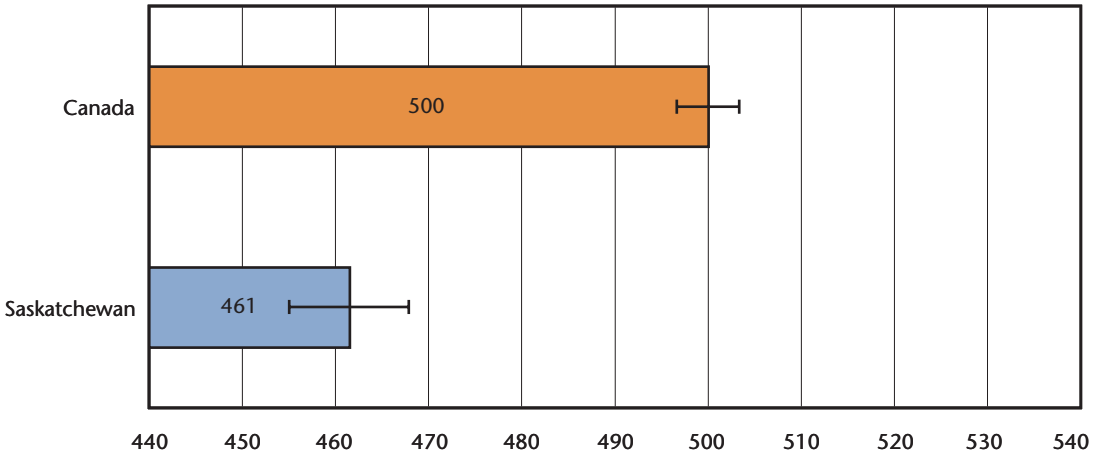
Sub-domain	CAN	SK[7]
Comprehension	500 ± 2	**480 ± 4**
Interpretation	500 ± 2	**469 ± 4**
Response to text	500 ± 2	**471 ± 4**

Considering confidence intervals, the mean score of Saskatchewan students is significantly lower in Interpretation and Response to text than the mean score in Comprehension. As well, the scores are significantly lower than those of Canadian students overall in all three subdomains.

[7] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Saskatchewan: Mean scores in mathematics

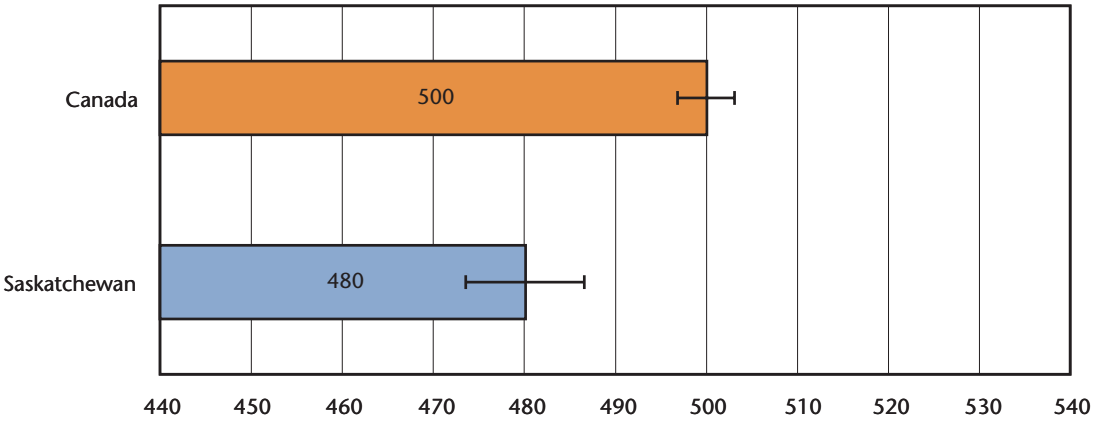
Chart SK4



Considering confidence intervals, the mean score for Saskatchewan students in mathematics is significantly lower than that obtained by Canadian students overall.

Canada — Saskatchewan: Mean scores in science

Chart SK5



Considering confidence intervals, the mean score for Saskatchewan students in science is significantly lower than that obtained by Canadian students overall.

MANITOBA

Context statement

Social context

Manitoba has a population of approximately 1.1 million, 60% of whom reside in the capital city of Winnipeg. This population comprises a wide range of ethnic and cultural groups, including a strong franco-Manitoban community and an Aboriginal community in both rural and urban areas. Manitoba has a broad and diverse economic base.

Organization of the school system

Manitoba's public school system enrols about 185,000 students in kindergarten to grade 12 and employs about 13,000 teachers in 37 school divisions and districts. Students may choose courses from four school programs — an English Program, Français Program, French Immersion Program, and a senior years Technology Education Program. Children of a francophone parent may attend the non-geographical Division scolaire franco-manitobaine, which offers the Français program. Other educational options include private schools, home schooling, and on-reserve federally funded schools for First Nations students. Schools are encouraged to group grades according to early years (kindergarten to grade 4), middle years (grades 5 to 8), and senior years (grades 9 to 12).

Students participated in the PCAP assessment in the language of instruction, that is, Français and French Immersion program students participated in French. Public schools and provincially funded independent schools participated. (**http://www.edu.gov.mb.ca/k12/**)

Language arts teaching

Language arts curricula were developed following Manitoba's involvement with the Western and Northern Canadian Protocol for Collaboration in Basic Education. (WNCP, **http://www.wncp.ca**)

English language arts teaching

The focus of the English language arts curriculum is on acquiring language and literacy skills through listening, speaking, viewing, representing, reading, and writing, using a wide range of texts, including media, transactional, and literary texts. Course options at grades 11 and 12 allow students to focus on literary, transactional, or comprehensive contexts. A draft K–12 framework and outcomes document for English as an additional language (EAL) has been released for consultation and review. It reflects the needs of adolescent and young adult learners from war-affected and disrupted learning backgrounds. It provides assessment indicators and guidelines and templates for assessing students and for EAL program planning. (**http://www.edu.gov.mb.ca/k12/cur/index.html**)

French-first-language teaching

Targeting franco-Manitoban students, the goals of the curriculum are to help the students develop skills, knowledge, and attitudes supporting the use of French for communicating in diverse contexts in daily life and at school, for thinking and for learning, and to develop a personal francophone identity and cultural awareness. Programming includes Phase d'accueil — bloc intensif for students entering the Français program with little or no French-language skills. (**http://www.edu.gov.mb.ca/m12/progetu/fl2/index.html**)

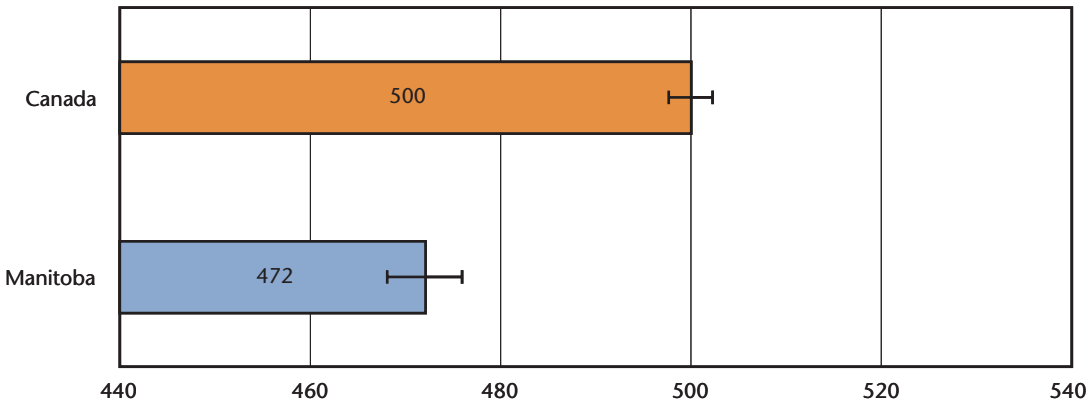
French-second-language teaching

The language curriculum goals for French-second-language education are to encourage interest in using French, to develop competence for understanding and using French in various contexts and for various purposes including personal and social development, and to participate positively in French culture. (**http://www.edu.gov.mb.ca/m12/projetuf/f12/doc.cur.html**)

Results in reading

Canada — Manitoba: Mean scores in reading

Chart MB1



Considering confidence intervals, the mean score for Manitoba students in reading is significantly lower than that obtained by Canadian students overall.

Canada — Manitoba: Comparison of results in reading by language

Table MB(E)1

Jurisdiction	Mean score[8] and confidence interval
CANe	492 ± 3
MBe	**476 ± 5**

Considering confidence intervals, the mean score for Manitoba students responding in English in reading is significantly lower than that of Canadian students responding in English overall.

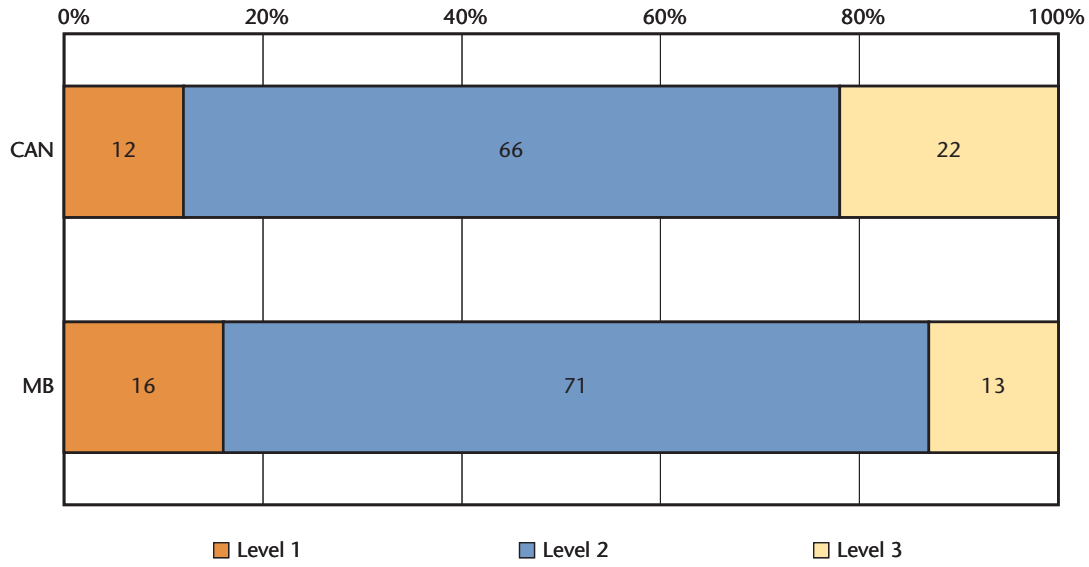
Table MB(F)1

Jurisdiction	Mean score[9] and confidence interval
CANf	524 ± 5
MBf	**436 ± 8**

Considering confidence intervals, the mean score for Manitoba students responding in French in reading is significantly lower than that of Canadian students responding in French overall.

Canada — Manitoba: Comparison of results in reading by levels

Chart MB2



The proportion of Manitoba students performing at level 2 and above is about 4 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is about 4 percentage points higher than that of Canadian students overall.

[8] Mean scores in bold are statistically significantly different from that of Canada overall.
[9] In Manitoba, French immersion students participated in French and are included in Manitoba-French results.

Canada — Manitoba: Comparison of results in reading by levels, by language

Table MB(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
MBe	15	72	13

The proportion of Manitoba students responding in English performing at level 2 and above is about 3 percentage points lower than that of Canadian students responding in English overall.

The proportion of students responding in English at level 1 is about 3 percentage points higher than that of Canadian students responding in English overall.

Table MB(F)2

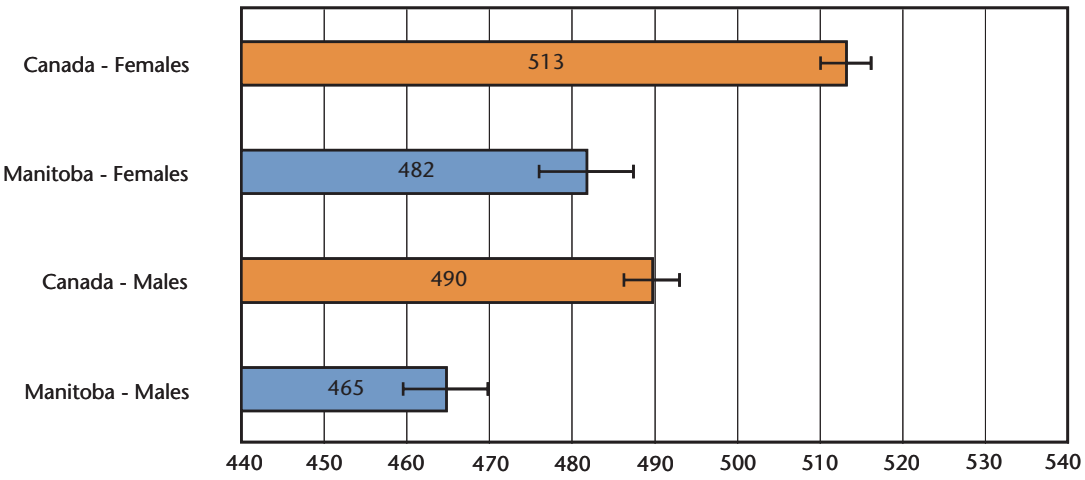
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
MBf	31	58	11

The proportion of Manitoba students responding in French at level 2 and above is almost 20 percentage points lower than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is about 20 percentage points higher than that of Canadian students responding in French overall.

Canada — Manitoba: Comparison of results in reading by gender

Chart MB3



Considering confidence intervals, the mean score for Manitoba male students is significantly lower than that of Canadian male students overall.

As well, the mean score for female students is significantly lower than that of Canadian female students overall.

Canada — Manitoba: Comparison of results (and confidence intervals) in reading by subdomain

Table MB3

Subdomain	CAN	MB
Comprehension	500 ± 2	**480 ± 4**
Interpretation	500 ± 2	**472 ± 4**
Response to text	500 ± 2	**473 ± 5**

Considering confidence intervals, the mean scores for Manitoba students across all three subdomains are not significantly different, but the scores are significantly lower than those obtained by Canadian students overall in all three subdomains.

Canada — Manitoba: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table MB4

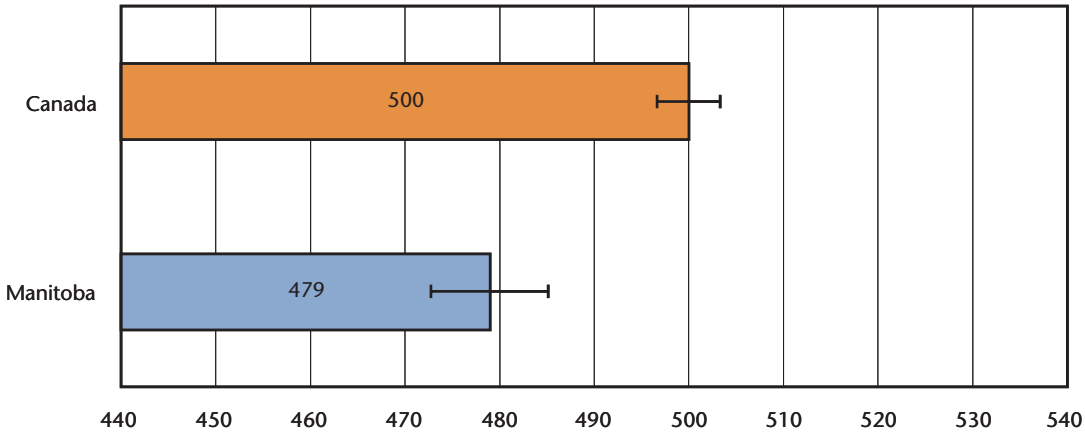
Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
MBe	**483 ± 5**	**475 ± 5**	**476 ± 5**
CANf	524 ± 6	525 ± 6	516 ± 6
MBf	**445 ± 8**	**444 ± 8**	**445 ± 8**

Considering confidence intervals, the mean scores of Manitoba students responding in English are not significantly different across all three subdomains, but they are significantly lower than those of Canadian students responding in English overall in all three subdomains.

The mean scores of Manitoba students responding in French are not significantly different across the three subdomains, but they are significantly lower than those of Canadian students responding in French overall in all three subdomains.

Canada — Manitoba: Mean scores in mathematics

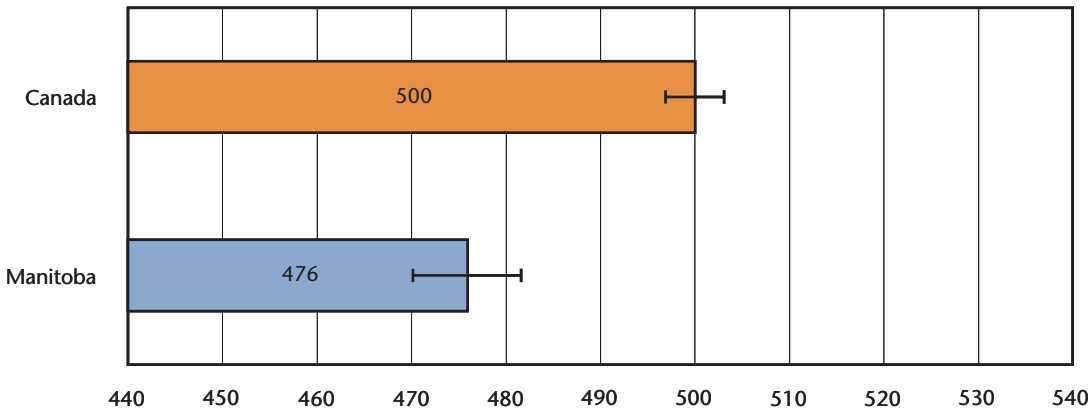
Chart MB4



Considering confidence intervals, the mean score for Manitoba students in mathematics is significantly lower than that obtained by Canadian students overall.

Canada — Manitoba: Mean scores in science

Chart MB5



Considering confidence intervals, the mean score for Manitoba students in science is significantly lower than that obtained by Canadian students overall.

Canada — Manitoba: Comparison of results in mathematics by language

Table MB(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
MBe	**479 ± 8**

Considering confidence intervals, the mean score for Manitoba students responding in English in mathematics is significantly lower than that obtained by Canadian students responding in English overall.

