

*Social Context*

For some years now, Quebec has been modernizing its education system in order to meet the requirements of today's society. The current education reform is the result of a democratic process. The Estates General on Education, initiated in 1995, were structured to involve people throughout Quebec in consultations on the problems in the education system, on the measures needed to remedy these problems, and on medium- and long-term adjustments required to ensure that the system adapts to the socioeconomic and sociocultural changes that are emerging as the 20th century draws to a close.

Quebec's population of over seven million is concentrated in the south of the province, mostly in its largest city, Montreal, and its capital, Quebec. The official language of Quebec is French. Francophones account for 80% of Quebec's total population. Anglophones make up about 9% and have access to a system of English educational institutions from preschool to university. There are eleven Native peoples in Quebec: eight under federal jurisdiction and three under the jurisdiction of the Quebec Ministry of Education. Both levels of government provide funding for education.

In addition, an increase in immigration, especially in the Greater Montreal area, has resulted in a massive inflow of students whose mother tongue is neither French nor English. These students attend French schools. Fully aware of the needs of this new client group, schools have implemented special measures, including initiation and francization programs and welcoming classes.

*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 10% of Quebec students are educated in English.

Elementary school is usually preceded by one year of full-time kindergarten for five-year-olds. Almost all five-year-olds attend kindergarten even though it is not compulsory. Some children from under-privileged backgrounds may have access to half-day kindergarten from the age of 4.

Elementary school lasts six years. The school year is made up of 180 days of classroom teaching. A normal school week consists of five full days and 23.5 hours of teaching. Students who experience learning difficulties or who have behavioural problems or minor disabilities are integrated into regular classrooms. Those with more significant problems attend special classes with fewer students.

Secondary school lasts five years and is divided into two levels. The school week is made up of five days and must include a minimum of 25 hours of educational activities. The first level or "cycle" (years 1 to 3) focusses on basic education. In the second cycle (years 4 and 5), students continue their general education, but also take optional courses to explore other avenues of learning before going on to college. In year 4 of secondary school, students can also undertake a two- or three-year course of vocational training leading to employment. Requirements for the secondary school or vocational training diploma are set in the basic school regulation.

At age 13, most students are in the second year of secondary school. At age 16, most are completing the fifth and final year of secondary school; some are starting their college studies.

In 1998–99, a total of 1,142,634 students were registered in Quebec's 2,892 public and private elementary and secondary schools. Of these, 2,554 are public schools run by 72 schools boards, and 338 are private schools.

### *Science Teaching*

In Quebec, science is a compulsory subject from the beginning of elementary school to the fourth year of secondary school inclusive. It is an optional subject in the fifth year of secondary school; however, students wishing to study science or enrol in certain technical programs at the college level (college in Quebec being the twelfth and thirteenth years of schooling) must pass physics and chemistry in the fifth year of secondary school.

The following optional and compulsory programs and courses are offered in Quebec's schools in compliance with the basic school regulation, which fixes the time allotment for each subject.

<i>Program</i>	<i>Status</i>	<i>Recommended Time</i>
Natural Science		
Elementary 1, 2, and 3	Compulsory	1 hour/week
Natural Science		
Elementary 4, 5, and 6	Compulsory	1.5 hours/week
Ecology, Secondary I	Compulsory	100 hours/year
Physical Science, Secondary II	Compulsory	100 hours/year
Human Biology, Secondary III	Compulsory	100 hours/year
Physical Science, Secondary IV	Compulsory	150 hours/year
General Biology, Secondary IV or V	Optional	100 hours/year
Geology, Secondary IV or V	Optional	100 hours/year
The Tools and Methods of Science, Secondary IV or V	Optional	50 hours/year
Chemistry, Secondary V	Optional	100 hours/year
Physics, Secondary V	Optional	100 hours/year

The Ministry of Education determines curriculum content in close collaboration with groups of experts in the various subjects, curriculum developers, teachers, and school board science consultants.

The science curriculum is designed to provide all students with good basic scientific and technical literacy, and to prepare some students for more advanced science or specialized technical studies. It tries to convey a real-world vision of science by highlighting the links between science, technology, society, and the environment. Through a discovery and problem-solving approach in a laboratory setting, students learn to construct concepts and acquire work methods and thought processes that prepare them for life in society.

