

Social Context

British Columbia has a population of approximately 4 million, with 82% of people living in urban areas. An issue of ongoing interest is the provision of educational services to an increasing number of students from immigrant families, three-quarters of whom are from Asian countries. Approximately 13% of the student population are enrolled in English-as-a-Second Language (ESL) classes or programs. Enrolment in ESL has increased by 279% in the last 10 years. This influx has placed heavy demands on schools in the province to provide ESL instruction, 90% of which is in the Greater Vancouver Area. A further 11% of the student population is enrolled in Special Education programs, an increase of 83% in the last 10 years.

Organization of the School System

The public school system enrolls about 614,000 students, employs about 39,000 educators, and is organized into 59 school districts that are highly diverse in both population and geography. Almost all 13-year-olds are in grade 8 or 9, where science is one of the subjects taught. Most 16-year-olds are in programs at the grade 11 or 12 level. Grade 10 is the last grade in which all students must take a common science course. At grades 11 and 12, students are required to take at least one grade 11 or 12 science course such as biology, chemistry, physics, applications of physics, geology, forests, agriculture, information technology, and science and technology.

Science Teaching

British Columbia has reviewed its science curriculum, and revisions have been incorporated into Integrated Resource Packages (IRPs), which are implemented in schools across the province. The learning outcome statements contained in the IRPs are content standards for the provincial education system. They are statements of what students are expected to know and do at an indicated grade and comprise the prescribed curriculum, which is mandated by the minister of education. However, teachers select the appropriate methods of instruction, and a wide range of teaching and learning strategies is used, based on the needs of the learner and the preferences of the teacher.

The science curriculum of British Columbia provides a foundation for the scientific literacy of citizens, for the development of a highly skilled and adaptable work force, and for the development of new technologies. It is the foundation on which teachers can develop a science program that provides a comprehensive set of knowledge, skills, and experience related to science. The intent is to encourage cooperative learning and authentic science opportunities and experiences for students.

Science Testing

In addition to participating in national and international assessments, British Columbia has, since 1976, assessed students in grades 4, 7, and 10 in mathematics, reading and writing, science, and social studies approximately every four years. As part of its provincial assessment program, the ministry has recently introduced an annual census assessment of reading comprehension, writing, and numeracy. Assessments in science and other subject areas will be conducted periodically as required and will be done on a sample basis.

All students taking chemistry, biology, physics, applications of physics, or geology at the grade 12 level are required to write Provincial Examinations, which count for 40% of their final grade.

British Columbia

In this province, all students performed as well as or better than Canadians as a whole. Slightly more 13-year-olds reached levels 1 and 3 than the Canadian average.

The performance of 13-year-old British Columbia students showed significant improvement between 1996 and 1999 at levels 3 and 4 while the performance of British Columbia 16-year-old students was significantly better in 1999 at level 3.

CHART 39

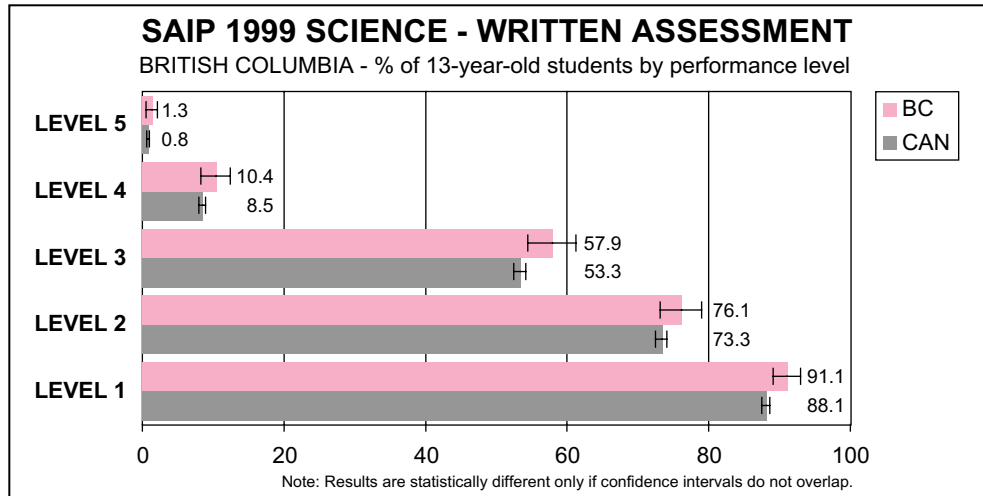


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