Table MB(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
MBf	**474 ± 14**

Considering confidence intervals, the mean score for Manitoba students responding in French in mathematics is significantly lower than that obtained by Canadian students responding in French overall.

Canada — Manitoba: Comparison of results in science by language

Table MB(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
MBe	**477 ± 8**

Considering confidence intervals, the mean score for Manitoba students responding in English in science is significantly lower than that obtained by Canadian students responding in English overall.

Table MB(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
MBf	**470 ± 13**

Considering confidence intervals, the mean score for the Manitoba students responding in French in science is significantly lower than that obtained by Canadian students responding in French overall.

ONTARIO

Context statement

Social context

In 2006, Ontario's population was about 12.5 million. About half of the approximately 250,000 people who immigrate to Canada each year settle in Ontario.

The languages of instruction in Ontario are English and French. In English-language boards, about 20% of Ontario students have a first language other than English. The Ministry of Education works to promote successful outcomes for all students in many areas, including students whose first language is neither English nor French, students with special needs, First Nations, Métis, and Inuit students, and students who are economically disadvantaged.

Organization of the school system

Ontario's district school boards range in size from large urban boards to northern boards that serve small numbers of students spread over wide geographic areas. Ontario has 60 English-language boards, 12 French-language boards, and 32 school authorities that serve small and remote communities. In the publicly funded education system, approximately 70% of students are in public school boards and 30% in Catholic boards.

In 2005–06, there were 1,411,011 students in 4,002 elementary schools and 707,533 students in 884 secondary schools. There were approximately 118,509 teachers. Just over 4% of the student population was enrolled in French-language schools. The school program extends from junior kindergarten (age 4) to grade 12. Students are required to keep learning in school until they graduate or turn 18.

Teaching language arts

In 2006, the Ministry of Education released a Language curriculum document and a Français curriculum document for grades 1 to 8. In 2007, the ministry released revised English and Français curriculum documents at the secondary level. Expectations for the language curriculum for English-language schools are organized under strands or broad areas of learning: oral communication, reading, writing, and media literacy. Similarly, the strands in the elementary Français curriculum are communication orale, lecture, écriture, and littératie critique.

At the secondary level in grades 9 and 10, students may choose between two different types of courses: academic and applied. In grades 11 and 12, three types of compulsory courses are offered and they are based on students' destinations: university, college, and workplace. For English-language schools, expectations for the compulsory English program for grades 9–12 are organized under the strands of oral communication, reading and literature studies, writing, and media studies. For French-language schools, the strands for the compulsory Français program for grades 9–12 are communication orale, lecture, and écriture. Additional optional courses are available to students in grades 11 and 12 for both programs — English and Français.

More information on curriculum and assessment policy documents can be found at

Curriculum and Resource Documents — Elementary
http://www.edu.gov.on.ca/eng/curriculum/elementary/language.html

Programme-cadre de français et documents de ressources à l'élémentaire
http://www.edu.gov.on.ca/fre/curriculum/elementary/language.html

Curriculum and Resource Documents – Secondary
http://www.edu.gov.on.ca/eng/curriculum/secondary/english.html

Programme-cadre de français et documents de ressources au secondaire
http://www.edu.gov.on.ca/fre/curriculum/secondary/francais.html

Assessment of language arts

In Ontario, classroom teachers are responsible for classroom assessment and evaluation and student promotion to the next grade level or granting of a credit at the secondary level. To assist teachers, the Ministry of Education developed "exemplar" documents with samples of student work related to all curriculum documents in all grades.

The Education Quality and Accountability Office (EQAO) administers large-scale assessments in French and English in grades 3 and 6 in reading, writing, and mathematics and in grade 9 mathematics. The provincial assessments are based on the expectations of the Ontario curriculum. EQAO also administers the Ontario Secondary School Literacy Test (Test provincial de compétences linguistiques), a pass/fail test measuring achievement according to Ontario expectations for reading up to the end of grade 9 and first administered to students in grade 10. Students who are not successful on the literacy test may take a literacy course.

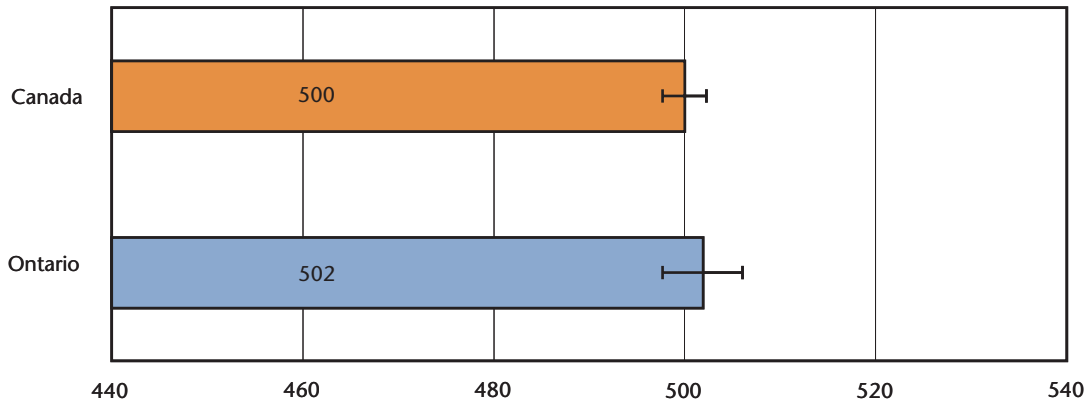
Most 13-year-old students in English-language schools who participated in the Pan-Canadian Assessment Program in 2007 were enrolled in the grade 8 language arts program or a grade 9 academic or applied English course. Similarly, French-language students participating in PCAP were enrolled in the grade 8 Français program or a grade 9 academic or applied Français course.

Ontario participates in international assessments such as the Progress in International Reading Literacy Study (PIRLS), the Programme for International Student Assessment (PISA), and the Trends in International Mathematics and Science Study (TIMSS).

More information on provincial, national, and international assessments in Ontario can be found on the following Web sites:
http://www.eqao.com/categories/home.aspx?Lang=E (English)
http://www.eqao.com/categories/home.aspx?Lang=F (French).

Canada — Ontario: Mean scores in reading

Chart ON1



Considering confidence intervals, the mean score for Ontario students in reading is not significantly different from that obtained by Canadian students overall.

Canada — Ontario: Comparison of results in reading by language

Table ON(E)1

Jurisdiction	Mean score[10] and confidence interval
CANe	492 ± 3
ONe	**503 ± 5**

Considering confidence intervals, the mean score for Ontario students responding in English in reading is significantly higher than that obtained by Canadian students responding in English overall.

Table ON(F)1

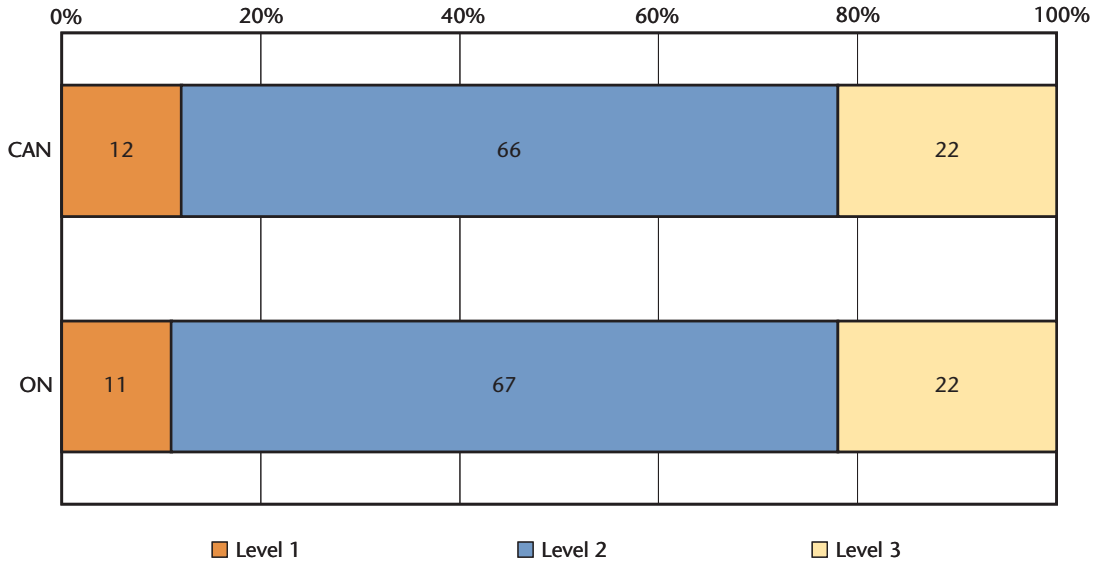
Jurisdiction	Mean score and confidence interval
CANf	524 ± 5
ONf	**478 ± 5**

Considering confidence intervals, the mean score for Ontario students responding in French in reading is significantly lower than that obtained by Canadian students responding in French overall.

[10] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Ontario: Comparison of results in reading by levels

Chart ON2



The proportion of Ontario students performing at level 2 and above is about 1 percentage point higher than that of Canadian students overall.

The proportion of students performing at level 1 is about 1 percentage point lower than that of Canadian students overall.

Canada — Ontario: Comparison of results in reading by levels, by language

Table ON(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
ONe	10	67	23

The proportion of Ontario students responding in English at level 2 and above is approximately 2 percentage points higher than that of students responding in English overall.

The proportion of students responding in English at level 1 is almost 2 percentage points lower than that of students responding in English overall.

Table ON(F)2

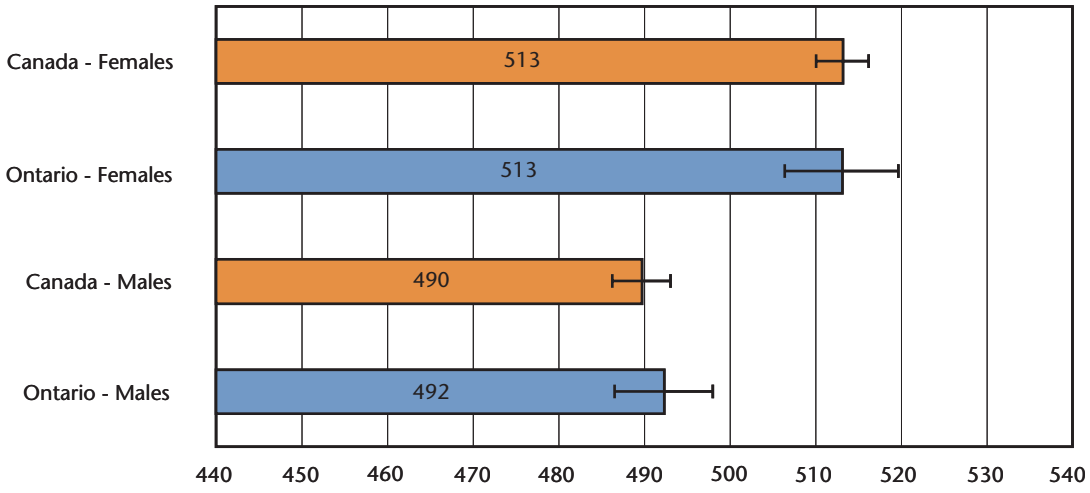
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
ONf	19	62	19

The proportion of Ontario students responding in French at level 2 and above is about 8 percentage points lower than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is about 8 percentage points higher than that of Canadian students responding in French overall.

Canada — Ontario: Comparison of results in reading by gender

Chart ON3



Considering confidence intervals, the mean score for Ontario male students is not significantly different from that obtained by Canadian male students overall.

As well, the mean score for Ontario female students is not significantly different from that obtained by Canadian female students overall.

Canada — Ontario: Comparison of results (and confidence intervals) in reading by subdomain

Table ON3

Subdomain	CAN	ON
Comprehension	500 ± 2	498 ± 5
Interpretation	500 ± 2	503 ± 5
Response to text	500 ± 2	505 ± 5

Considering confidence intervals, the mean scores for Ontario students across all three subdomains are not significantly different, and they are not significantly different from those obtained by Canadian students overall in all three subdomains.

Canada — Ontario: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table ON4

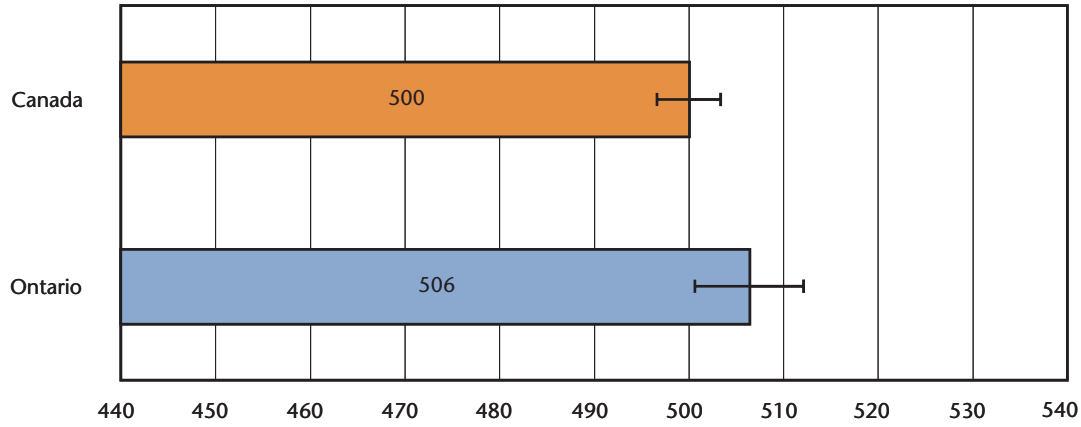
Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
ONe	499 ± 5	**503 ± 4**	**506 ± 4**
CANf	524 ± 6	525 ± 6	516 ± 6
ONf	**477 ± 5**	**482 ± 6**	**484 ± 6**

Considering confidence intervals, the mean scores of Ontario students responding in English are not significantly different across the three subdomains. As well, the mean score of Ontario students responding in English for Comprehension is not significantly different from that of Canadian students responding in English overall. In Interpretation and in Response to text, their mean scores are significantly higher than that of Canadian students responding in English overall.

The mean scores of Ontario students responding in French are not significantly different across the three subdomains. The mean scores are significantly lower than those of Canadian students responding in French overall in all three subdomains.

Canada — Ontario: Mean scores in mathematics

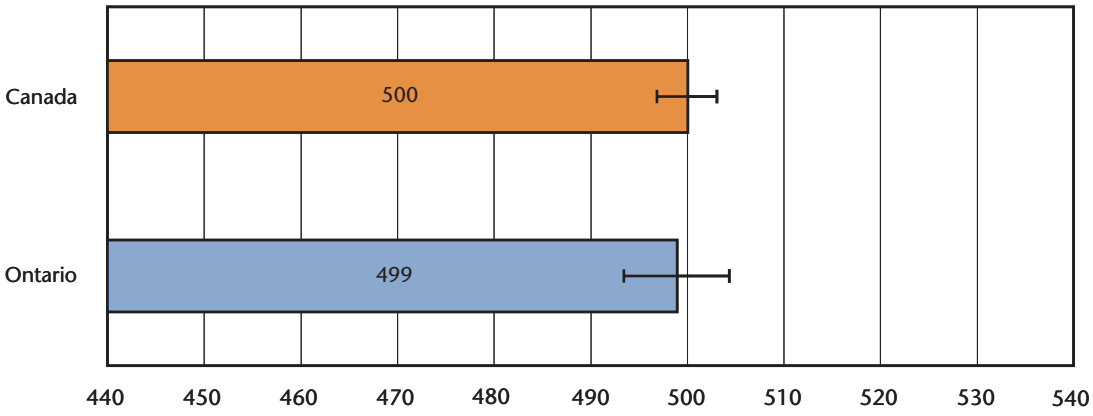
Chart ON4



Considering confidence intervals, the mean score for Ontario students in mathematics is not significantly different from that obtained by Canadian students overall.

Canada — Ontario: Mean scores in science

Chart ON5



Considering confidence intervals, the mean score for Ontario students in science is not significantly different from that obtained by Canadian students overall.

Canada — Ontario: Comparison of results in mathematics by language

Table ON(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
ONe	**508 ± 7**

Considering confidence intervals, the mean score for Ontario students responding in English in mathematics is significantly higher than that obtained by Canadian students responding in English overall.

Table ON(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
ONf	**471 ± 6**

Considering confidence intervals, the mean score for Ontario students responding in French in mathematics is significantly lower than that obtained by Canadian students responding in French overall.

Canada — Ontario: Comparison of results in science by language

Table ON(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
ONe	499 ± 7

Considering confidence intervals, the mean score for Ontario students responding in English in science is not significantly different from that obtained by Canadian students responding in English overall.

Table ON(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
ONf	**485 ± 6**

Considering confidence intervals, the mean score for Ontario students responding in French in science is significantly lower than that obtained by Canadian students responding in French overall.

QUEBEC

Context statement

Social context

Quebec's population of over 7 million is concentrated in the south of the province, mostly in its largest city, Montreal, and its capital, Quebec City. The official language of Quebec is French; Francophones account for approximately 82% of Quebec's total population. Anglophones make up 8% and have access to a full system of English educational institutions from preschool to university. Quebec has 11 First Nations peoples who account for about 1% of the population. Under the Indian Act, the Government of Canada is responsible for ensuring that Aboriginal children receive educational services. However, under agreements signed with three First Nations in the 1970s, the Government of Quebec determines the legal framework applicable to educational services delivered to Cree, Inuit, and Naskapi communities.

An increase in immigration, especially in the Greater Montreal area, has brought an inflow of students who, although their first language is neither French nor English, attend French schools. To meet the needs of this new client group, schools have created settlement and support services, including welcoming and francization classes, designed to ease their integration into mainstream classrooms.

Organization of the school system

Quebec has four levels of education: elementary, secondary, college, and university. Children are admitted to elementary school at 6 years of age, and school attendance is compulsory until the age of 16. The official language of instruction at the elementary and secondary levels is French. Education in English is available mainly to students whose father or mother pursued elementary studies in English in Canada. Approximately 12% of Quebec students are educated in English.