### *Science Testing*

At the secondary level, schools develop their own tests for regularly assessing student learning in science. Students need not pass a natural science course in order to earn their secondary school diploma.

In the second cycle of secondary school (years 4 and 5), summative evaluation in physical science, chemistry, and physics involves written examinations worth 75% of the final mark and practical laboratory tests worth 25% of the final mark. The pass mark is 60%. The final mark takes into account the student's mark for work done throughout the school year and, where applicable, the student's mark on the uniform examination set by the Ministry of Education.

# Quebec (English)

## Written Assessment

Quebec 13-year-olds and Quebec 16-year-olds who responded to the assessment in English performed as well as the overall Canadian sample at all levels.

The performance of 13-year-old Quebec English-language students showed significant improvement between 1996 and 1999 at levels 3 and 4, while the performance of Quebec English-language 16-year-old students was significantly better in 1999 at levels 3, 4, and 5.

CHART 59

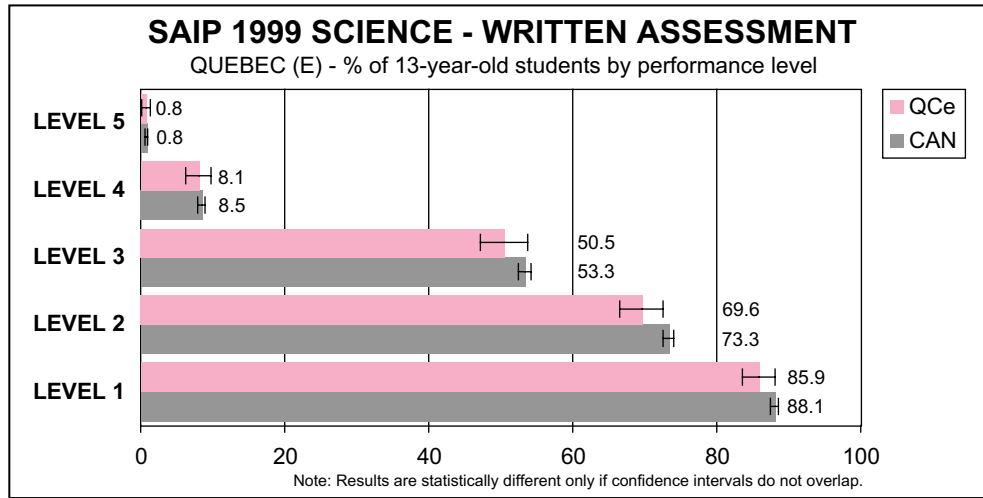
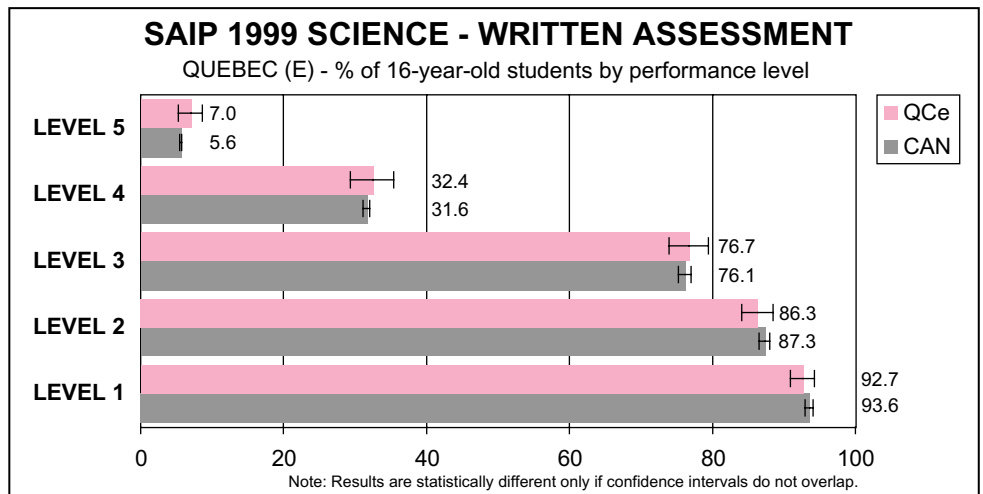


CHART 60



# Quebec (French)

## Written Assessment

Quebec 13-year-olds performed as well as at all levels as did students in the Canadian sample. Quebec 16-year-olds who wrote the assessment in French performed as well as or better than students in the Canadian sample. Slightly more Quebec 16-year-olds reached levels 1, 2, and 3 than did students in the Canadian sample.

