

Context Statement

Social Context

Yukon has a total land area of 483,450 square kilometres and a population of 30,309. The population of Whitehorse, the capital city, is 22,526, and the remaining population is divided among the 19 rural communities.

Organization of the School System

There are 28 schools with a total enrolment from kindergarten to grade 12 of 5,579. One-half of the schools (14) are designated as rural schools. These schools typically have low student enrolment, several multi-level classes, and low pupil-teacher ratios. Many rural schools do not offer grades 11 and 12 and may offer fewer optional programs in the secondary grades.

Unlike most jurisdictions in Canada, Yukon has no education taxes. The single school board is 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.

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 27% 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 6.5% of Yukon students are enrolled in a French Immersion program, while nearly 2.1% attend French school.

Mathematics Teaching

The grade 8 mathematics curriculum is divided into number and number operations (50%), data analysis (10%), geometry (20%), measurement (8%), and algebra (12%). Problem solving has no specific time allocation as problem-solving activities are integrated into the five content strands. Grade 11 mathematics is divided into four content strands: variables and equations (37%), relations and functions (25%), measurement (21%), and geometry (17%).

Mathematics Assessment

Over the past five years, a greater emphasis has been placed on problem-solving strategies and on using calculators in testing situations.

A sample of 856 students participated in the SAIP Mathematics III Assessment, representing 97% of the 13- and 16-year-olds in the territory. The sample size was relatively large because of the small population size, (the sample was, in fact, the total population of Yukon 13- and 16-year-olds).

Results for Yukon

Mathematics Content

There are significant differences between the performance of Yukon 13-year-olds and Canadian students overall at levels 1, 2, and 3 in mathematics content. Yukon 13-year-old students performed as well as students in the Canadian sample at levels 4 and 5. There are significant differences between the performance of Yukon 16-year-olds and Canadian students overall at levels 1, 2, and 5 in mathematics content. Yukon 16-year-old students performed as well as students in the Canadian sample at levels 3 and 4.

In the 2001 assessment, fewer 13-year-old students reached levels 1, 2, and 3 than in 1997. There were no significant changes in performance for 16-year-old students in mathematics content.

CHART YK1

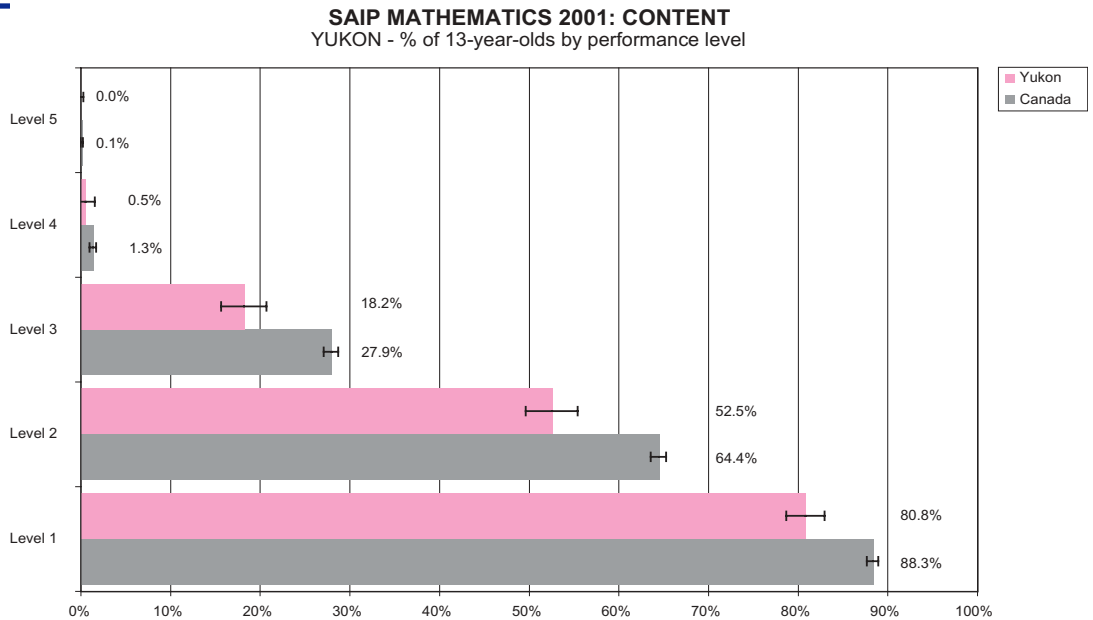
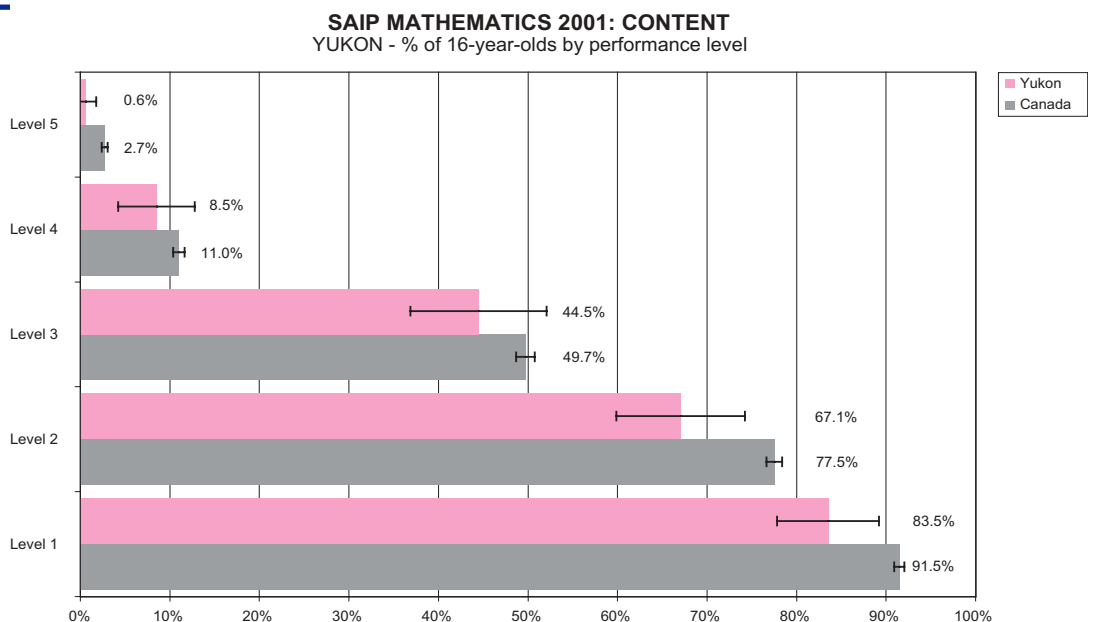