Elementary school is usually preceded by one year of full-time kindergarten for 5-year-olds. Almost all 5-year-olds attend kindergarten, even though it is not compulsory. Some children from underprivileged backgrounds may have access to half-day kindergarten from the age of 4 on application by their parents.

Elementary school includes two three-year levels or "cycles." Secondary school is divided into two cycles. The first two-year cycle focuses on basic education. In the second three-year cycle, students continue their general education but also take optional courses to explore other avenues of learning before going on to college (cégep).

In 2006–07, a total of 1,071,858 students were registered in Quebec's 2,845 public and private elementary and secondary schools. Of these schools, 2,520 are public schools run by 72 school boards, and 325 are private schools.

Language arts teaching

The Ministry of Education, Recreation and Sports determines curriculum content in close collaboration with professional subject experts, curriculum developers, teachers, and school board consultants.

During the 2006-07 academic year, a new curriculum was implemented in the second year of the first secondary cycle. In language arts as well as in all other disciplines, the new curriculum focuses on skills development.

Language arts assessment

At the secondary level, schools use their own summative assessments of student learning. However, in order to earn their secondary school diploma, students must successfully complete the required language courses (language of instruction in the school) as well as all sections of second-language courses. All graduation-year courses are assessed using ministry exams.

The first-language curriculum focuses on writing and reading with the following weighting:

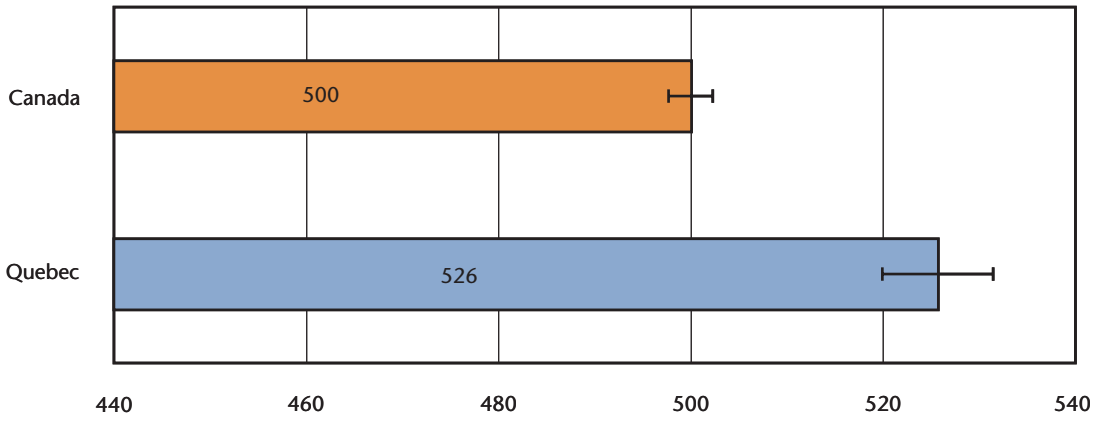
Table QC1

Competencies	First cycle (%)	Components	Second cycle (%)
Writing section	40	**Writing section**	50
Reading section	40	**Reading section**	40
Oral communication	20	**Oral communication**	10

http://www.mels.gouv.qc.ca/DGFJ/dp/index.htm
http://www.meq.gouv.qc.ca/STAT/STAT_det/PPS_EFF.htm
http://www.mels.gouv.qc.ca/DGFJ/dp/programmes_etudes/secondaire/fran.htm

Canada — Quebec: Mean scores in reading

Chart QC1



Considering confidence intervals, the mean score for Quebec students in reading is significantly higher than that obtained by Canadian students overall.

Canada — Quebec: Comparison of results in reading by language

Table QC(F)2

Jurisdiction	Mean score[11] and confidence interval
CANf	524 ± 5
QCf	532 ± 6

Considering confidence intervals, the mean score for Quebec students responding in French in reading is not significantly different from that obtained by Canadian students responding in French overall.

Table QC(E)2

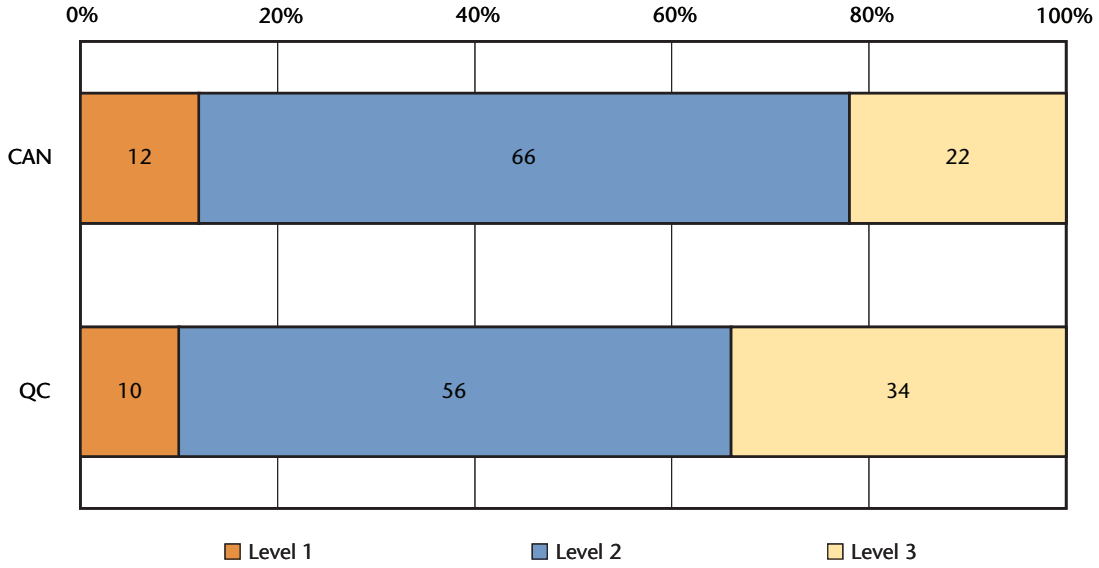
Jurisdiction	Mean score and confidence interval
CANe	492 ± 3
QCe	**479 ± 5**

Considering confidence intervals, the mean score for Quebec students responding in English in reading is significantly lower than that obtained by Canadian students responding in English overall.

[11] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Quebec: Comparison of results in reading by levels

Chart QC2



The proportion of Quebec students performing at level 2 and above is about 2 percentage points higher than that of Canadian students overall.

The proportion of students performing at level 1 is about 2 percentage points lower than that of students across Canada.

Canada — Quebec: Comparison of results in reading by levels, by language

Table QC(F)3

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
QCf	9	54	37

The proportion of Quebec students responding in French performing at level 2 and above is approximately 2 percentage points higher than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is approximately 2 percentage points lower than that of Canadian students responding in French overall.

Table QC(E)3

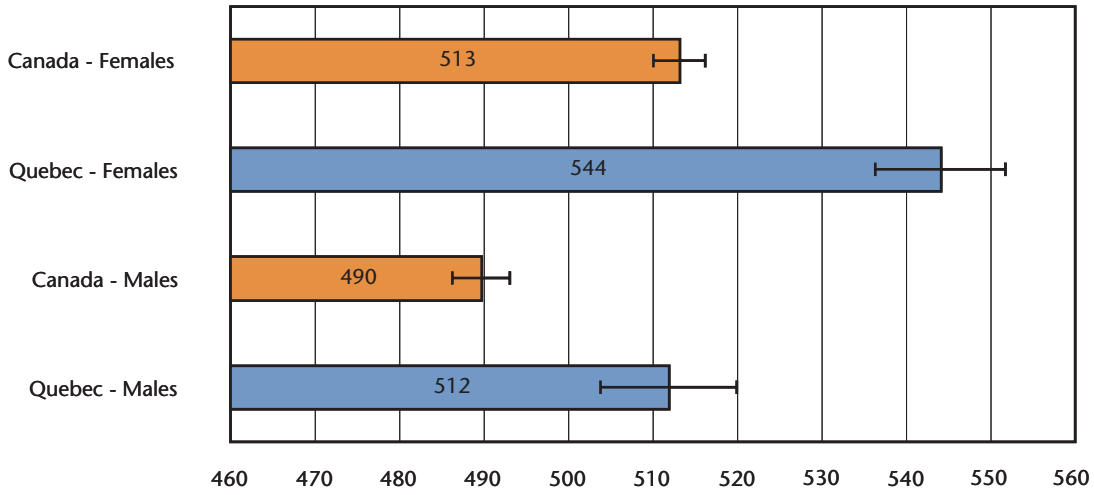
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
QCe	16	70	14

The proportion of Quebec students responding in English performing at level 2 and above is approximately 4 percentage points lower than that of Canadian students responding in English overall.

The proportion of students responding in English at level 1 is 4 percentage points higher than that of Canadian students responding in English overall.

Canada — Quebec: Comparison of results in reading by gender

Chart QC3



Considering confidence intervals, the mean score for Quebec male students is significantly higher from that obtained by Canadian male students overall.

As well, the mean score for Quebec female students is significantly higher from that obtained by Canadian female students overall.

Canada — Quebec: Comparison of results (and confidence intervals) in reading by subdomain

Table QC4

Subdomain	CAN	QC
Comprehension	500 ± 2	**525 ± 6**
Interpretation	500 ± 2	**526 ± 5**
Response to text	500 ± 2	**517 ± 5**

Considering confidence intervals, the mean scores for Quebec students across all three subdomains are not significantly different. The mean scores for Quebec students are significantly higher than those obtained by Canadian students overall in all three subdomains.

Canada — Quebec: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table QC5

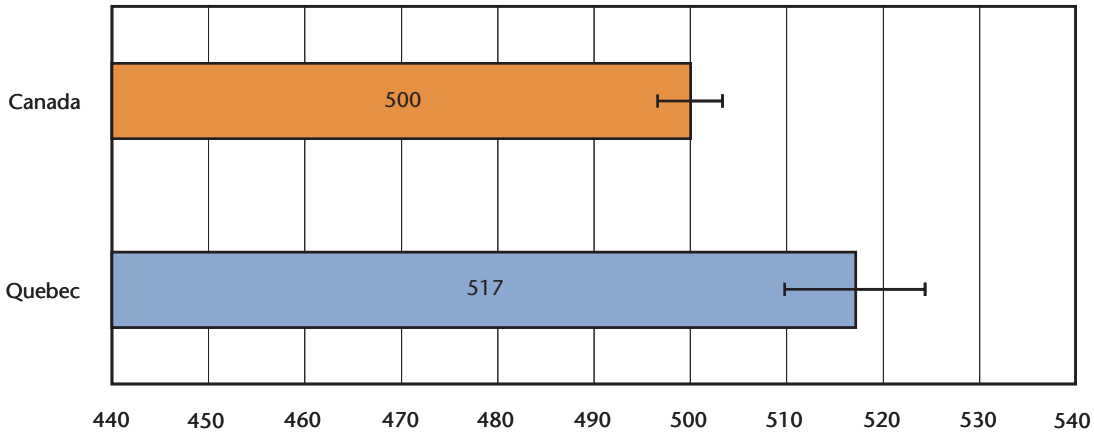
Jurisdiction	Comprehension	Interpretation	Response to text
CANf	524 ± 6	525 ± 6	516 ± 6
QCf	531 ± 6	532 ± 7	522 ± 6
CANe	492 ± 2	492 ± 3	495 ± 2
QCe	**483 ± 6**	**477 ± 6**	**482 ± 6**

Considering confidence intervals, the mean scores of Quebec students responding in French are not significantly different across the subdomains, and they are not significantly different from those of Canadian students responding in French overall in all three subdomains.

The mean scores of Quebec students responding in English are not significantly different across the subdomains. However, the mean scores of Quebec students responding in English are significantly lower than those of Canadian students responding in English overall in all three subdomains.

Canada — Quebec: Mean scores in mathematics

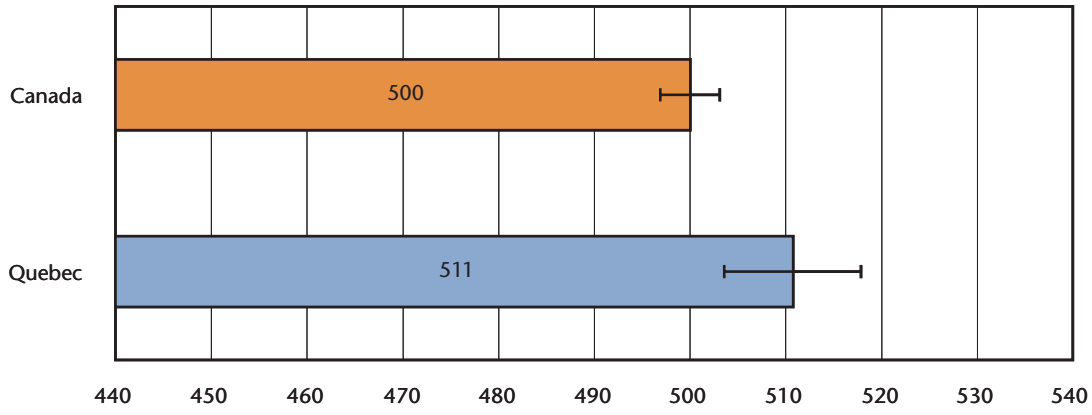
Chart QC4



Considering confidence intervals, the mean score for Quebec students in mathematics is significantly higher than that obtained by Canadian students overall.

Canada — Quebec: Mean scores in science

Chart QC5



Considering confidence intervals, the mean score for Quebec students in science is significantly higher than that obtained by Canadian students overall.

Canada — Quebec: Comparison of results in mathematics by language

Table QC(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
QCf	518 ± 8

Considering confidence intervals, the mean score for Quebec students responding in French in mathematics is not significantly different from that obtained by Canadian students responding in French overall.

Table QC(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
QCe	510 ± 10

Considering confidence intervals, the mean score for Quebec students responding in English in mathematics is not significantly different from that obtained by Canadian students responding in English overall.

Canada — Quebec: Comparison of results in science by language

Table QC(F)7

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
QCf	516 ± 9

Considering confidence intervals, the mean score for Quebec students responding in French in science is not significantly different from that obtained by Canadian students responding in French overall.

Table QC(E)7

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
QCe	**467 ± 10**

Considering confidence intervals, the mean score for Quebec students responding in English in science is significantly lower than that obtained by Canadian students responding in English overall.

NEW BRUNSWICK (ANGLOPHONE)

Context statement

Social context

New Brunswick's population as of July 1, 2006, stood at 729,997. Serving Canada's only officially bilingual province, New Brunswick public education offers students the opportunity to learn in both French and English through two parallel but separate education systems.

The Department of Education has put in place programs to reduce school leaving by identifying potential dropouts and focusing on youth at risk, and makes every possible effort to live up to the promise of an inclusive education system. As a result, the province has high rates of retention within a system committed to meeting the diverse learning needs of all students.

Organization of the school system

Since 1967, the provincial government has had sole responsibility for financing public schools and is committed to equal opportunity for all students. The minister of education has the authority to prescribe curriculum and establish educational goals and standards. Each linguistic sector of the Department of Education is responsible for its own curriculum and assessment.

The public education system has 14 school districts — 5 French and 9 English. In 1996, school boards were replaced with a network of parental governance structures. In 2001, district education councils (DECs) were created, consisting of publicly and locally elected members. DECs establish priorities for the school district and are ultimately responsible to the community for the performance of schools and for meeting provincial standards.

Kindergarten through grade 12 enrolment for the 2006–07 school year totalled 112,013 (79,660 students in the anglophone sector and 32,353 students in the francophone sector). The starting age for school is 5, and attendance is mandatory until the age of 18 or graduation. The number of instructional days currently stands at 185 per year.

English language arts teaching

The Atlantic Provinces Education Foundation developed a common curriculum, the 1998 Atlantic Canada English Language Arts (ELA) Curriculum document, which articulates the intended outcomes of ELA learning from kindergarten/entry through grade 12. Using 10 general outcomes under 3 strands — speaking and listening, reading and viewing, and writing and representing, the identified areas of learning are common to all; support documents specific to K–3, 4–6, and 9–12 elaborate upon the outcomes by grade. The curriculum provides for flexibility of classroom organization, teaching practices, assessment for/as learning, and resources so that teachers may organize and structure their teaching to facilitate learning for all.

English language arts assessment

The provincial evaluation program monitors student achievement at various grades so as to provide feedback at the provincial, district, school, and student levels. Currently, annual literacy assessments are conducted at grades 2 and 4, with a focus on reporting data in terms of whether or not expectations have been met. At the middle school level, an assessment of reading and writing is administered to grade 7 students. In addition, grade 9 students write the English Language Proficiency Assessment. Success on this assessment is a requirement for receiving a New Brunswick high school diploma. Students have a number of additional opportunities to meet this basic literacy requirement before graduation.

All assessment instruments are aligned with the Atlantic Provinces Education Foundation (APEF) curricular documents as well as the standards documents of the Council of Atlantic Ministers of Education and Training (CAMET).

NEW BRUNSWICK (FRANCOPHONE)

Context statement

Social context

New Brunswick's socioeconomic development has improved over the past few years. The unemployment rate is higher than the national average, especially in francophone areas of the province. On July 1, 2006, the total population of New Brunswick was 729,997. The average unemployment rate in 2001 was 11.2% compared to the national rate of 7.2%. Over a third of the population is of francophone origin. Total student enrolment is 112,013, with 32,353 (28.9%) attending francophone schools.

Organization of the school system

In 1974, the province of New Brunswick recognized its linguistic duality by establishing two parallel but distinct school systems. The francophone sector of the Department of Education is responsible for francophone curriculum and assessment.

Five district boards of education, whose members are locally elected by the public, are responsible for policy development and decision making over school and district operations.

New Brunswick's school system begins in kindergarten and continues to grade 12. Children who will be 5 years old by December 31 are enrolled in kindergarten. School attendance is compulsory until the end of secondary schooling or the age of 18, whichever comes first.

Teaching of French language arts

French is a core subject in the New Brunswick curriculum, and French courses are compulsory for all students from kindergarten to grade 12. These courses promote a communicative approach and a philosophy based on skills development. Students acquire language skills through various linguistic approaches such as expressive, informative, analytical, critical, or play-based. Communication and the mechanics of language are the key elements in the French curriculum.

