

Social Context

Saskatchewan has a population of approximately one million people scattered across a vast geographic area. The setting is predominately rural; about half the population lives in towns, villages, rural municipalities, or on First Nations. Agriculture, potash and uranium mining, oil production, and forestry are major industries. Saskatchewan has a diverse cultural and ethnic heritage, including a large and growing Aboriginal population.

Organization of the School System

Saskatchewan has a population of approximately 210,000 students in kindergarten to grade 12. Just over 90% attend provincially funded schools, 6.5% attend school on the First Nations, and the remainder attend independent schools or are home-schooled. In 794 provincially funded schools, 11,319 educators teach 197 days per year. In September 1998, the student to educator ratio was 16.3:1. Because the category of educators includes classroom teachers, in-school administrators, teacher-librarians, and school psychologists, the provincial student to classroom teacher ratio was 21.2:1. Saskatchewan has a large proportion of small schools, with 199, or 25%, having 100 or fewer students while another 24% have enrolments from 101 to 200 students.

Over the past decade, the province has devoted considerable effort to reforming its curricula and, since 1990, nearly one hundred new courses from kindergarten to grade 12 have been developed and introduced to classrooms across the province. These courses emphasize a wide range of knowledge, skills, attitudes, and values, including basic and advanced thinking skills.

Science Teaching

K-12 science curricula in Saskatchewan are based on the concept of scientific literacy. For Saskatchewan schools, seven Dimensions of Scientific Literacy define this concept. This philosophical basis is derived from a broad conception of the purpose of science instruction as expressed in *Science for Every Student* (Report #36, Science Council of Canada, 1984). Actively participating in K-12 science will enable a student to

- understand the nature of science and scientific knowledge as a unique way of knowing
- understand and appropriately apply the concepts, laws, principles, and theories of science when interacting with society and the environment
- use the processes of science in solving problems, making decisions, and furthering understanding
- understand the joint enterprises of science and technology, and the interrelationships of these to each other in the context of society and the environment
- develop manipulative skills (especially of measurement) associated with science and technology
- interact with the various aspects of society and the environment in a way that is consistent with the values of science
- develop a unique view of technology, society, and the environment as a result of science education, and continue to extend this interest and maintain an inquiring attitude throughout life

The study of science should help students make better sense of the world. Students create their own conceptual maps of their environments and of the ideas they encounter. They learn in their science classes that those concepts and the maps that describe the links between concepts are tentative, are subject to questioning, and can be revised through investigation.

Science Assessment and Evaluation

Classroom teachers in Saskatchewan are responsible for assessment, evaluation, and promotion of students from kindergarten through grade 11. At the grade 12 level, teachers are responsible for at least 60% of each student's final mark, and those who are 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 that they use in adapting the instruction to each class and to each student.

Written Assessment

Saskatchewan 13-year-olds and 16-year-olds performed as well as Canadian students as a whole at all levels. Slightly more 13-year-olds reached level 1 than in the Canadian sample.