CHART YK2



Problem Solving

Yukon 13-year-old students performed as well as Canadian students overall except at level 3 in problem solving. Yukon 16-year-old students performed as well as students in the Canadian sample at levels 4 and 5. There are significant differences between the performance of Yukon 16-year-olds and Canadian students overall at levels 1, 2, and 3 in problem solving.

In the 2001 assessment, fewer 13-year-old students reached level 2 than in 1997. There were no significant changes in performance for 16-year-old students in problem solving.

CHART YK3

SAIP MATHEMATICS 2001: PROBLEM SOLVING
YUKON - % of 13-year-olds by performance level

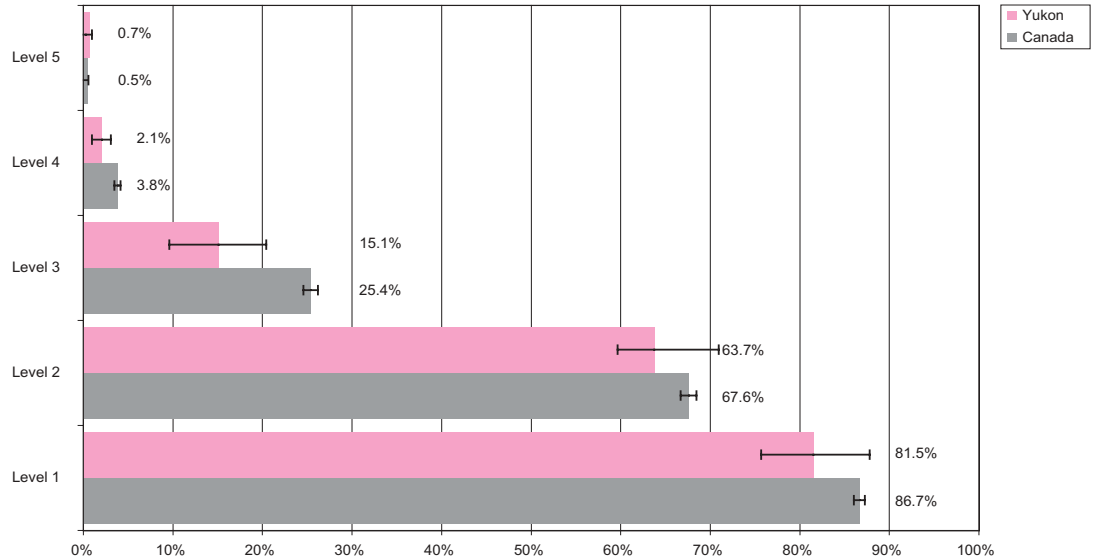
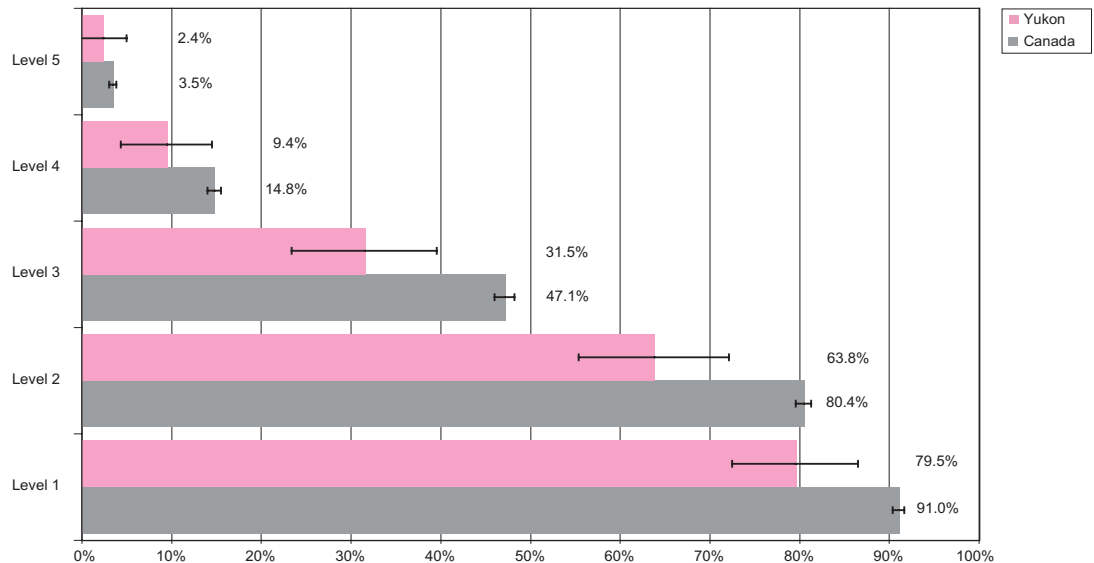


CHART YK4

SAIP MATHEMATICS 2001: PROBLEM SOLVING
YUKON - % of 16-year-olds by performance level



Context Statement

Social Context

The Northwest Territories has a land mass of 1,171,918 square kilometres. The total population is about 42,000, approximately half of whom are Aboriginal. An estimated 2% of the total population is francophone. There are 33 communities, ranging in size from 17,500 people to 36.

Most non-Aboriginal people live in the larger communities. In Yellowknife, 78% of residents are non-Aboriginal. In smaller communities, Dene, Métis, and Inuit constitute 84% of the population. Languages spoken in the Northwest Territories are Chipewyan, Cree, Dogrib, English, French, Gwich'in, Inuinnaqtun, Inuktitut, Inuvialkton, North Slavey, and South Slavey. About half of the Aboriginal people in the Northwest Territories speak an Aboriginal language. While English is primarily the language of instruction in schools, Aboriginal languages and cultures are integral to the culture-based education system of the Northwest Territories.

Organization of the School System

In 2000–01, the Northwest Territories enrolled 9,900 students in kindergarten through grade 12 and employed 645 teachers in 49 public schools. The Department of Education, Culture and Employment provides policy and curriculum direction to eight education jurisdictions. These jurisdictions implement and adapt curriculum and develop programs in order to meet the needs of all students in their district.

In recent years, the territories have implemented grade extensions in small schools. In 1990, only 73% of students could complete their high school education in their home community. That proportion had increased to 92% by 1998–99. As a result, more students are staying in school, and more young people who left school before earning a grade 12 diploma are returning to school. The challenge is to provide a choice of quality programs in schools where as few as 1 or 2 students may be enrolled in a grade. Innovative program development, use of computer technology, and distance education support many courses offered in small communities.

Mathematics Teaching

Beginning in September 1997, the Western Canadian Protocol mathematics curriculum was implemented from kindergarten through grade 9. In each successive year, the high school mathematics curriculum was extended from grade 10 through grade 12.