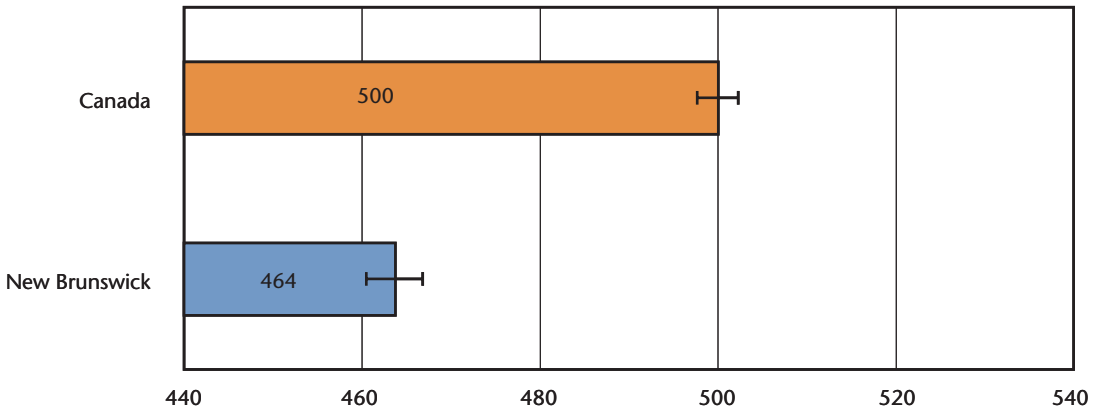
Assessment of French language arts

In addition to participating in pan-Canadian (PCAP) and international (PISA) assessments, New Brunswick administers a literacy assessment in grade 2 and reading and writing assessments in grades 8 and 11.

Results in reading

Canada — New Brunswick: Mean scores in reading

Chart NB1



Considering confidence intervals, the mean score for New Brunswick students in reading is significantly lower than that obtained by Canadian students overall.

Canada — New Brunswick: Comparison of results in reading by language

Table NB(E)1

Jurisdiction	Mean score[12] and confidence interval
CANe	492 ± 3
NBe	**466 ± 4**

Considering confidence intervals, the mean score for New Brunswick students responding in English in reading is significantly lower than that of Canadian students responding in English overall.

Table NB(F)1

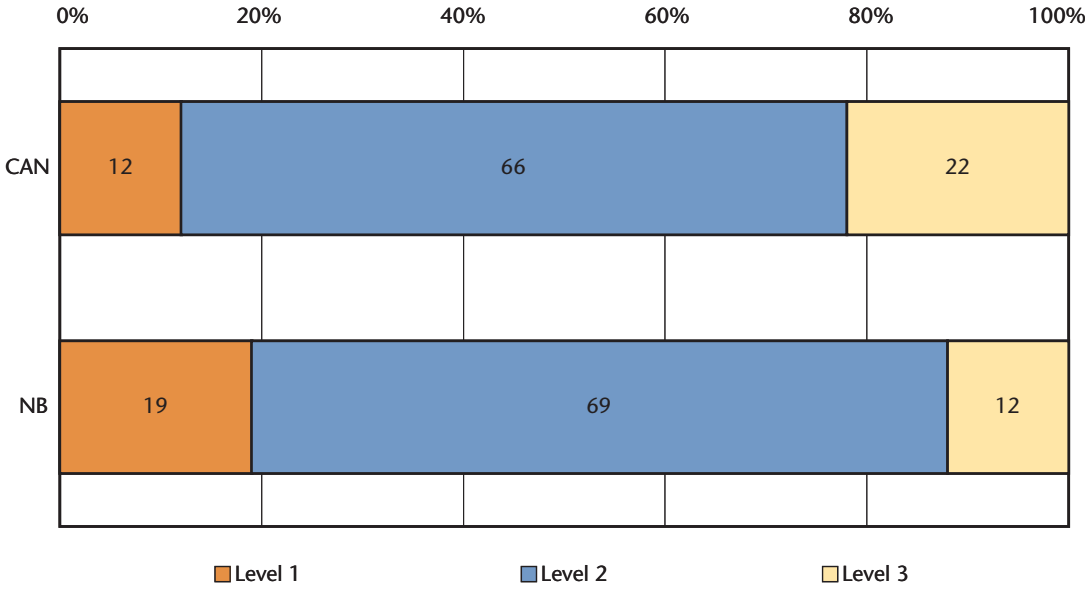
Jurisdiction	Mean score and confidence interval
CANf	524 ± 5
NBf	**458 ± 4**

Considering confidence intervals, the mean score for New Brunswick students responding in French in reading is significantly lower than that of Canadian students responding in French overall.

[12] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — New Brunswick: Comparison of results in reading by levels

Chart NB2



The proportion of New Brunswick students performing at level 2 and above is about 7 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is about 7 percentage points higher than that of Canadian students overall.

Canada — New Brunswick: Comparison of results in reading by levels, by language

Table NB(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
NBe	17	72	11

The proportion of New Brunswick students responding in English at level 2 and above is about 5 percentage points lower than that of Canadian students responding in English overall.

The proportion of students responding in English at level 1 is about 5 percentage points higher than that of Canadian students responding in English overall.

Table NB(F)2

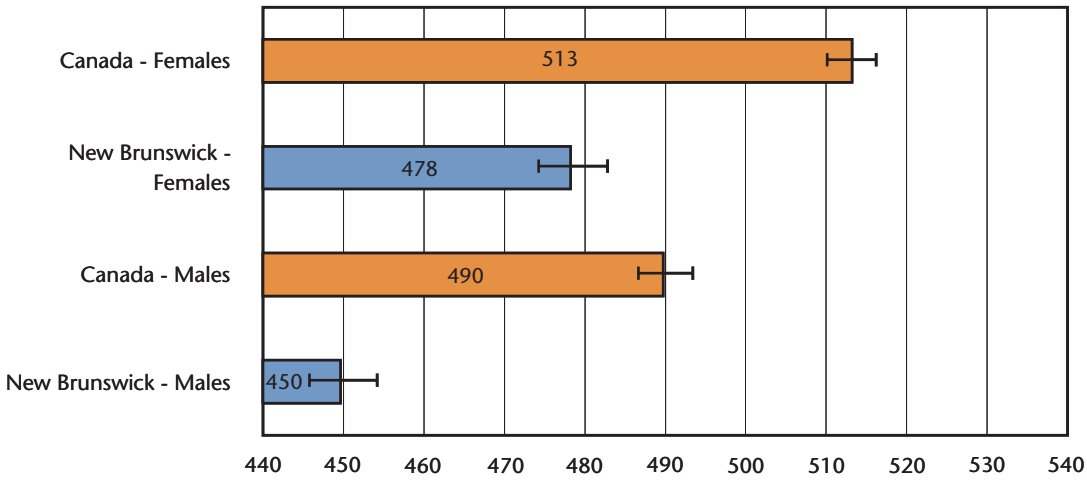
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
NBf	24	62	14

The proportion of New Brunswick students responding in French at level 2 and above is about 13 percentage points lower than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is about 13 percentage points higher than that of Canadian students responding in French overall.

Canada — New Brunswick: Comparison of results in reading by gender

Chart NB3



Considering confidence intervals, the mean score for New Brunswick male students is significantly lower than that obtained by Canadian male students overall.

As well, the mean score for female students is significantly lower than that obtained by Canadian female students overall.

Canada — New Brunswick: Comparison of results (and confidence intervals) in reading by subdomain

Table NB3

Subdomain	CAN	NB
Comprehension	500 ± 2	**474 ± 3**
Interpretation	500 ± 2	**462 ± 3**
Response to text	500 ± 2	**466 ± 3**

Considering confidence intervals, the mean scores for New Brunswick students are significantly lower in Interpretation and Response to text than the mean score in Comprehension. The mean scores are significantly lower than those obtained by Canadian students overall in all three subdomains.

Canada — New Brunswick: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table NB4

Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
NBe	**475 ± 4**	**463 ± 4**	**467 ± 4**
CANf	524 ± 6	525 ± 6	516 ± 6
NBf	**472 ± 4**	**459 ± 4**	**462 ± 4**

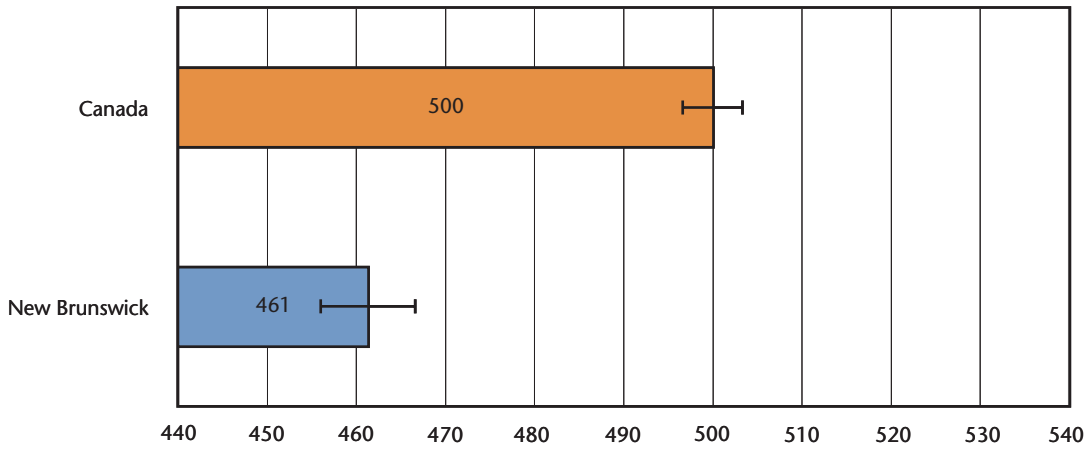
Considering confidence intervals, the mean scores of New Brunswick students responding in English are significantly lower in Interpretation than in Comprehension and they are significantly lower than those of Canadian students responding in English overall in all three subdomains.

The mean scores of those responding in French are significantly lower in Interpretation and Response to text than in Comprehension, and they are significantly lower than those of Canadian students responding in French overall in all three subdomains.

Mathematics and science results

Canada — New Brunswick: Mean scores in mathematics

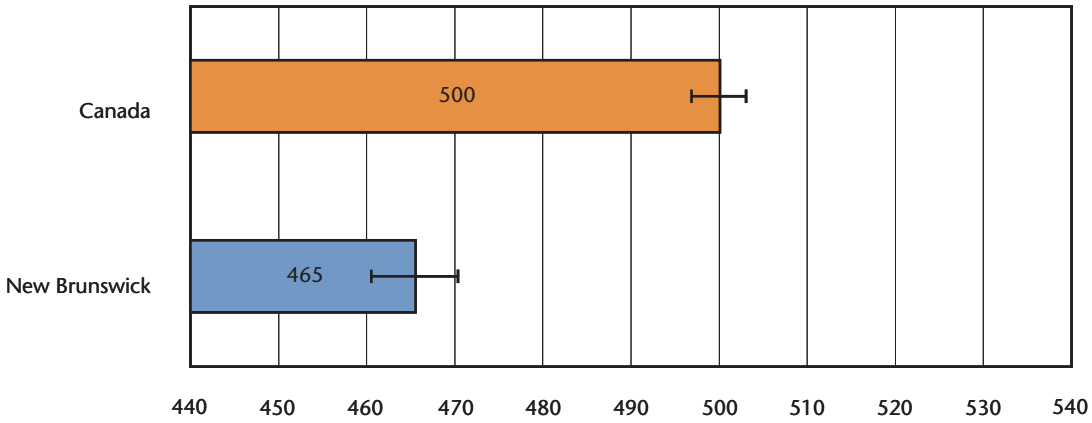
Chart NB4



Considering confidence intervals, the mean score for New Brunswick students in mathematics is significantly lower than that obtained by Canadian students overall.

Canada — New Brunswick: Mean scores in science

Chart NB5



Considering confidence intervals, the mean score for New Brunswick students in science is significantly lower than that obtained by Canadian students overall.

Canada — New Brunswick: Comparison of results in mathematics by language

Table NB(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
NBe	**462 ± 6**

Considering confidence intervals, the mean score for New Brunswick students responding in English in mathematics is significantly lower than that obtained by Canadian students responding in English overall.

Table NB(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
NBf	**460 ± 7**

Considering confidence intervals, the mean score for New Brunswick students responding in French in mathematics is significantly lower than that obtained by Canadian students responding in French overall.

Canada — New Brunswick: Comparison of results in science by language

TABLE NB(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
NBe	**468 ± 6**

Considering confidence intervals, the mean score for New Brunswick students responding in English in science is significantly lower than that obtained by Canadian students responding in English overall.

TABLE NB(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
NBf	**460 ± 6**

Considering confidence intervals, the mean score for New Brunswick students responding in French in science is significantly lower than that obtained by Canadian students responding in French overall.

NOVA SCOTIA (ENGLISH)

Context statement

Social context

Nova Scotia has a population of 934,147, with a higher rural population than the Canadian average. The annual population growth rate is below 1%, and immigration is low compared to the rest of Canada. About 10% of the population speaks both English and French or French only. Among the total population, 3.8% consists of visible minorities. Unemployment rates in Nova Scotia are typically above the Canadian average.

Organization of the school system

There are seven regional anglophone school boards in Nova Scotia, which enrol 97.1% of all public school students. The provincial school board for Acadian/francophone students, known as the Conseil scolaire acadien provincial, includes the remaining 2.9% of students. Nova Scotia's total public school population is about 138,661 students from primary to grade 12. Overall, it is anticipated that school enrolment will continue to decrease over the next few years. Children who are 5 years old on or before October 1 are admitted to grade primary. Beginning in September 2008, students who are entering primary must be 5 years old on or before December 31. Students must attend school until they are 16 years old.

Language arts teaching

Implementation of the Atlantic Canada English language arts curriculum began in 1997. Key aspects of this curriculum include the following:

- Knowledge of and experience with a broad range of texts
- Knowledge about language strategies
- Knowledge about features and purposes of various types of text
- Knowledge about the underlying systems and structures of texts
- An emphasis on the personal, social, and cultural contexts of language learning
- An expanded concept of text to describe any language event, whether oral, written, or visual
- Resource-based learning environments
- English language arts classrooms as centres of inquiry where learners investigate language and language learning
- Interactive learning and the use of social instructional contexts
- Increased opportunities for students to use current and emerging technologies
- The integration of assessment with instruction and the use of a wide variety of assessment strategies

Literacy is a priority in Nova Scotia's public schools at all grade levels and in all subject areas. Nova Scotia's Literacy Success strategy centres on improving teaching, learning,

and achievement. In 2003, the government committed to providing more learning materials for students in literacy, mentors for teachers and students, and professional development for teachers of English or French language arts. Nova Scotia is currently focusing implementation support on the reading components of the Atlantic Canada English language arts curriculum and has introduced an initiative called Active Young Readers for grade primary to 6, Young Readers from grades 7 to 9, and Literacy Success for grades 10 and 11. A similar initiative called Writers in Action was implemented to support the writing component of the curriculum from grade 4 to grade 10.

Language arts assessments

Provincial assessment in grades 3, 6, and 9 in literacy are administered as "assessments for learning." These assessments are used to identify student learning needs and to focus provincial improvement strategies. Assessment results are returned to each school in a timely manner so that schools can develop support plans for individual students. Students' progress is monitored each year until they reach the provincial assessment at the next grade level. Senior high school students participate in grade 12 provincial examinations in English language arts. The examination results count as 30% of the student's final course marks.

NOVA SCOTIA (FRENCH)

Context statement

Social context

Nova Scotia has a population of 934,147, with a higher rural population than the Canadian average. The annual population growth rate is below 1%, and immigration is low compared to the rest of Canada. About 10% of the population speaks both English and French or French only. Among the total population, 3.8% consists of visible minorities. Unemployment rates in Nova Scotia are typically above the Canadian average.

Organization of the school system

There are seven regional anglophone school boards in Nova Scotia, which enrol 97.1% of all public school students. The provincial school board for Acadian/francophone students, known as the Conseil scolaire acadien provincial (CSAP), includes the remaining 2.9% of students. Nova Scotia's total public school population is about 138,661 from primary to grade 12. Overall, it is anticipated that school enrolment will continue to decrease over the next few years. Children who are 5 years old on or before October 1 are admitted to grade primary. Beginning in September 2008, students who are entering grade primary must be 5 years old on or before December 31.

Language arts teaching

All teachers in all CSAP schools follow the French as a first language curriculum from primary to grade 12. Here are the main features of the curriculum:

- Teaching methods have evolved to reflect a holistic understanding of language acquisition.
- The curriculum at all levels stresses the use of language to learn and communicate, with special emphasis on exploring, creating, and communicating the meaning of texts.
- To the extent possible, the curriculum includes instruction on various language skills, considered to be part of the communication process.
- Emphasis is placed on oral expression and language acquisition as a process rather than a sum of knowledge.
- There is a more sustained focus on personal and critical responses to reading.
- The curriculum encourages students to become actively involved in reading texts from various media and to become familiar with various information and communication technologies.
- The curriculum requires the use of resources from print and other media and from diverse levels, genres, and cultures.
- Assessment is an integral part of instruction.

For a few years, Nova Scotia has emphasized the development of a balanced literacy curriculum. CSAP is currently implementing a literacy planning strategy to facilitate a systematic study of learning strategies in reading, writing, and oral communication, in all subjects and all grades.

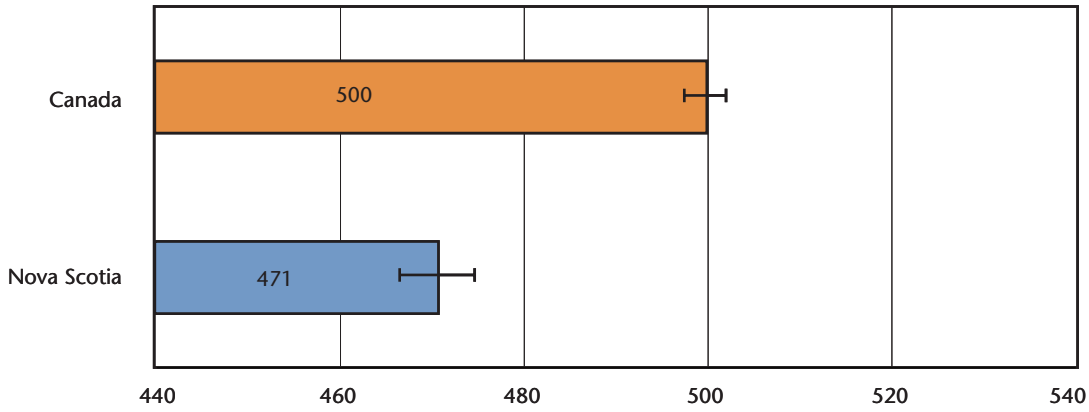
Language arts assessment

The Department of Education develops two assessments of literacy achievement for grade 6 and grade 9 students, in which students perform a number of tasks to demonstrate their reading and writing proficiency. These assessments help identify students who are experiencing difficulties in these areas. Reports are provided to parents and schools within a short time to help them develop a support plan for every student in difficulty in reading or writing.