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

CHART 43

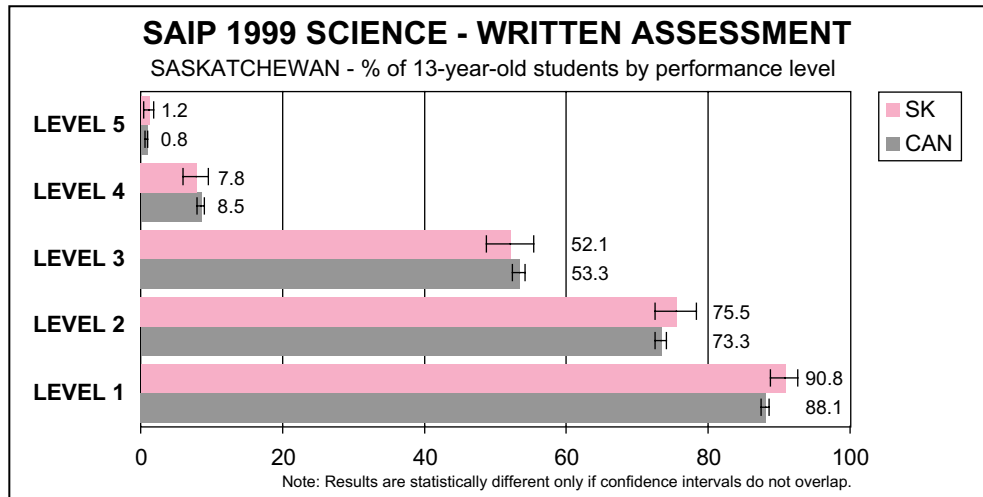
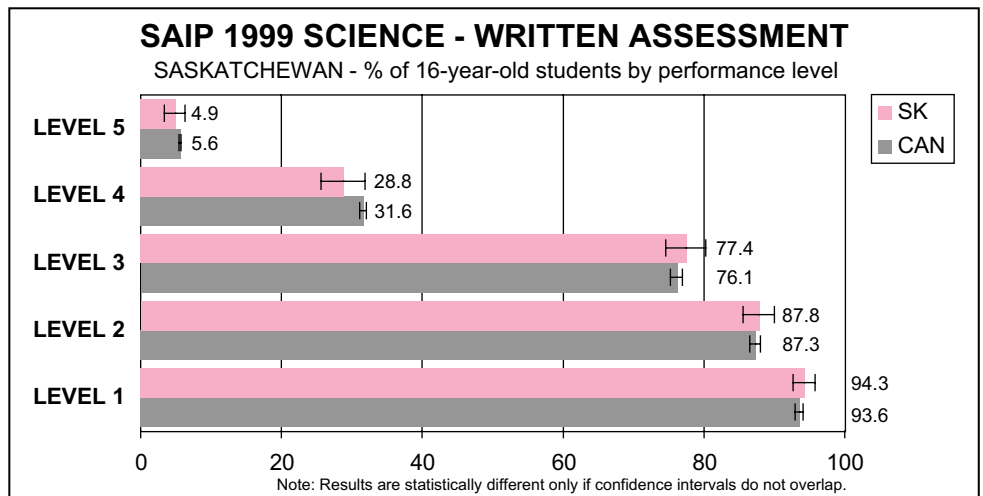


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Practical Task Assessment

As in 1996, Saskatchewan chose to administer the practical task assessment to a large enough sample of students to allow reporting at the provincial level.

Saskatchewan students in both age groups performed at least as well as students in the Canadian sample, except that slightly fewer Saskatchewan 16-year-old students reached level 4.

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

CHART 45

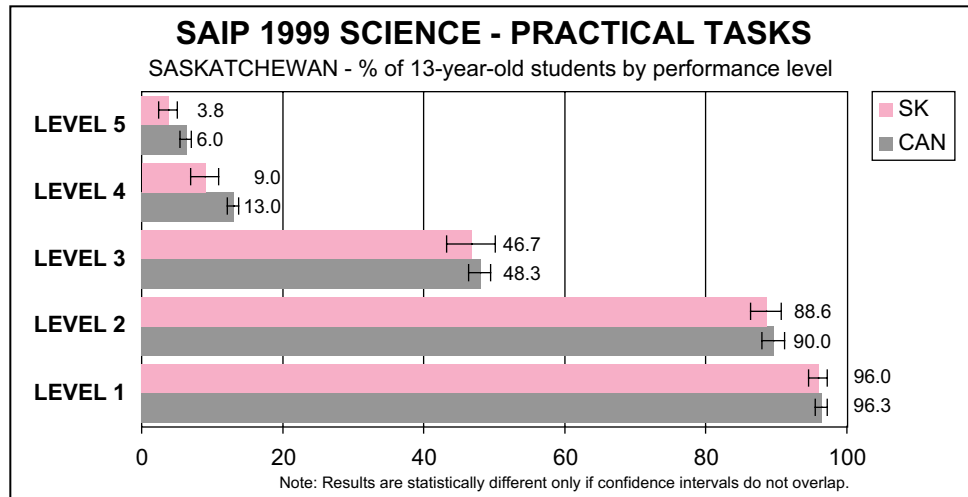


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