Students learn by attaching meaning to what they do and by learning in context. At all grade levels, students encounter mathematical experiences that proceed from simple to complex and from concrete to abstract. This enables students to construct their own understanding of the mathematics principles and apply them to new situations. Mathematical processes and the nature of mathematics is organized and taught through four strands: number, patterns and relations, shape and space, statistics and probability.

In the early years, teachers are encouraged to use manipulatives to address the diversity of learning styles and the developmental stages of the learner. At the junior secondary level, the aim is to develop an understanding of mathematical concepts by making mathematics relevant while moving from the concrete to more abstract thought processes.

Senior secondary students (grades 10–12) may enrol in one or more of four course pathways, three of which progress through to grade 12. Students may transfer between these pathways, which are designed to meet the diverse educational needs of students with different interests and aptitudes, and to provide them with the prerequisite skills for a range of postsecondary choices.

Mathematics Assessment

Currently no assessment is done on a territory-wide basis, other than Alberta Education's grade 12 diploma examinations and SAIP. A *Student Evaluation Handbook* was developed in 1993 to assist teachers in developing a variety of assessment approaches and instruments.

The *Departmental Directive: Student Assessment, Evaluation and Reporting* was approved in the spring of 2001. This directive will be implemented throughout the Northwest Territories by June 2003. The challenge will be to establish culturally appropriate ways of measuring the success of students and programs in relation to high standards of achievement in a multilingual and multicultural environment.

Results for Northwest Territories

NOTE: In 1997, the Northwest Territories' sample included schools that are now part of the Nunavut sample.

Mathematics Content

There are significant differences between the performance of Northwest Territories 13-year-olds and Canadian students overall at levels 1, 2, and 3 in mathematics content. Northwest Territories 13-year-old students performed as well as students in the Canadian sample at levels 4 and 5. There are significant differences between the performance of Northwest Territories 16-year-olds and Canadian students overall at all levels in mathematics content.

CHART NWT1

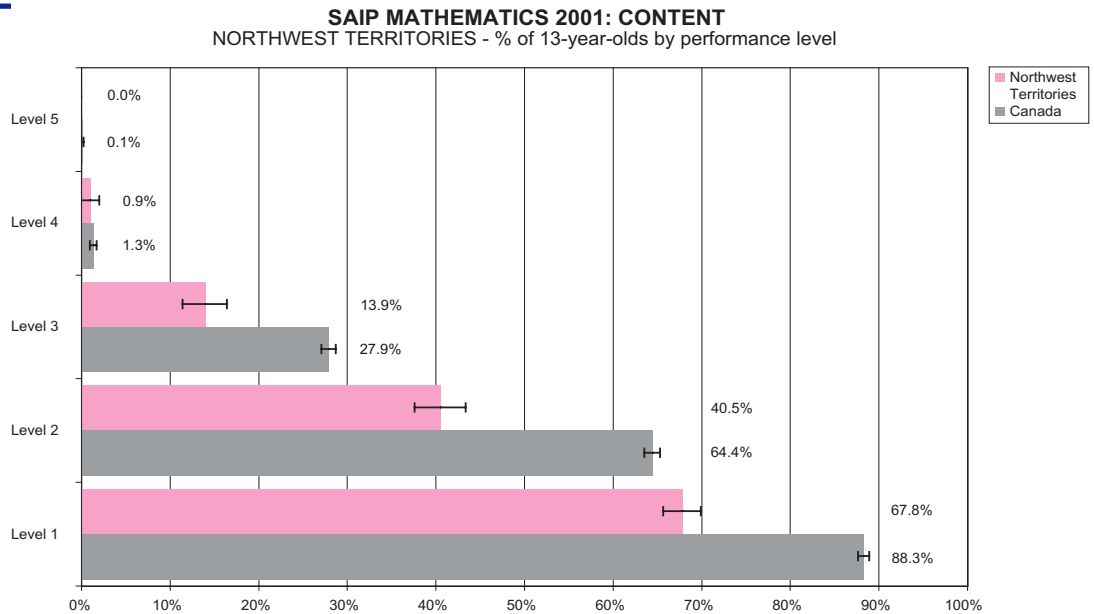
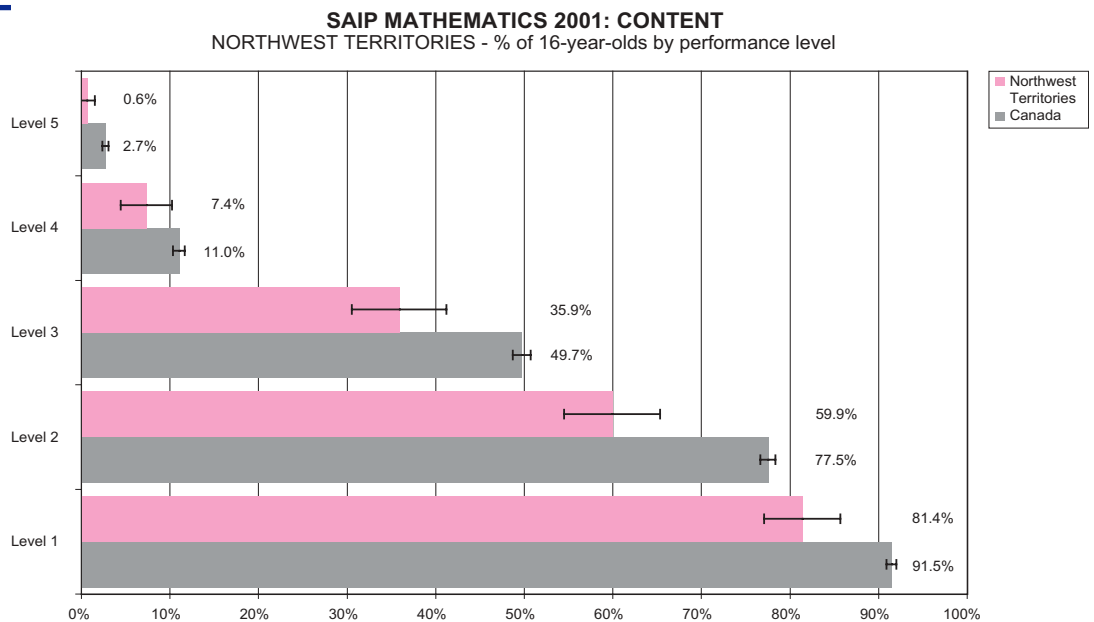