Results in reading

Canada — Nova Scotia: Mean scores in reading

Chart NS1



Considering confidence intervals, the mean score for Nova Scotia students in reading is significantly lower than that of Canadian students overall.

Canada — Nova Scotia: Comparison of results in reading by language

Table NS(E)1

Jurisdiction	Mean score[13] and confidence interval
CANe	492 ± 3
NSe	**471 ± 4**

Considering confidence intervals, the mean score for Nova Scotia students responding in English in reading is significantly lower than that obtained by Canadian students responding in English overall.

Table NS(F)1

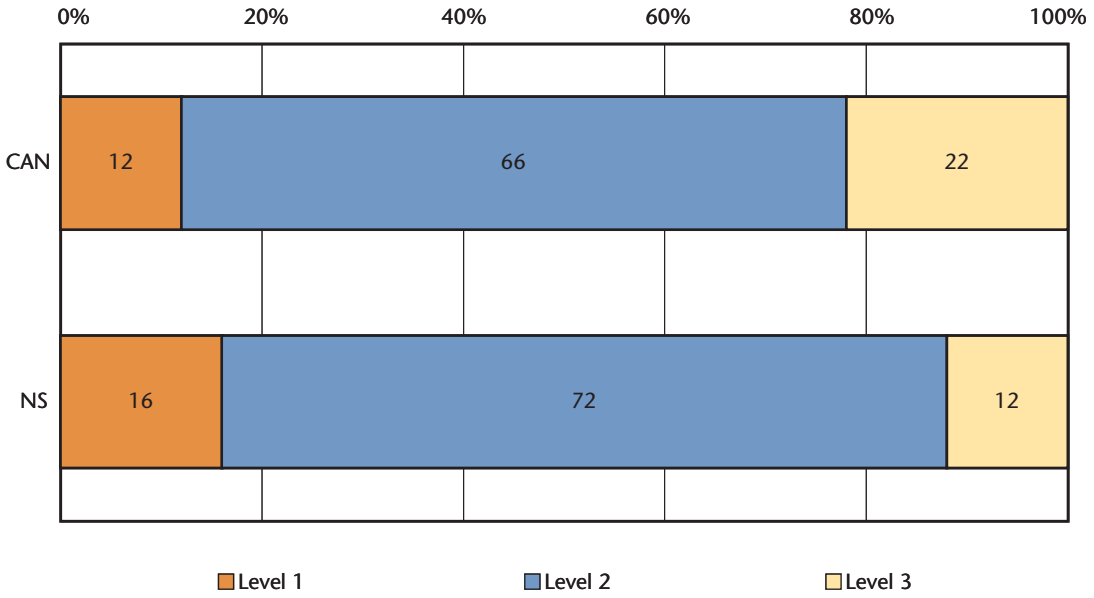
Jurisdiction	Mean score and confidence interval
CANf	524 ± 5
NSf	**477 ± 10**

Considering confidence intervals, the mean score for Nova Scotia students responding in French in reading is significantly lower than that obtained by Canadian students responding in French overall.

[13] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Nova Scotia: Comparison of results in reading by levels

Chart NS2



The proportion of Nova Scotia students performing at level 2 and above is approximately 4 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is approximately 4 percentage points higher than the performance of Canadian students overall.

Canada — Nova Scotia: Comparison of results in reading by levels, by language

Table NS(E)2

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANe	12	70	18
NSe	16	72	12

The proportion of Nova Scotia students responding in English performing at level 2 and above is approximately 4 percentage points lower than that of Canadian students responding in English overall.

The proportion of students responding in English at level 1 is approximately 4 percentage points higher than that of Canadian students responding in English overall.

Table NS(F)2

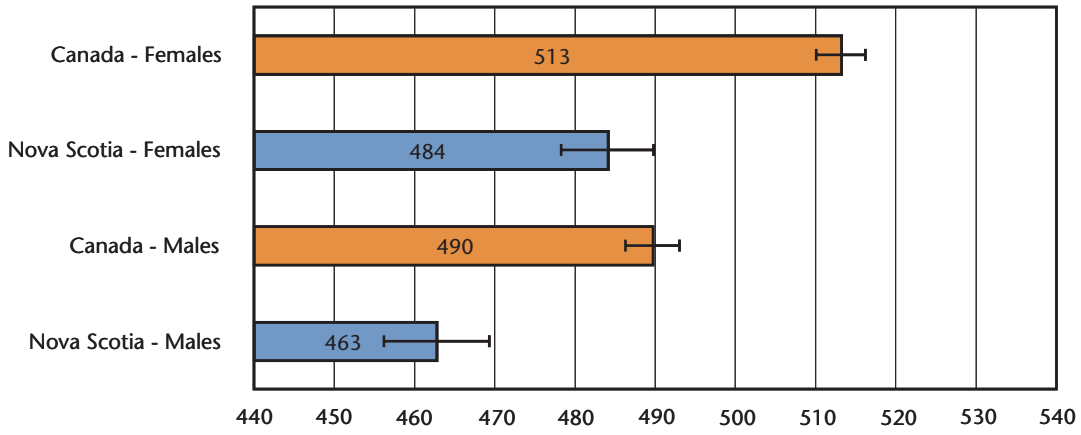
Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)
CANf	11	55	34
NSf	17	67	16

The proportion of Nova Scotia students responding in French at level 2 and above is about 6 percentage points lower than that of Canadian students responding in French overall.

The proportion of students responding in French at level 1 is about 6 percentage points higher than that of Canadian students responding in French overall.

Canada — Nova Scotia: Comparison of results in reading by gender

Chart NS3



Considering confidence intervals, the mean score for Nova Scotia male students is significantly lower than that obtained by Canadian male students overall.

As well, the mean score for female students is significantly lower than that obtained by Canadian female students overall.

Canada — Nova Scotia: Comparison of results in reading by subdomain

Table NS3

Subdomain	CAN	NS
Comprehension	500 ± 2	**481 ± 4**
Interpretation	500 ± 2	**468 ± 4**
Response to text	500 ± 2	**470 ± 4**

Considering confidence intervals, the mean scores for Nova Scotia students are significantly lower in Interpretation and Response to text than the mean score in Comprehension. The mean scores are significantly lower than those of Canadian students overall in all three subdomains.

Canada — Nova Scotia: Comparison of results (and confidence intervals) in reading by subdomain, by language

Table NS4

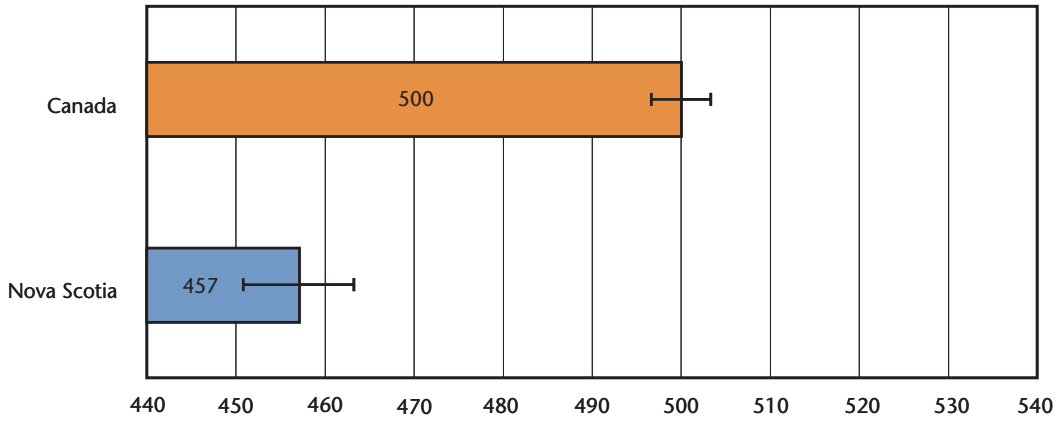
Jurisdiction	Comprehension	Interpretation	Response to text
CANe	492 ± 2	492 ± 3	495 ± 2
NSe	**482 ± 4**	**467 ± 4**	**470 ± 4**
CANf	524 ± 6	525 ± 6	516 ± 6
NSf	**480 ± 8**	**482 ± 9**	**480 ± 8**

Considering confidence intervals, the mean scores of Nova Scotia students responding in English are significantly lower in Interpretation and Response to text than in Comprehension and are significantly lower than those of Canadian students responding in English overall in all three subdomains.

The mean score of Nova Scotia students responding in French is not significantly different across all three subdomains, but is significantly lower in all three subdomains than those of Canadian students responding in French overall in all three subdomains.

Canada — Nova Scotia: Mean scores in mathematics

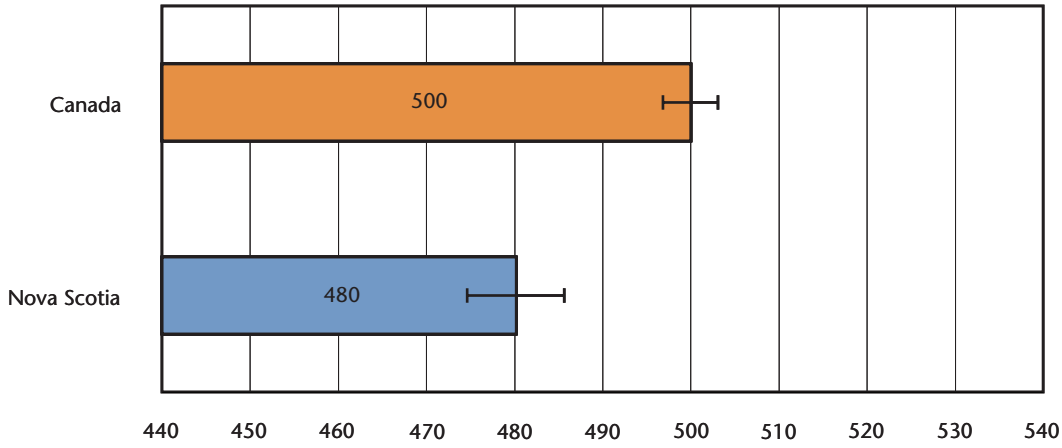
Chart NS4



Considering confidence intervals, the mean score for Nova Scotia students in mathematics is significantly lower than that of Canadian students overall

Canada — Nova Scotia: Mean scores in science

Chart NS5



Considering confidence intervals, the mean score for Nova Scotia students in science is significantly lower than that of Canadian students overall

Canada — Nova Scotia: Comparison of results in mathematics by language

Table NS(E)5

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
NSe	**457 ± 6**

Considering confidence intervals, the mean score for Nova Scotia students responding in English in mathematics is significantly lower than that of Canadian students responding in English overall.

Table NS(F)5

Jurisdiction	Mean score and confidence interval
CANf	512 ± 6
NSf	**464 ± 17**

Considering confidence intervals, the mean score for Nova Scotia students responding in French in mathematics is significantly lower than that of Canadian students responding in French overall.

Canada — Nova Scotia: Comparison of results in science by language

Table NS(E)6

Jurisdiction	Mean score and confidence interval
CANe	496 ± 4
NSe	**479 ± 6**

Considering confidence intervals, the mean score for Nova Scotia students responding in English in science is significantly lower than that of Canadian students responding in English overall.

Table NS(F)6

Jurisdiction	Mean score and confidence interval
CANf	512 ± 7
NSf	503 ± 16

Considering confidence intervals, the mean score for Nova Scotia students responding in French in science is not significantly different from that of Canadian students responding in French overall.

PRINCE EDWARD ISLAND

Context statement

Social context

Prince Edward Island (PE) is the smallest province in Canada, both in terms of land (5,684 square kilometres) and population (138,159). Ninety-nine per cent of the population speaks English. Approximately 6,000 francophone residents live in PE. Fifty-six per cent of the population is rural, with approximately 7% living on farms. The setting is predominately rural with agriculture, tourism, fishing, and manufacturing constituting the major industries. The Confederation Bridge, the world's longest continuous multi-span bridge, which opened in 1997, connects Prince Edward Island to mainland New Brunswick. (**http://www.edu.pe.ca**)

Organization of the school system

At the time of the 2007 PCAP assessment, Prince Edward Island's public school system, composed of three school boards, had an enrolment of 20,389 students in 70 public schools. Approximately 2.5% of the total student population was enrolled in six French schools, and 17% was enrolled in French immersion courses. In addition, there were three private schools, with a total of 196 students, and one First Nations–operated school. Prince Edward Island has a teaching force of approximately 1,500 teachers employed by the school boards.

The school system consists of grades 1 to 12. Students entering grade 1 must be 6 years of age by the end of August of their first school year. Prince Edward Island has a publicly funded, community-based kindergarten program, attracting approximately 97% of the province's eligible 5-year-olds. Prince Edward Island's students are accommodated within facilities that contain a number of grade configurations, including grades 1–3, 1–4, 1–6, 5–8, 4–6, 1–8, 1–9, 7–9, 9–12, and 10–12. This diversity results from demands placed on the school by the local community, the school enrolment, and existing facilities. In this province, high school consists of grades 10–12.

Language arts teaching

The Atlantic Provinces Education Foundation English Language Arts Curriculum document articulates the vision for Language Arts instruction on Prince Edward Island as the vehicle to enabling and encouraging students to become reflective, articulate, and literate individuals. Learning outcomes are arranged into six unifying and interrelated strands: speaking, listening, reading, viewing, writing, and representing. Instruction is designed to engage students in a range of experiences to help them develop increasing control over the language processes, to use and respond to language effectively and purposefully, and to appreciate why language and literacy are so central to their lives. (**http://www.gov.pe.ca/photos/original/ed_eng_found.pdf**)

Language arts assessment

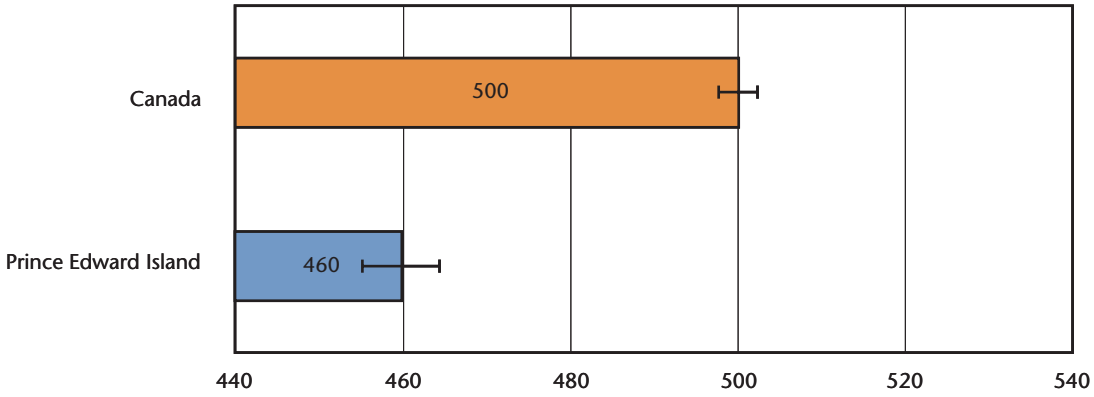
In 2006–07, PE introduced a Common Assessment Program. The Primary Literacy Assessment (reading and writing) is administered to all grade 3 students. In addition, teachers are encouraged to use a multi-faceted approach within their classrooms, to

integrate assessment with instruction, and to use the collected information to inform students, parents, and other school personnel about student progress. (**http://www.gov.pe.ca/educ/index.php3?number=1017793&lang=E**)

Results in reading

Canada — Prince Edward Island: Mean scores in reading

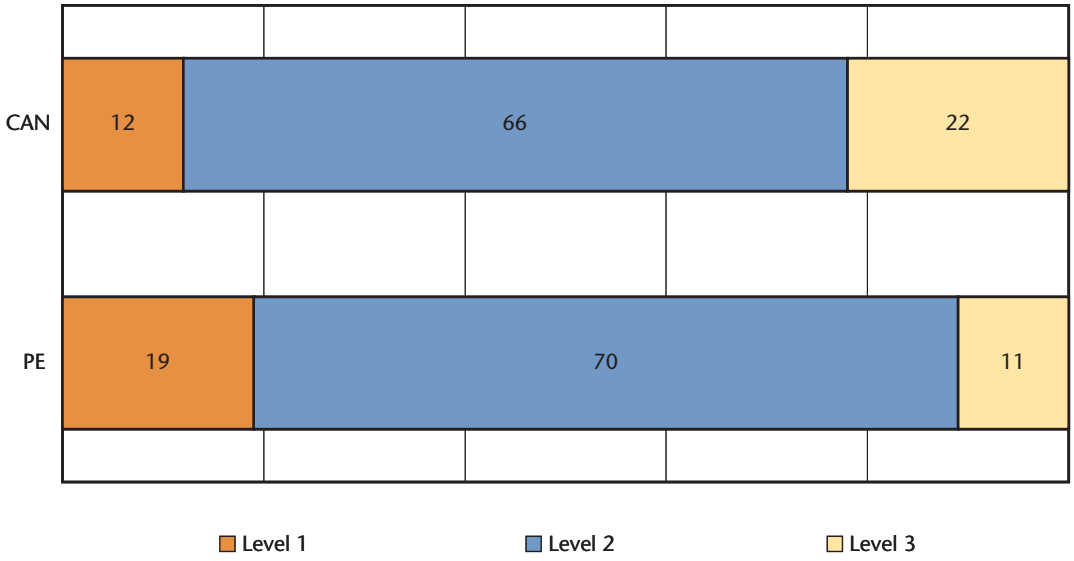
Chart PE1



Considering confidence intervals, the mean score for Prince Edward Island students in reading is significantly lower than that of Canadian students overall.

