Social Context

In Newfoundland and Labrador, there are approximately half a million people spread over an area of about 150,000 square kilometres. Newfoundland's large size and small population provide many challenges to the delivery of education. In addition, enrolments have declined by more than 60,000 since 1972.

Though the province's economy has been negatively affected by the closure of the cod fishery in recent years, alternative fisheries have expanded, and there has been a growth in the province's economy as a result of the mining sector, tourism, and increased fisheries output.

Organization of the School System

The province's education system has changed from a church-based system to a fully public one. This has resulted in the consolidation of school boards, a reduction in the amount of duplication in the system, and the closure of many schools. As of September 1998 there were 11 publicly elected school boards, which includes one francophone board, 365 schools with a total student enrolment of 97,401, and 6,453 school-based educators.

Even though compulsory school entry age is six years old by December 31, most students enter kindergarten where they must be five by that date. Typically 13-year-olds are in grade 8, and 16-year-olds are in grade 11.

Science Teaching

Major changes have occurred in the science curriculum as a result of its alignment with the *Common Framework of Science Learning Outcomes K - 12*. This framework is guided by the vision that all Canadian students will have the opportunity to develop scientific literacy. Scientific literacy is an evoking combination of science-related attitudes, skills, and knowledge students need to develop inquiry, problem- solving, and decision-making abilities, to become lifelong learners, and to maintain a sense of wonder about the world around them.

Currently, all courses from kindergarten to grade 9, as well as high school courses, are under review or have been revised based on a framework described in the *Foundation for the Atlantic Canada Science Curriculum* which parallels the pan-Canadian outcomes. This framework includes statements of essential graduation learnings, general curriculum outcomes for science, and corresponding outcomes at the end of key stages (entry-grade 3, grades 4-6, grades 7-9, and grades 10-12). Future curriculum developments in science will use this framework to describe specific outcomes for science programs at various grade levels up to grade 9 and for courses at the high school level.

Science Testing

In Newfoundland there has been an increased emphasis on the implementation of criterion-referenced testing. Over the past ten years, provincial criterion-referenced tests in science were administered on three occasions to grade 6 students and twice to grade 9 students. Until the 1995-96 school year, at the high school level, students wrote provincial examinations in all 3000-level courses, which include biology, chemistry, physics, geology, and environmental science. Under the auspices of the APEF and in collaboration with the other Atlantic provinces, Newfoundland is currently involved with the development of senior high school tests in biology, physics, and chemistry. At present this province is administering the APEF chemistry examinations to 3000-level chemistry students in all schools within its jurisdiction.

Written Assessment

There are significant differences between the performance of Newfoundland and Labrador 13-year-olds and Canadian students overall at levels 1, 2, 3, and 4 in the written assessment. Newfoundland and Labrador 13-year-old students performed as well as students in the Canadian sample at level 5.

Newfoundland and Labrador 16-year-old students performed as well as students in the Canadian sample at levels 3, 4, and 5. There are significant differences between the performance of Newfoundland and Labrador 16-year-olds and Canadian students overall at levels 1 and 2 in the written assessment.

The performance of Newfoundland and Labrador 13-year-olds and 16-year-olds each showed significant improvement between 1996 and 1999 at level 3. Sixteen-year-olds also showed significant improvement at level 5.

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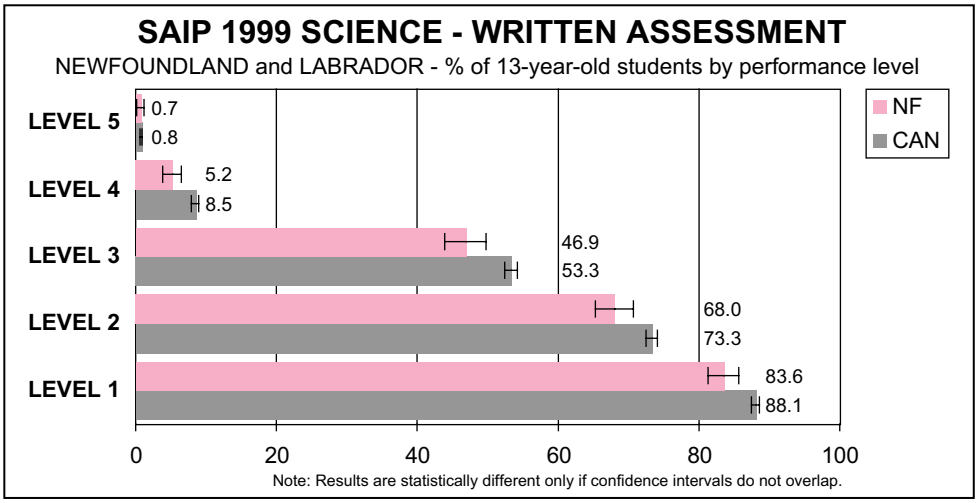

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