CHART NWT2



Problem Solving

There are significant differences between the performance of Northwest Territories 13-year-old and 16-year-old students and Canadian students overall at all levels in problem solving.

CHART NWT3

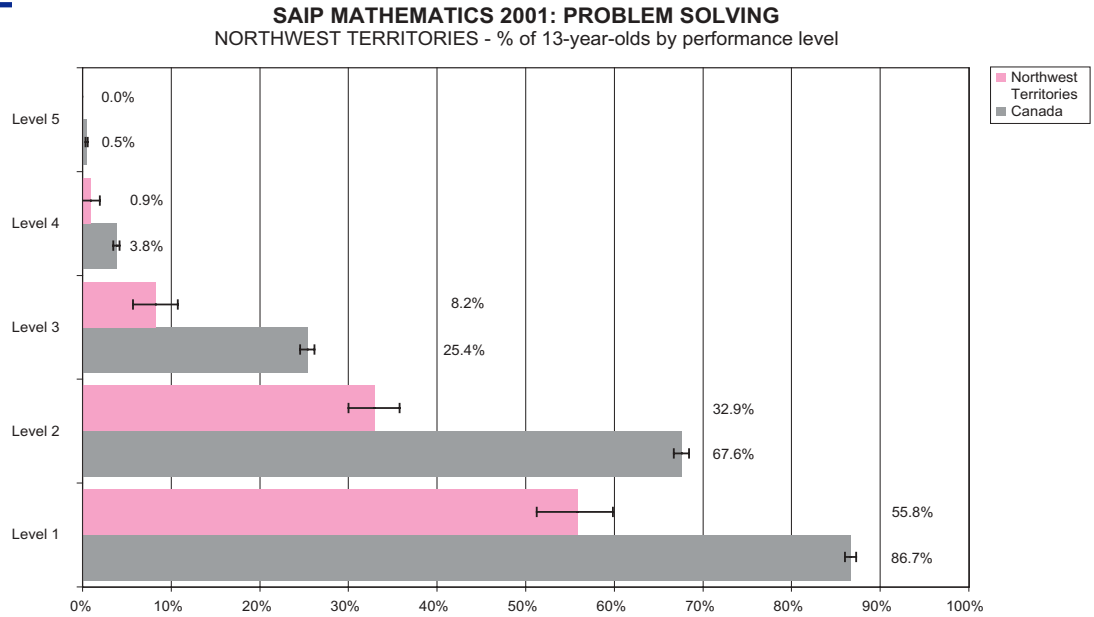
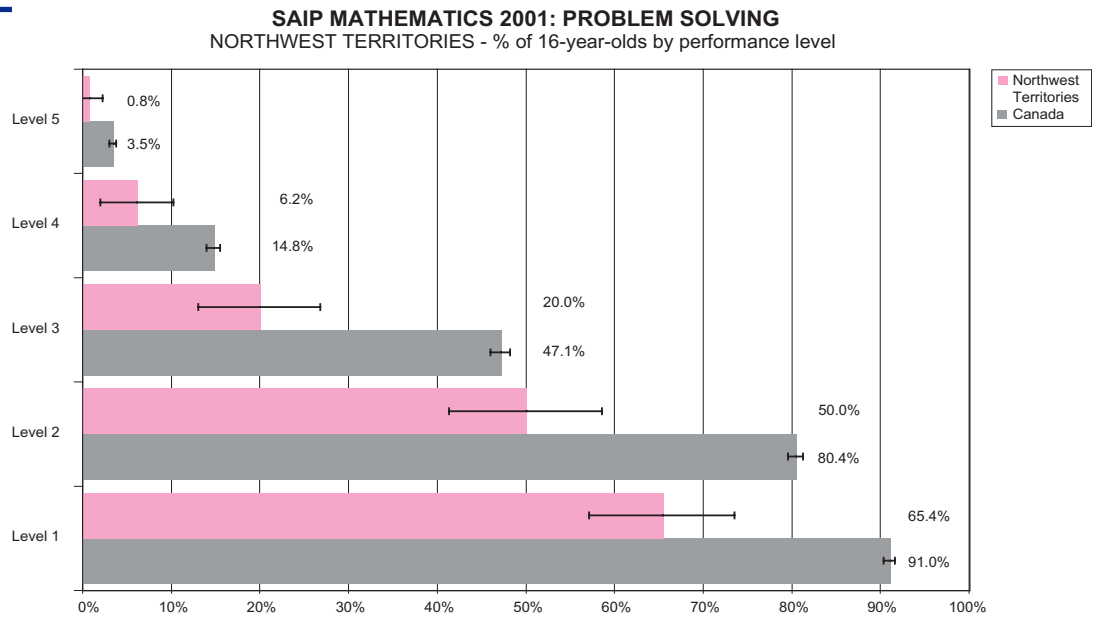


CHART NWT4



Context Statement

Social Context

Nunavut's boundaries encompass an area larger than the Maritime provinces and Quebec combined. The population of about 27,000 is dispersed among 28 widespread and diverse communities accessible only by air and water. Approximately 85% of the population is Inuit, and almost 60% is under the age of 25. While the Inuktitut language remains strong in some communities, it is rapidly being eroded by English. The major sources of employment are government and tourism; the rate of wage employment is the lowest in Canada. Although the land is rich in minerals, the cost of exploiting them both in environmental and in economic terms, is very high. Many families continue to engage in seasonal hunting and fishing activities.

Prior to 1999, Nunavut was a part of the Northwest Territories. Government systems were only two years old when Nunavut participated as the newest jurisdiction in this SAIP assessment.

The government of Nunavut has a mandate to develop a territory that reflects the traditional values and beliefs of Nunavummiut, referred to as *Inuit Qaujimajatuqangit*. Curriculum development will reflect this mandate in order to provide educational programs that are relevant to the students. In a very young system, much development lies ahead.

Organization of the School System

There are three educational administrative regions in Nunavut: the Qikiqtani (22 schools), the Kivalliq (11 schools), and the Kitikmeot (8 schools). Every community has an elected District Education Authority (DEA) that collaborates with school personnel to improve the quality and appropriateness of the education program delivered in their schools from kindergarten to grade 12. Overall enrolment is currently growing at a rapid rate of about 3% annually. In the Kivalliq and Qikiqtani regions, kindergarten to grade 3 are delivered in Inuktitut. Higher grades are also delivered in Inuktitut where there are teachers available.

Nunavut has approximately 650 teachers and 8,300 students. A large number of elementary school teachers are Inuit, but most secondary teachers are from the south. Teacher education began in Nunavut only 25 years ago and is still focused on preparing teachers for elementary schools.

It is within the past decade that secondary school programs to grade 12 have become available in all Nunavut communities. With the extension of grades has come greater enrolment and retention of students in the secondary years as well as increased graduation rates. Nunavut's largest high school would have a population of less than 400 students.