The performance of 13-year-old Quebec French-language students showed significant improvement between 1996 and 1999 at levels 3 and 4, while the performance of Quebec French-language 16-year-old students was significantly better in 1999 at levels 3 and 5.

CHART 61

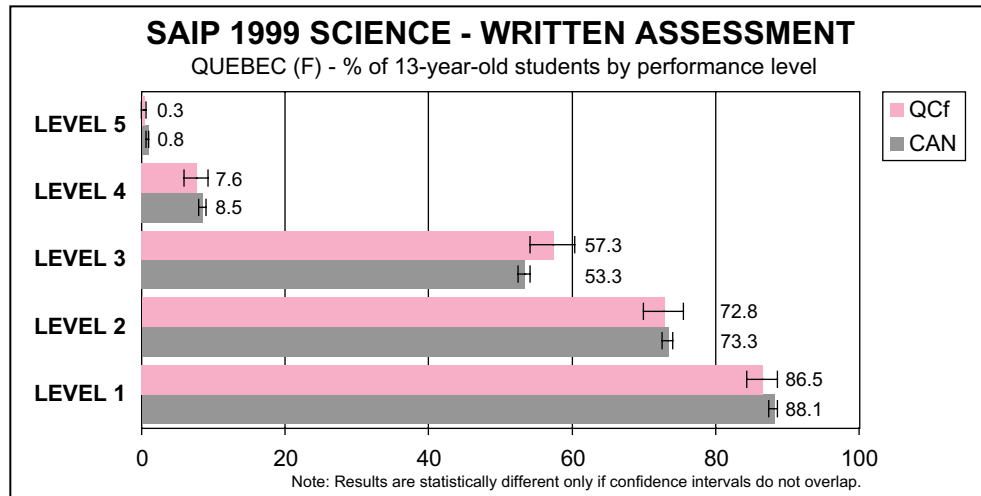
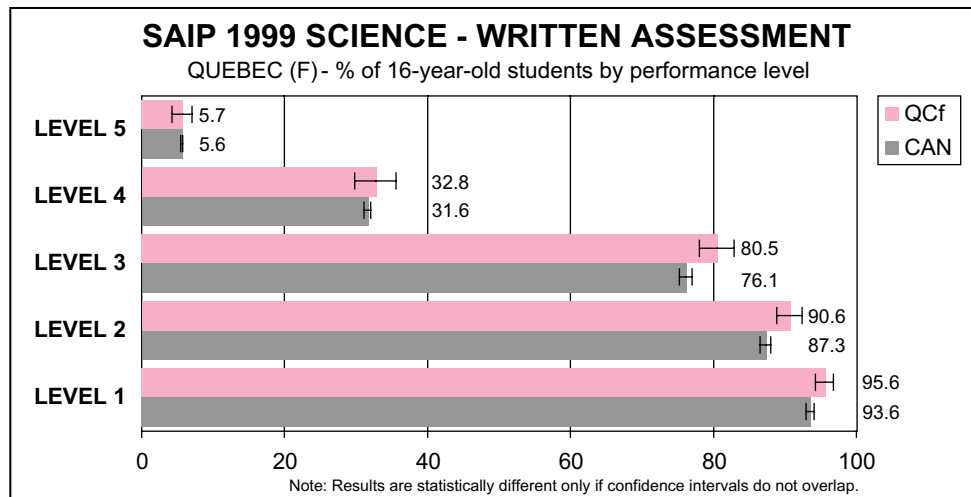


CHART 62



*Practical Task Assessment*

Quebec selected a sufficiently large sample of 16-year-olds to permit reporting at the provincial level for this population.

Quebec 16-year-olds performed as well as all levels as did students in the Canadian sample.

As Quebec did not select a large enough sample in 1996 to permit reporting at the provincial level, no direct comparison can be made between results for the two assessments.

**CHART 63**