Canada — Prince Edward Island: Comparison of results in reading by levels

Chart PE2

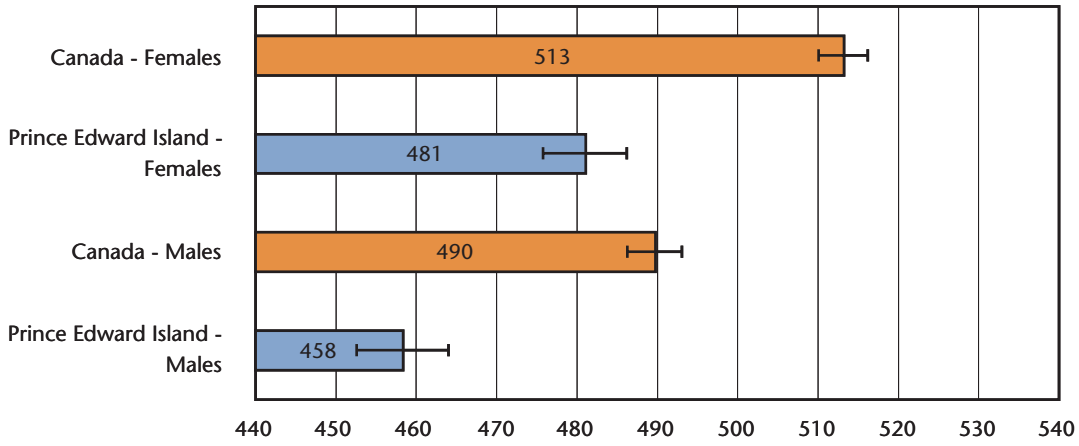


The proportion of students performing at level 2 and above is approximately 7 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is approximately 7 percentage points higher than that of Canadian students overall.

Canada — Prince Edward Island: Comparison of results in reading by gender

Chart PE3



Considering confidence intervals, the mean score for Prince Edward Island male students is significantly lower than that obtained by Canadian male students overall.

As well, the mean score for female students is significantly lower than that obtained by Canadian female students overall.

Canada — Prince Edward Island: Comparison of results (and confidence intervals) in reading by subdomain

Table PE1

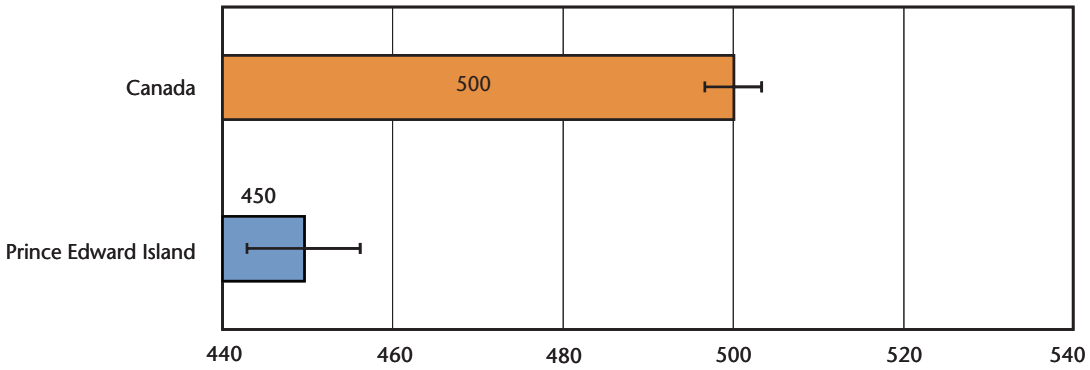
Subdomain	CAN	PE[14]
Comprehension	500 ± 2	**474 ± 4**
Interpretation	500 ± 2	**458 ± 4**
Response to text	500 ± 2	**459 ± 4**

Considering confidence intervals, the mean scores for Prince Edward Island students are significantly lower in Interpretation and Response to text than the mean score in Comprehension, and significantly lower than those of Canadian students overall in all three subdomains.

[14] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Prince Edward Island: Mean scores in mathematics

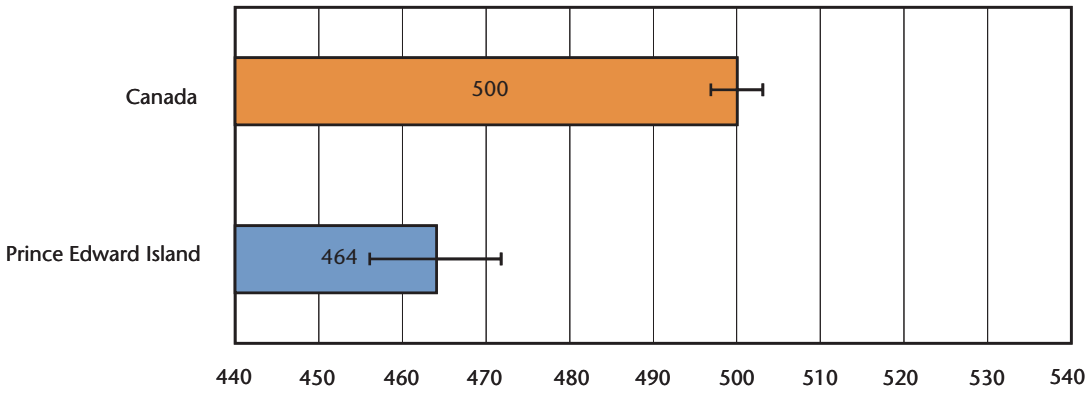
Chart PE4



Considering confidence intervals, the mean score for Prince Edward Island students in mathematics is significantly lower than that obtained by Canadian students overall.

Canada — Prince Edward Island: Mean scores in science

Chart PE5



Considering confidence intervals, the mean score for Prince Edward Island students in science is significantly lower than that of Canadian students overall.

NEWFOUNDLAND AND LABRADOR

Context statement

Social context

In Newfoundland and Labrador, there are approximately 510,000 people spread over a large geographical area. The population of rural areas has been declining, while the population of urban areas, such as the capital city of St. John's, has been rising to a point where it currently contains 36% of the total population of the province. The declining population in the rural communities, along with the large size of the province, provides many challenges for the delivery of educational programs and services. However, the increased activity in oil exploration, mining, and tourism, the economy is expected to increase significantly with a predicted growth in the GDP of 8.5% by the end of 2007. As well, employment is expected to increase by 1.2% for the same time period.

Organization of the school system

The province's education system is made up of five public school districts and six private schools. One of these school districts is francophone. The districts contain 281 schools with a total student enrolment of approximately 72,000 and 5,443 school-based educators. The Avalon Peninsula on the eastern part of the province comprises 50% of the provincial student enrolment. Early French immersion (K–12) is offered in all four anglophone public school districts, and late French immersion (7–12) is offered in two of these districts. Approximately 9.8% of the total student population is enrolled in either early or late French immersion. School entry is compulsory for children who are 6 years of age by December 31; however, most children enter kindergarten if they are 5 years old by that date. Typically, 13-year-olds are in grade 8.

Language arts teaching

Students in Newfoundland and Labrador learn English language arts through the Atlantic Provinces Education Foundation (APEF) outcomes from kindergarten to level III. In Newfoundland and Labrador, the APEF outcomes have been regionalized by the provincial Department of Education to meet local needs.

The curriculum is organized around 10 general curriculum outcomes and 6 strands (speaking and listening, reading and viewing, and writing and other ways of representing). Students work on the same general curriculum outcomes throughout their school careers. The specific curriculum outcomes increase in scope and expectation every year to reflect the developing abilities of the students.

Generally, there is a common curriculum for all students in grades K–9. At the senior high level, students have an option of completing a general- or academic-level program.

Language arts assessments

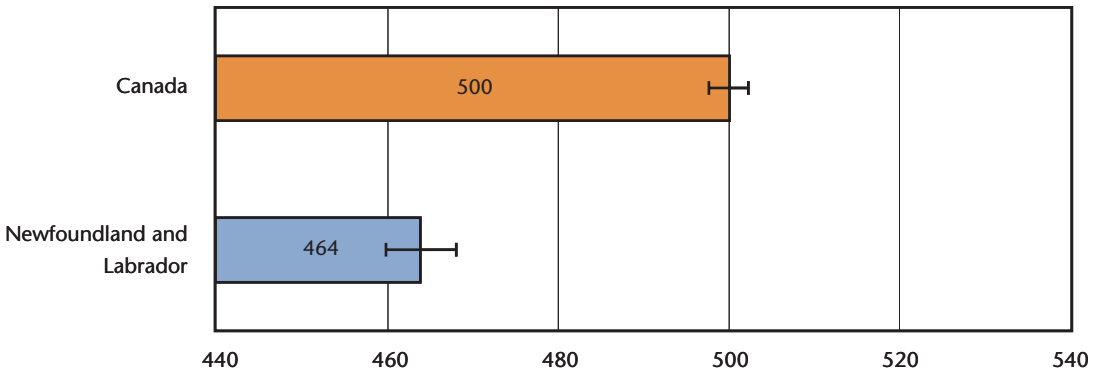
Newfoundland and Labrador administers standardized provincial assessments each year at the end of primary, elementary, and intermediate levels in an effort to improve student learning. Students are assessed in the learning strands of the English language arts outcomes as outlined in the APEF curriculum documents. Provincial assessments are constructed to measure student learning in all strands of the English language arts program. Reading portions of the assessment involve student responses to a range of reading prompts in informational, visual, narrative, and poetic texts.

There is also a provincial examination administered to those students completing the academic English language arts program. This examination is worth 50% of a student's final grade and is marked by a panel of teachers at the end of the school year.

More information about the Newfoundland and Labrador K–12 education system can be found on the Department of Education Web site at **http://www.gov.nl.ca/edu**.

Canada — Newfoundland and Labrador: Mean scores in reading

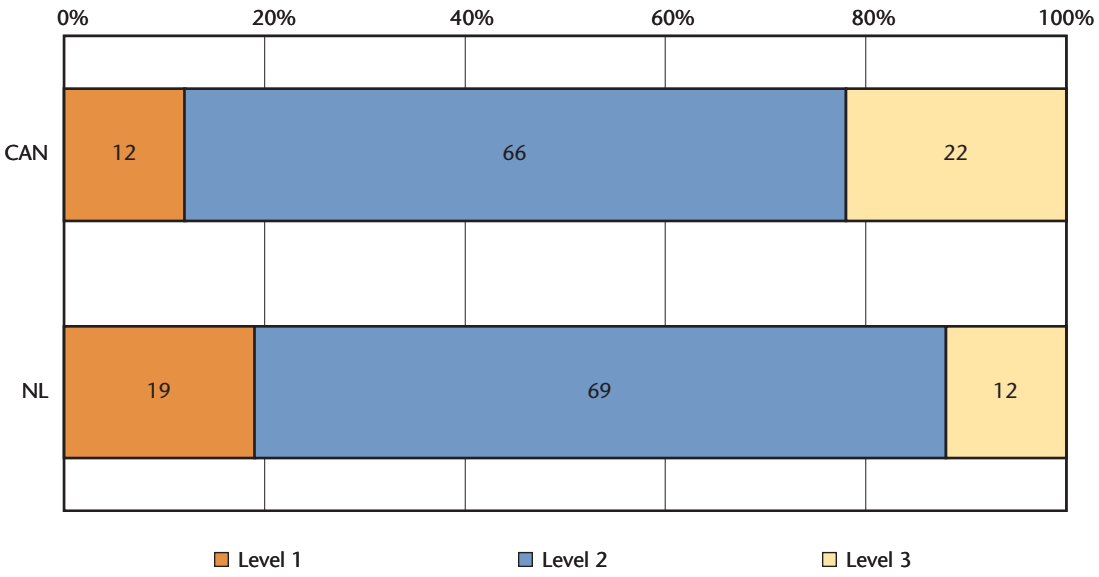
Chart NL1



Considering confidence intervals, the mean score for Newfoundland and Labrador students in reading is significantly lower than that of Canadian students overall.

Canada — Newfoundland and Labrador: Comparison of results in reading by levels

Chart NL2

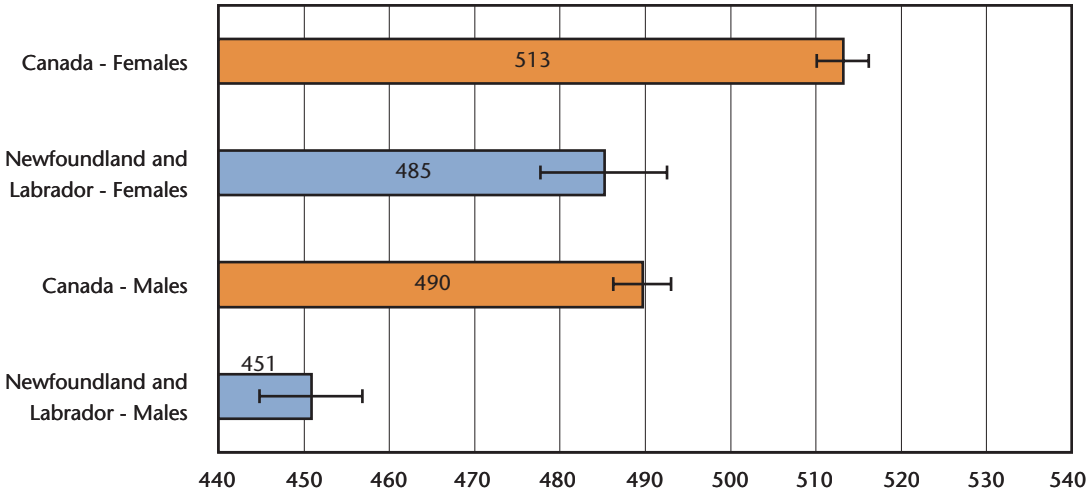


The proportion of Newfoundland and Labrador students performing at level 2 and above is about 7 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is approximately 7 percentage points higher than that of Canadian students overall.

Canada — Newfoundland and Labrador: Comparison of results in reading by gender

Chart NL3



Considering confidence intervals, the mean score for Newfoundland and Labrador male students is significantly lower than that of Canadian males overall.

The mean score for female students is significantly lower than that of Canadian female students overall.

Canada — Newfoundland and Labrador: Comparison of results (and confidence intervals) in reading by subdomain

Table NL1

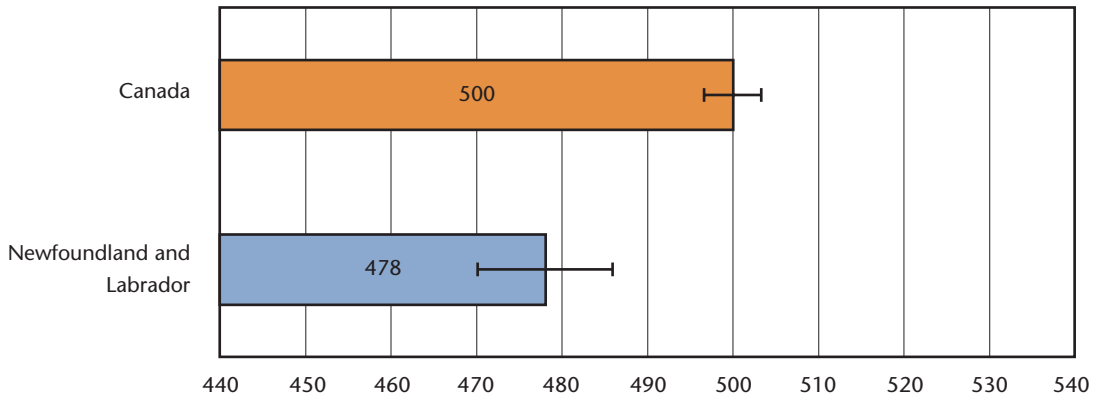
Subdomain	CAN	NL[15]
Comprehension	500 ±2	**465 ± 4**
Interpretation	500 ±2	**469 ± 5**
Response to text	500 ±2	**470 ± 5**

Considering confidence intervals, the mean scores of Newfoundland and Labrador students are not significantly different across all subdomains but are significantly lower than that of Canadian students overall in each of the three subdomains.

[15] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Newfoundland and Labrador: Mean scores in mathematics

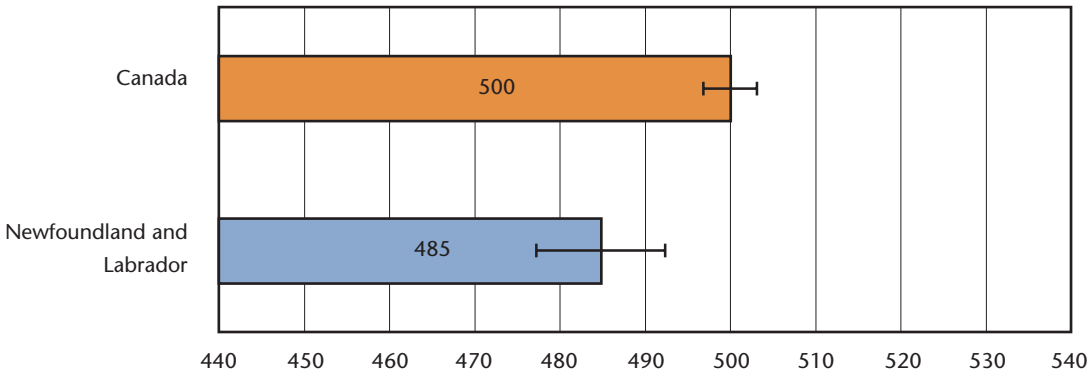
Chart NL4



Considering confidence intervals, the mean score for Newfoundland and Labrador students in mathematics is significantly lower than that of Canadian students overall.

Canada — Newfoundland and Labrador: Mean scores in science

Chart NL5



Considering confidence intervals, the mean score for Newfoundland and Labrador students in science is significantly lower than that obtained by Canadian students overall.