Nunavut grade 12 students write the Alberta grade 12 diploma examinations in the core content subjects. Students writing the SAIP would have been largely in grade 8 and grade 11.

Mathematics Teaching

Nunavut is a partner in the Western Canadian Protocol. The curriculum delivered in English for grades 4 to 9 is the Northwest Territories curriculum and in grades 10 to 12, the Alberta curriculum. The lack of curriculum and resources in Inuktitut, the first language of the majority of students, presents a significant challenge.

Additional challenges are created for both teaching and testing in English, which is the second language for the majority of students. Given the vast geography and time issues (three time zones), along with the very small number of support staff at regional offices, it is difficult to support teachers. As well, Nunavut is currently exploring the area of cultural relevance in its mathematics programs.

Mathematics Assessment

In grade 12, students write the Alberta grade 12 diploma examinations in Pure and Applied Mathematics. The mark obtained on the examination constitutes 50% of the final mark and the school mark awarded by the teacher constitutes the other 50%.

SAIP is the only territory-wide assessment that is conducted in Nunavut, apart from the diploma examinations mentioned above. This type of testing situation is particularly difficult for Nunavut students, and for many, this would have been their first exposure to testing of this nature.

For both language and cultural reasons, Nunavut is in a unique position in the country. These factors, coupled with the newness of Nunavut, vast geography, and very small population, present particular challenges for both students and teachers. Schools in Nunavut are in a period of rapid growth and are engaged in a struggle to create an education system that emphasizes both cultural relevance and academic excellence.

Results for Nunavut

NOTE: In 1997, Nunavut schools were part of the Northwest Territories sample.

Mathematics Content

There are significant differences between the performance in mathematics content of Nunavut students of both age groups and Canadian students overall at all levels, except for 16-year-old students at level 5.

CHART NU1

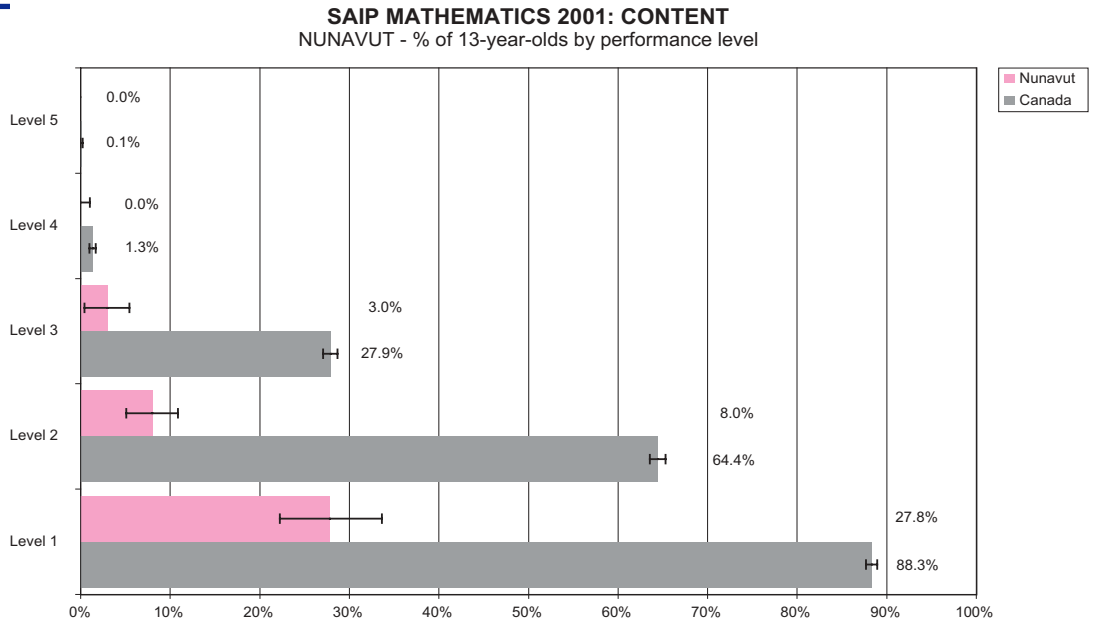
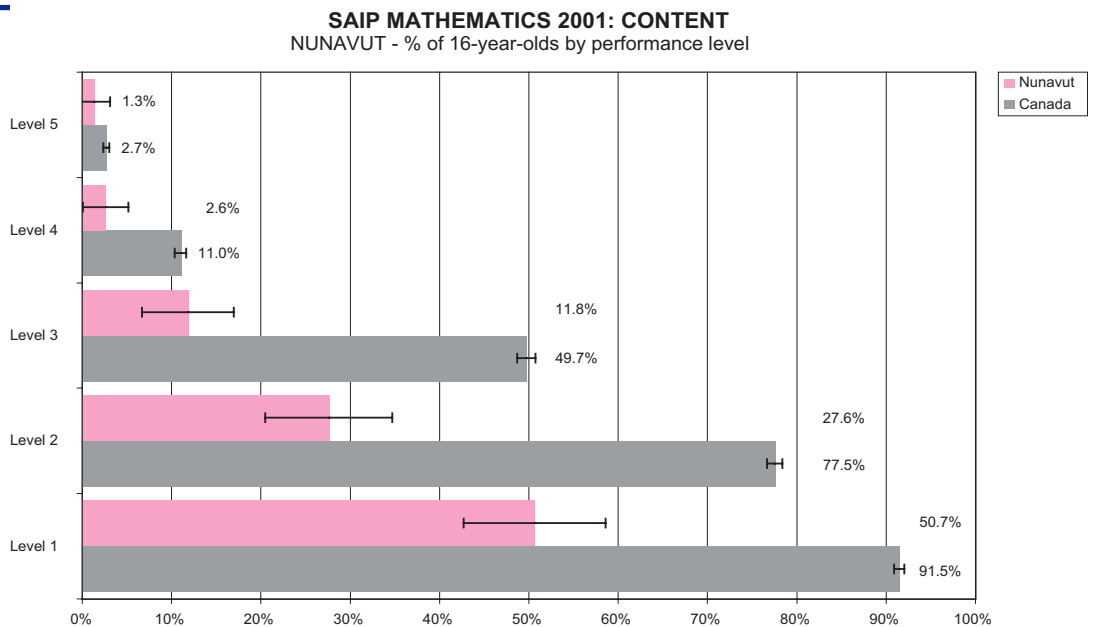