YUKON

Context statement

Social context

The Yukon has a total land area of 483,450 square kilometres and a population of 32,212. The population of Whitehorse, the capital city is 24,041, and the remaining population is divided among the 19 rural communities. (**http://www.gov.yk.ca/aboutyukon/index.html**)

Organization of the school system

There are 28 schools with a total enrolment from kindergarten to grade 12 of about 5,000 students at the time of writing. One-half of the schools (14) are designated as rural schools. These schools typically have low student populations, several multi-level classes, and low pupil-teacher ratios. Many rural schools do not offer grades 11 and 12 and may have fewer optional programs offered in the secondary grades.

Unlike most jurisdictions in Canada, there are no school taxes in Yukon, and there is only one school board, the one for École Émilie-Tremblay, the territory's only French school. School superintendents work for the Department of Education, which is responsible for most aspects of school operations. Almost every school has a school council, a body that has some but not all the powers of a school board, including the responsibility for school rules, school plans, and dispute resolution, to name a few.

Yukon follows the British Columbia curriculum in all subject areas. This curriculum is sometimes modified — with departmental approval — to reflect local needs and conditions. As well, up to 20% of a student's educational program may be locally developed. Schools are organized in two segments: elementary (K to 7), and secondary (8 to 12). There are three Catholic schools within the Yukon public school system. Instructional time allotments for each subject vary in the elementary grades but are standardized to 120 hours per course for grades 8 to 12.

Approximately 30% of Yukon students are of First Nations ancestry. These students often participate in Native language programs and/or in various locally developed courses aimed at developing awareness, appreciation, and knowledge of First Nations culture and traditions. The remainder of the student population is predominantly of European or British ancestry. Approximately 9% of Yukon students are enrolled in a French immersion program, while 2.5% attend the francophone school. (**http://www.education.gov.yk.ca/**)

Language arts teaching

The Yukon curriculum for language arts is based on the integrated resource packages produced by British Columbia. From kindergarten to grade 12, curriculum is organized into several learning outcomes: to comprehend and respond, to communicate information and ideas, and to understand self and society. Students are required to communicate their ideas through print and non-print media and to think and respond critically to information and literature. (**http://www.education.gov.yk.ca/psb/curriculum.html**)

Language arts assessment

Various assessment strategies are used to measure student progress. Yukon utilizes a Language Arts Achievement Test at grades 3, 6, and 9, and departmental exams at the grade 10 and 12 levels for English. The achievement test consists of two major sections, the first being reading comprehension and the second a narrative and functional component. (**http://www.education.gov.yk.ca/psb/assessment/index.html**)

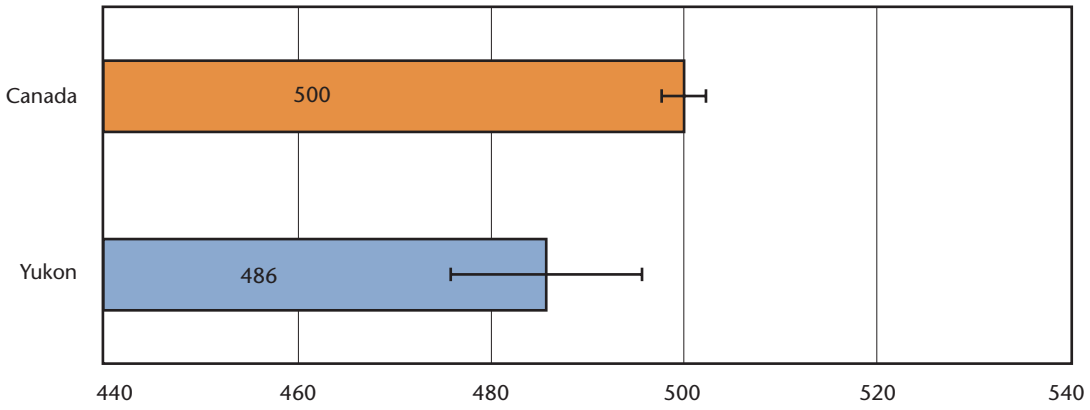
Link with PCAP assessment

All Yukon 13-year-old students participated in the 2007 PCAP assessment. The sample size for the territory was relatively large because of the small population size; that is, the sample was, in fact, the entire population of Yukon 13-year-olds.

Results in reading

Canada — Yukon: Mean scores in reading

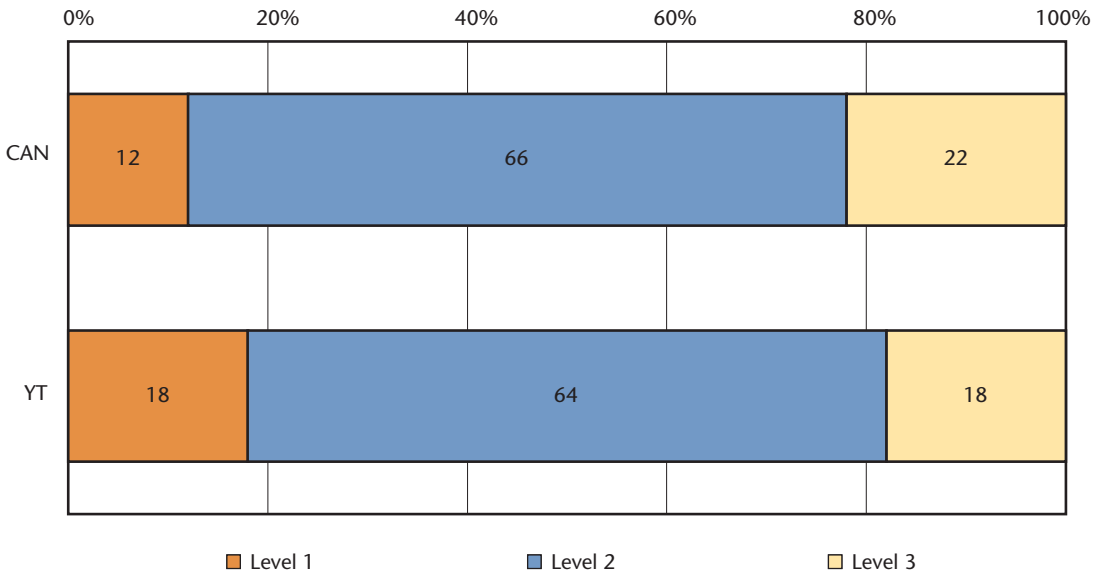
Chart YT1



Considering confidence intervals, the mean score for Yukon students in reading is significantly lower than that of Canadian students overall.

Canada — Yukon: Comparison of results in reading by levels

Chart YT2

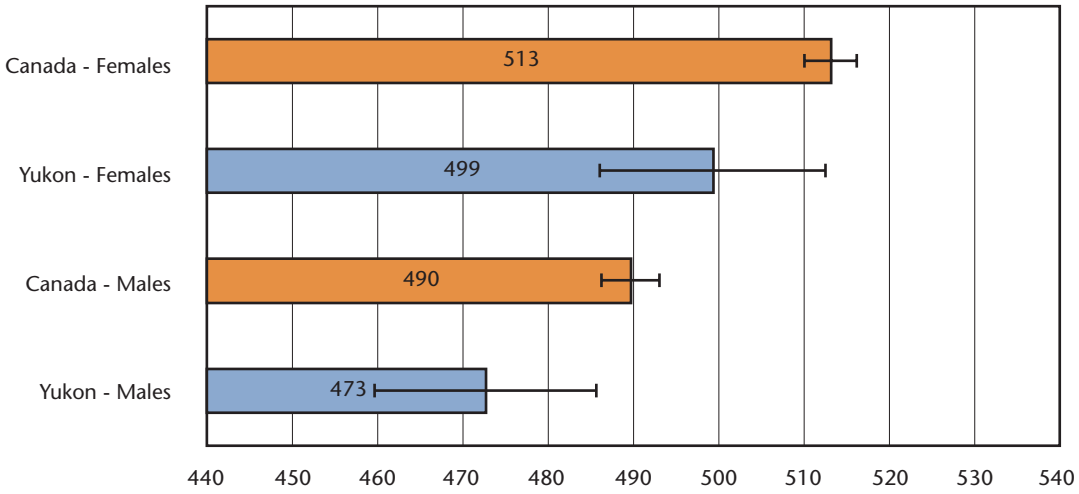


The proportion of students performing at level 2 and above is about 6 percentage points lower than that of Canadian students overall.

The proportion of students performing at level 1 is about 6 percentage points higher than that of Canadian students overall.

Canada — Yukon: Comparison of results in reading by gender

Chart YT3



Considering confidence intervals, the mean score for Yukon male students is significantly lower than that of Canadian males overall.

The mean score for females is not significantly different from that of Canadian females overall.

Canada — Yukon: Comparison of results (and confidence intervals) in reading by subdomain

Table YT1

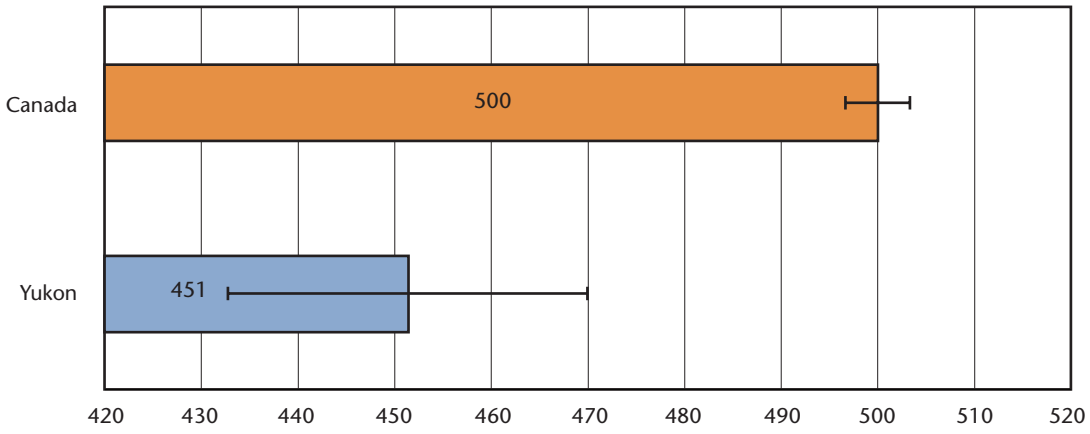
Subdomain	CAN	Yukon[16]
Comprehension	500 ± 2	**479 ± 9**
Interpretation	500 ± 2	489 ± 10
Response to text	500 ± 2	493 ± 11

Considering confidence intervals, the mean scores of Yukon students are not significantly different across the three subdomains. In Comprehension, the score of Yukon students is significantly lower than that of Canadian students overall. In both Interpretation and Response to text, the mean scores of Yukon students are not significantly different from those of Canadian students overall

[16] Mean scores in bold are statistically significantly different from that of Canada overall.

Canada — Yukon: Mean scores in mathematics

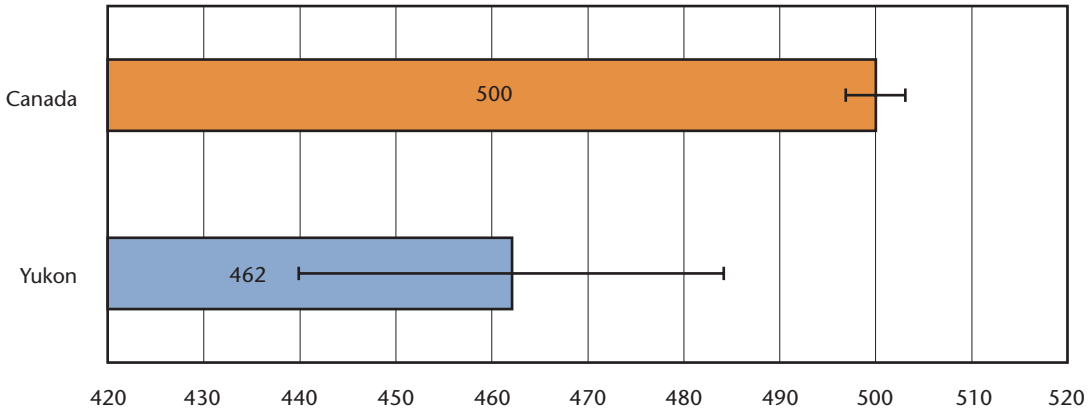
Chart YT4



Considering confidence intervals, the mean score for Yukon students in mathematics is significantly lower than that of Canadian students overall.

Canada — Yukon: Mean scores in science

Chart YT5



Considering confidence intervals, the mean score for Yukon students in science is significantly lower than that of Canadian students overall.

6 PCAP-13 QUESTIONNAIRES

The PCAP-13 Assessment 2007 included three questionnaires, one for participating students, one for the teachers, and one for the principals who were directly associated with them. The overarching structure of the three questionnaires was derived from the well-known Wang-Haertel-Walberg synthesis of research on factors associated with school learning. Attention was also paid to issues known to be on the Pan-Canadian Education Research Agenda (PCERA). In 2007, these questionnaires also focused on the particular need to capture factors associated with reading achievement.

The questionnaires are intended to contextualize the assessment results. They include some core descriptive data useful for both policy and research; for example, student SES, school demographics, teacher qualifications. Various topics also addressed policy-relevant issues. Some questions focus on the assessment's major domain, reading, with the inclusion of questions about teaching and learning strategies and behaviours. Other questions are in areas that support the directions identified by ministries and departments of education, even if these do not have obvious links to achievement in the major domain. The intended purpose of this selection of topics is to provide information useful in research applicable to reading.

Core questions

The core section included a limited number of questions for descriptive purposes and for comparison or control variables in research models. Some of the topics addressed include student gender, student grade, home language, teacher and school demographics, school governance, and socioeconomic status. In all, approximately 35 questions distributed throughout the three questionnaires addressed these topics.

Gender differences in reading

A few questions dealing with gender differences in reading were included in order to uncover some explanations of the phenomenon of gender differences by focusing explicitly on differential treatment of boys and girls in school and differential reading-related behaviours outside of school.

Time allocation and use

Because of the strong theoretical and empirical basis for time as a contributor to achievement, a set of questions dealt with the length of the school year, time lost for various reasons, and time spent on subject areas. Included under this topic were questions that dealt specifically with engagement in school in general and in reading in particular.

Special needs

A set of questions addressed some of the research and policy issues surrounding how to treat students with learning disabilities or other difficulties that might inhibit their progress in school. The broad policy context is the strong movement in most jurisdictions toward inclusion of these students in regular classes. This is one area that was identified as a priority research area in PCERA.

Assessment programs

Because many jurisdictions have implemented jurisdictional assessment programs in order to improve and not merely to describe achievement or entrench current levels, a set of questions was dedicated to the examination of assessment practices and the uses made of jurisdictional assessments.

Attitudes/Motivations

A minimal number of items were included to permit use of attitudes and motivations as control variables in research on teaching and learning strategies. These questions dealt with attitudes toward school and reading as well as self-concept and interests.

Student learning strategies

The questions in this key area linked to the reading assessment framework dealt with student cognitive strategies in reading, that is, the reading strategies that students use when confronting different texts and different levels of difficulty.

Teaching strategies

Another small set of questions dealt with teaching perceptions purporting to contribute to reading achievement. Additional information about teaching strategies was gathered by asking students about their attendance at school and about their teacher's classroom practices (subject-specific).

Opportunity to learn

Since opportunity to learn has often been considered one of the better predictors of achievement, a small set of questions were dedicated to the determination of the students' individual history of being taught reading and parental activities related to opportunities to learn.

One interesting feature of the PCAP-13 Reading Assessment 2007 results is that the linkage of student performance to the three questionnaires will permit direct association of the output data (performance results) to the contextual elements for which information was gathered.

7 CONCLUSIONS

The Pan-Canadian Assessment Program is the most recent CMEC initiative to inform Canadians on how well their education systems may be meeting the needs of students and society. As well, the information gained from such an assessment gives each minister of education a basis for examining the curriculum and other aspects of their school system.

This report describes the performance of 13-year-olds in the first administration of the Pan-Canadian Assessment Program in Reading, Mathematics and Science. The primary focus or major domain was reading while the secondary or minor domains were mathematics and science. The reading component encompasses more of the actual curricula of all Canadian jurisdictions, while the science and mathematics components contain questions on a limited number of associated subdomains.

Overview of results

Test design

Based on a review of contemporary research and the curricula from all jurisdictions in each subject area for the age group, the development process for the test included a bilingual framework writing team, a bilingual item development team, a validation process, and field testing, all under the constant review of and feedback from the jurisdictions and their particular subject experts.

The data in this case indicate that the design and content instrument were sound, engaging students effectively and providing reliable and valid data on specific pan-Canadian curriculum-based objectives. The range of text types and subject matter appears to have engaged students sufficiently to allow them to demonstrate their proficiency in reading, science, and mathematics.

Performance

In reading, Ontario and Quebec were at or above the Canadian mean score. The majority of Canadian students perform academically in reading at or above age-level expectations; for example, in reading, 88% of students performed at level 2 and above. In all jurisdictions, the percentage range of achievement in reading was 81% to 90% at level 2 and above.

In both mathematics and science, Alberta, Ontario, and Quebec were at or above the Canadian mean score, which reflects the results of previous international tests.

Performance by gender

Echoing current research and assessment findings from provincial, pan-Canadian, and international assessments, female students in the PCAP-13 Reading Assessment

have a significantly higher mean score than male students. However, when these scores are examined as three levels of performance, the vast majority of both male and female students perform at level 2 and above, although female students show stronger performances at level 3. In other words, although there are just as many males as females reading at the appropriate age level, there seem to be more female readers who are strong readers than there are males who are strong readers.

In the science and mathematics assessment, there are no significant differences in the performances of male and female students overall.

Key elements of the reading instrument and the results

The "extended-constructed-response" item represented one-third of the demands of the test booklets in reading. It was an opportunity for students to apply reading knowledge and skills to a single integrated act of reading. This item assessed all three subdomains of reading (Comprehension, Interpretation, Response to Text) which are the overarching objectives of reading curricula across Canada. Student responses provided significant data about the degree of success that Canadian 13-year-olds can demonstrate in achieving these objectives. The data indicate that, generally, in all jurisdictions, 13-year-olds engage the three subdomains consistently or to an equal degree. The majority of students appeared to acknowledge and attend to the demands of all three reading subdomains with some success.

In addition, these three reading skills were assessed individually through selected-response items and through short constructed-response items. Regardless of the overall mean score in each of the subdomains, the majority of students in most jurisdictions demonstrated a consistent performance in each of the three subdomains.

The majority of students appear to understand that a reader engages the text and constructs meaning. This performance suggests that Canadian jurisdictions are addressing these demands and practices in reading, and that the majority of students understand that these are the requirements for reading well.

The PCAP 2007 results provide both affirmation and direction for Canadian jurisdictions and classrooms. While students appear to understand what is expected of them in reading and appear to practise the keys aspects when reading, there is room for improvement in the quality and clarity of their interpretation of and reflection on a text. As well, there are sufficient numbers of students al level 1 for whom reading of this nature is still an elusive activity.

Participation in the testing process can be a demanding exercise. The PCAP does not provide student results on an individual basis, which means that it can appear to be of no immediate consequence to them. Therefore, it is a tribute to the students and the teachers who participated in the administration process that they so readily applied themselves to the tasks demanded of them.

Overall, the PCAP testing reaffirms that the CMEC large-scale assessment projects offer innovative and contemporary direction on education policy, curriculum, and classroom practices.

APPENDIX

Reading

Table A-1 **Pan-Canadian results in reading**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	486	4.1
Alberta	491	4.1
Saskatchewan	471	4.1
Manitoba	472	3.9
Ontario	502	4.2
Quebec	526	5.7
New Brunswick	464	3.2
Nova Scotia	471	4.1
Prince Edward Island	460	4.6
Newfoundland and Labrador	464	4.1
Yukon	486	9.9
Canada	500	2.3

Table A-2 **Pan-Canadian results in reading by language — English**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	486	4.6
Alberta (E)	491	4.0
Saskatchewan (E)	471	4.0
Manitoba (E)	476	4.6
Ontario (E)	503	4.6
Quebec (E)	479	5.4
New Brunswick (E)	466	3.9
Nova Scotia (E)	471	3.9
Prince Edward Island (E)	459	4.0
Newfoundland and Labrador (E)	464	5.1
Yukon (E)	486	10.6
Canada (E)	492	2.7

Table A-3 **Pan-Canadian results in reading by language — French**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	473	13.9
Alberta (F)	505	7.5
Manitoba (F)	436	7.7
Ontario (F)	478	5.3
Quebec (F)	532	6.3
New Brunswick (F)	458	3.9
Nova Scotia (F)	477	10.3
Canada (F)	524	4.9

Table A-4 **Comparison of performance in reading by jurisdiction, by gender***

Jurisdiction	Male	95% Confidence interval	Female	95% Confidence interval	Difference (Female - Male)
British Columbia	481	6.1	496	5.8	**15**
Alberta	482	5.6	502	5.8	**20**
Saskatchewan	465	4.7	481	5.5	**16**
Manitoba	465	5.1	482	5.7	**17**
Ontario	492	5.7	513	6.6	**21**
Quebec	512	8.1	544	7.7	**32**
New Brunswick	450	4.2	478	4.3	**28**
Nova Scotia	463	6.6	484	5.7	**21**
Prince Edward Island	458	5.7	481	5.2	**23**
Newfoundland and Labrador	451	6.0	485	7.4	**34**
Yukon	473	13.0	499	13.2	**26**
Canada	490	3.4	513	3.1	**23**

*Only those students who provided this information are included in the analysis. Overall 351 students are not included in this analysis.

Table A-5 **Distribution of levels in reading — Canada overall**

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)	Total (%)
British Columbia	13	71	16	100
Alberta	11	72	17	100
Saskatchewan	14	77	9	100
Manitoba	16	71	13	100
Ontario	11	67	22	100
Quebec	10	56	34	100
New Brunswick	19	69	12	100
Nova Scotia	16	72	12	100
Prince Edward Island	19	70	11	100
Newfoundland and Labrador	19	69	12	100
Yukon	18	64	18	100
Canada	12	66	22	100

Table A-6 **Distribution of levels in reading by language — English**

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)	Total (%)
British Columbia (E)	13	71	16	100
Alberta (E)	11	73	16	100
Saskatchewan (E)	14	77	9	100
Manitoba (E)	15	72	13	100
Ontario (E)	10	67	23	100
Quebec (E)	16	70	14	100
New Brunswick (E)	17	72	11	100
Nova Scotia (E)	16	72	12	100
Prince Edward Island (E)	19	70	11	100
Newfoundland and Labrador (E)	19	69	12	100
Yukon (E)	17	65	18	100
Canada (E)	12	70	18	100

Table A-7 **Distribution of levels in reading by language — French**

Jurisdiction	Level 1 (%)	Level 2 (%)	Level 3 (%)	Total (%)
British Columbia (F)	22	55	23	100
Alberta (F)	14	58	28	100
Manitoba (F)	31	58	11	100
Ontario (F)	19	62	19	100
Quebec (F)	9	54	37	100
New Brunswick (F)	24	62	14	100
Nova Scotia (F)	17	67	16	100
Canada (F)	11	55	34	100

Table A-8 **Comparison of overall Canadian performance in reading by level, by gender***

	Level 1 (%)	Level 2 (%)	Level 3 (%)	Total (%)
Male	13	68	19	100
Female	9	65	26	100
Canada	12	66	22	100

*Only those students who provided this information are included in the analysis. Overall 351 students are not included in this analysis.

Table A-9 **Pan-Canadian results in reading by subdomain — Comprehension**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	489	4.6
Alberta	493	4.0
Saskatchewan	480	4.4
Manitoba	480	4.3
Ontario	498	4.6
Quebec	525	5.6
New Brunswick	474	3.2
Nova Scotia	481	4.4
Prince Edward Island	474	4.2
Newfoundland and Labrador	465	4.2
Yukon	479	8.8
Canada	500	2.3

Table A-10 **Pan-Canadian results in reading by subdomain — Interpretation**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	486	5.0
Alberta	491	4.1
Saskatchewan	469	4.0
Manitoba	472	4.2
Ontario	503	4.7
Quebec	526	5.4
New Brunswick	462	3.0
Nova Scotia	468	4.1
Prince Edward Island	458	4.0
Newfoundland and Labrador	469	4.6
Yukon	489	9.7
Canada	500	2.3

Table A-11 **Pan-Canadian results in reading by subdomain — Response to text**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	489	4.9
Alberta	494	4.3
Saskatchewan	471	3.7
Manitoba	473	4.6
Ontario	505	4.5
Quebec	517	5.4
New Brunswick	466	3.0
Nova Scotia	470	4.0
Prince Edward Island	459	3.9
Newfoundland and Labrador	470	5.2
Yukon	493	11.3
Canada	500	2.3

Table A-12 **Pan-Canadian results in reading by language, by subdomain (English) — Comprehension**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	489	4.9
Alberta (E)	493	4.2
Saskatchewan (E)	480	4.0
Manitoba (E)	483	4.8
Ontario (E)	499	4.7
Quebec (E)	483	6.3
New Brunswick (E)	475	4.2
Nova Scotia (E)	482	4.3
Prince Edward Island (E)	473	4.1
Newfoundland and Labrador (E)	466	4.4
Yukon (E)	479	11.6
Canada (E)	492	2.2

Table A-13 **Pan-Canadian results in reading by language, by subdomain (English) — Interpretation**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	486	4.2
Alberta (E)	491	4.1
Saskatchewan (E)	469	4.0
Manitoba (E)	475	4.8
Ontario (E)	503	4.0
Quebec (E)	477	6.1
New Brunswick (E)	463	4.3
Nova Scotia (E)	467	3.9
Prince Edward Island (E)	457	3.8
Newfoundland and Labrador (E)	469	4.5
Yukon (E)	489	10.6
Canada (E)	492	2.6

Table A-14 **Pan-Canadian results in reading by language, by subdomain (English) — Response to text**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	489	4.3
Alberta (E)	493	4.2
Saskatchewan (E)	471	4.2
Manitoba (E)	476	4.8
Ontario (E)	506	4.3
Quebec (E)	482	5.7
New Brunswick (E)	467	4.3
Nova Scotia (E)	470	3.9
Prince Edward Island (E)	458	3.7
Newfoundland and Labrador (E)	470	4.8
Yukon (E)	494	10.9
Canada (E)	495	2.5

Table A-15 **Pan-Canadian results in reading by language, by subdomain (French) — Comprehension**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	479	13.7
Alberta (F)	503	6.6
Manitoba (F)	445	8.2
Ontario (F)	477	5.1
Quebec (F)	531	5.9
New Brunswick (F)	472	3.6
Nova Scotia (F)	480	8.3
Canada (F)	524	5.8

Table A-16 **Pan-Canadian results in reading by language, by subdomain (French) — Interpretation**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	483	14.7
Alberta (F)	509	6.5
Manitoba (F)	444	7.8
Ontario (F)	482	5.8
Quebec (F)	532	6.6
New Brunswick (F)	459	4.0
Nova Scotia (F)	482	9.1
Canada (F)	525	5.6

Table A-17 **Pan-Canadian results in reading by language, by subdomain (French) — Response to text**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	469	14.9
Alberta (F)	499	6.7
Manitoba (F)	445	7.8
Ontario (F)	484	5.5
Quebec (F)	522	5.6
New Brunswick (F)	462	3.6
Nova Scotia (F)	480	8.4
Canada (F)	516	5.8

TABLE A-18 **Comparison of performance in reading by jurisdiction, by subdomain, and by gender* — Comprehension**

Jurisdiction	Male	95% Confidence interval	Female	95% Confidence interval	Difference (Female - Male)
British Columbia	491	6.5	492	5.4	**1**
Alberta	491	6.4	498	6.4	**7**
Saskatchewan	477	5.6	485	6.4	**8**
Manitoba	477	5.4	484	5.9	**8**
Ontario	496	5.8	502	6.8	**6**
Quebec	523	7.9	533	6.8	**11**
New Brunswick	466	4.3	484	4.6	**17**
Nova Scotia	479	7.0	491	5.7	**12**
Prince Edward Island	477	5.6	490	5.1	**13**
Newfoundland and Labrador	461	6.0	480	7.2	**19**
Yukon	465	15.9	494	12.9	**29**
Canada	498	3.4	506	3.4	**8**

*Only those students who provided this information are included in the analysis. Overall 351 students are not included in this analysis.

TABLE A-19 **Comparison of performance in reading by jurisdiction, by subdomain, and by gender* — Interpretation**

Jurisdiction	Male	95% Confidence interval	Female	95% Confidence interval	Difference (Female - Male)
British Columbia	477	6.4	498	6.7	**21**
Alberta	480	6.1	503	5.9	**23**
Saskatchewan	462	4.8	478	5.7	**16**
Manitoba	465	5.5	481	6.0	**17**
Ontario	491	6.3	515	7.0	**24**
Quebec	511	7.5	544	7.6	**33**
New Brunswick	447	4.1	476	4.3	**29**
Nova Scotia	457	6.2	482	6.0	**24**
Prince Edward Island	453	5.9	478	5.2	**25**
Newfoundland and Labrador	454	6.3	491	7.6	**37**
Yukon	475	12.9	502	12.4	**26**
Canada	488	3.7	514	3.6	**26**

*Only those students who provided this information are included in the analysis. Overall 351 students are not included in this analysis.

TABLE A-20 **Comparison of performance in reading by jurisdiction, by subdomain, and by gender* — Reaction to text**

Jurisdiction	Male	95% Confidence interval	Female	95% Confidence interval	Difference (Female - Male)
British Columbia	481	6.4	500	6.0	**20**
Alberta	483	6.2	505	5.8	**22**
Saskatchewan	462	5.0	483	5.8	**20**
Manitoba	465	5.2	483	6.2	**18**
Ontario	495	6.8	516	7.0	**21**
Quebec	501	7.8	536	7.2	**36**
New Brunswick	452	4.4	479	4.0	**28**
Nova Scotia	461	6.2	481	6.2	**20**
Prince Edward Island	453	5.8	477	5.1	**24**
Newfoundland and Labrador	453	6.3	491	7.8	**38**
Yukon	488	12.9	498	15.4	**11**
Canada	488	3.6	513	3.5	**25**

*Only those students who provided this information are included in the analysis. Overall 351 students are not included in this analysis.

Mathematics

TABLE A-21 **Pan-Canadian results in mathematics**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	484	6.5
Alberta	499	6.7
Saskatchewan	461	6.4
Manitoba	479	6.2
Ontario	506	5.7
Quebec	517	7.3
New Brunswick	461	5.3
Nova Scotia	457	6.2
Prince Edward Island	450	6.6
Newfoundland and Labrador	478	7.9
Yukon	451	18.6
Canada	500	3.4

TABLE A-22 **Pan-Canadian results in mathematics by language — English**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	484	6.7
Alberta (E)	500	6.8
Saskatchewan (E)	461	6.3
Manitoba (E)	479	7.7
Ontario (E)	508	6.8
Quebec (E)	510	9.9
New Brunswick (E)	462	5.9
Nova Scotia (E)	457	6.0
Prince Edward Island (E)	449	8.2
Newfoundland and Labrador (E)	478	7.0
Yukon (E)	448	19.2
Canada (E)	496	4.3

TABLE A-23 **Pan-Canadian results in mathematics by language — French**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	467	26.2
Alberta (F)	478	14.4
Manitoba (F)	474	14.0
Ontario (F)	471	6.1
Quebec (F)	518	7.7
New Brunswick (F)	460	6.9
Nova Scotia (F)	464	17.3
Canada (F)	512	6.4

TABLE A-24 **Comparison of overall Canadian performance in mathematics by gender***

Gender	Mean score	95% Confidence interval
Male	501	5.2
Female	501	4.9
Canada	500	3.4

*Only those students who provided this information are included in the analysis. Overall 192 students are not included in this analysis.

Science

Table A-25 **Pan-Canadian results in science**

Jurisdiction	Mean score	95% Confidence interval
British Columbia	488	6.3
Alberta	524	6.5
Saskatchewan	480	6.5
Manitoba	476	5.7
Ontario	499	5.4
Quebec	511	7.1
New Brunswick	465	4.9
Nova Scotia	480	5.5
Prince Edward Island	464	7.8
Newfoundland and Labrador	485	7.6
Yukon	462	22.2
Canada	500	3.1

Table A-26 **Pan-Canadian results in science by language — English**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (E)	488	6.8
Alberta (E)	524	5.8
Saskatchewan (E)	480	7.1
Manitoba (E)	477	7.8
Ontario (E)	499	6.5
Quebec (E)	467	9.6
New Brunswick (E)	468	6.0
Nova Scotia (E)	479	5.9
Prince Edward Island (E)	464	7.5
Newfoundland and Labrador (E)	485	7.2
Yukon (E)	458	21.4
Canada (E)	496	4.1

TABLE A-27 **Pan-Canadian results in science by language — French**

Jurisdiction	Mean score	95% Confidence interval
British Columbia (F)	475	31.9
Alberta (F)	514	16.0
Manitoba (F)	470	12.7
Ontario (F)	485	6.3
Quebec (F)	516	9.0
New Brunswick (F)	460	6.4
Nova Scotia (F)	503	16.5
Canada (F)	512	7.0

TABLE A-28 **Comparison of overall Canadian performance in science by gender***

Gender	Mean score	95% Confidence interval
Male	500	5.0
Female	502	5.2
Canada	500	3.1

*Only those students who provided this information are included in the analysis. Overall 192 students are not included in this analysis.

Data on student participation

TABLE A-29 **Students' participation and exemption**

	Absent		Students participating in the assessment		Students exempted because of low abilities		Student and Parent Refusal		Other*		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
British Columbia (E)	212	7.0	2,488	82.7	111	3.7	67	2.2	132	4.4	3,010	100
British Columbia (F)	15	8.6	138	78.9	14	8.0	2	1.1	6	3.4	175	100
Alberta (E)	170	5.6	2,604	85.2	107	3.5	49	1.6	127	4.2	3,057	100
Alberta (F)	12	3.9	268	86.7	14	4.5	6	1.9	9	2.9	309	100
Saskatchewan (E)	127	4.6	2,417	88.1	89	3.2	15	0.5	94	3.4	2,742	100
Saskatchewan (F)	3	5.3	54	94.7	0	0.0	0	0.0	0	0.0	57	100
Manitoba (E)	142	5.2	2,310	85.0	124	4.6	32	1.2	111	4.1	2,719	100
Manitoba (F)	24	3.2	707	93.6	12	1.6	6	0.8	6	0.8	755	100
Ontario (E)	117	4.2	2,476	89.7	71	2.6	39	1.4	57	2.1	2,760	100
Ontario (F)	112	4.7	2,132	90.1	62	2.6	27	1.1	34	1.4	2,367	100
Quebec (E)	108	5.1	1,531	72.6	11	0.5	401	19.0	59	2.8	2,110	100
Quebec (F)	129	4.7	1,775	64.7	40	1.5	753	27.4	47	1.7	2,744	100
New Brunswick (E)	153	5.5	2,315	83.9	160	5.8	20	0.7	111	4.0	2,759	100
New Brunswick (F)	123	4.8	2,189	85.5	128	5.0	46	1.8	75	2.9	2,561	100
Nova Scotia (E)	179	6.3	2,400	83.8	169	5.9	54	1.9	62	2.2	2,864	100
Nova Scotia (F)	22	6.9	286	89.7	4	1.3	2	0.6	5	1.6	319	100
Prince Edward Island (E)	105	5.6	1,659	89.1	66	3.5	5	0.3	28	1.5	1,863	100
Prince Edward Island (F)	0	0.0	21	87.5	3	12.5	0	0.0	0	0.0	24	100
Newfoundland and Labrador (E)	95	4.3	1,967	89.4	73	3.3	22	1.0	42	1.9	2,199	100
Newfoundland and Labrador (F)	0	0.0	7	100.0	0	0.0	0	0.0	0	0.0	7	100
Yukon (E)	31	9.1	252	74.3	20	5.9	2	0.6	34	10.0	339	100
Yukon (F)	2	6.5	26	83.9	0	0.0	0	0.0	3	9.7	31	100
Total	1,881	5.3	30,022	83.9	1,278	3.6	1,548	4.3	1,042	2.9	35,771	100

*The students were exempted from the assessment for the following reasons:

– excluded because interpreter not available;
– excluded for emotional reasons;
– exluded for physical reasons;
– excluded because appropriate modifications could not be made;
– excluded because of wrong birth date;
– excluded because no longer enrolled in the school.