CHART NU2



Problem Solving

There are significant differences between the performance in problem solving of Nunavut students of both age groups and Canadian students overall at all levels.

CHART NU3

SAIP MATHEMATICS 2001: PROBLEM SOLVING
NUNAVUT - % of 13-year-olds by performance level

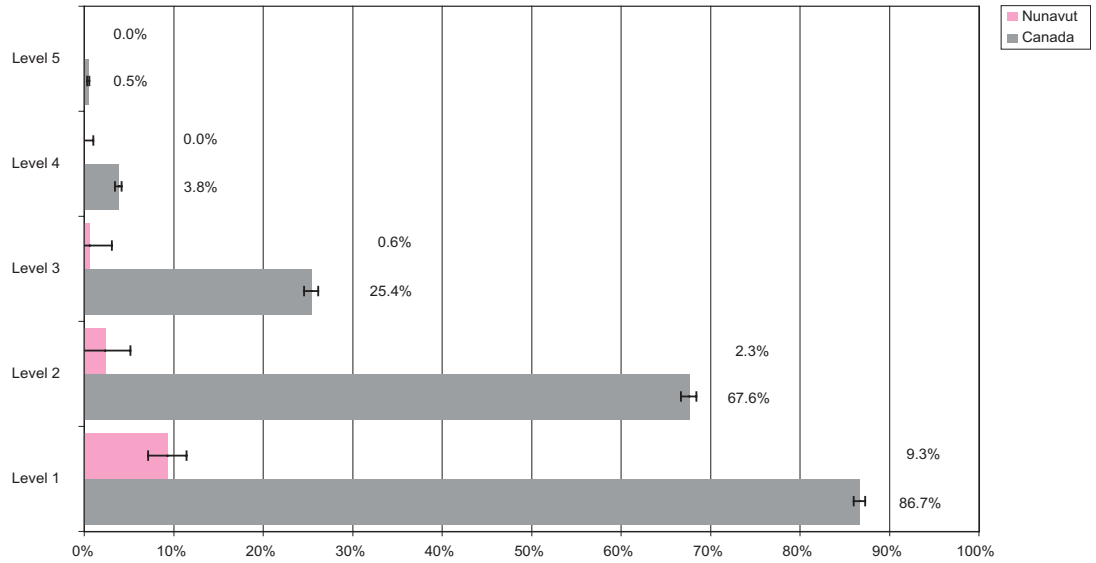


CHART NU4

SAIP MATHEMATICS 2001: PROBLEM SOLVING
NUNAVUT - % of 16-year-olds by performance level

