

# The Schroeder/Frame Report

## The Preparation and Continuing Education of Mathematics Teachers in Alberta: A Status Survey and Needs Assessment

IN 1984, THE MCATA EXECUTIVE initiated a status survey and needs assessment to determine the needs and concerns regarding mathematics education in Alberta. Tom Schroeder, then a professor in the Faculty of Education at the University of Calgary, and Louise Frame, an elementary school teacher, were commissioned to complete this study.

A stratified random sample of 100 elementary schools and 100 secondary schools was drawn. Questionnaires were sent to the principals with a covering letter explaining the survey's purpose and asking for support. In elementary schools, all teachers were asked to respond; in secondary schools, all teachers teaching mathematics were asked to respond. Responses were received from nearly 150 principals and more than 700 teachers in 70 elementary schools and 67 secondary schools.

From the survey, interesting and valuable information was determined, including some of the following findings:

- Mathematics laboratories were quite rare.
- Nearly all schools had at least one microcomputer (96 percent).
- Class sets of calculators (20 or more) were available in 50 percent of elementary schools and in 39 percent of secondary schools.
- About three quarters of the elementary teachers were female

and about one quarter were male, while the opposite was the case for secondary teachers.

- Secondary teachers were somewhat older and more experienced.
- Most elementary teachers had taken one or more mathematics teaching methods courses.
- More than one third of elementary teachers had not taken a mathematics education course.
- Most secondary teachers had taken one or more courses in calculus, statistics and mathematics teaching methods.
- More than one third of secondary teachers had not taken even one course on the methods of teaching mathematics.
- Teachers of senior high school mathematics tended to have higher qualifications in mathematics than teachers of junior high school mathematics.
- Teachers who taught mathematics in urban schools tended to have higher levels of qualifications than rural mathematics teachers.
- Thirty-four percent of elementary teachers and 36 percent of secondary teachers had not participated in any inservice sessions, workshops or courses over a three-year period.
- One percent of elementary teachers and 17 percent of secondary teachers belonged to MCATA.
- Twenty-one percent of elementary teachers and 13 percent of secondary teachers belonged to ATA specialist councils.
- Secondary teachers were noticeably less satisfied with the quality of their textbooks than were elementary teachers.

AD 1960

La Conférence  
Générale des Poids  
et Mesures (CGPM)  
adopts the  
International  
System of Units  
(SI) [metric].



The report raised many important questions and resulted in interesting discussions. Numerous concerns such as inservice sessions have since been addressed by MCATA. Ten

years later, another question to reflect on might be "How much has changed in the interim and what has remained the same?"

## Blue Ribbon Panel

THE RESULTS OF THE Mathematics 30 diploma exams were being questioned by the media during 1991 and 1992. As a result, The Alberta Teachers' Association appointed a panel of mathematics educators to operate at arm's length from the Association. The terms of reference of the panel were

- to review the results of the Mathematics 30 diploma examinations,
- to review the structure and nature of senior high school mathematics,
- to identify concerns and expectations of education partners with respect to senior high school mathematics, and
- to make recommendations directly to education partners.

Part of the panel's work involved surveying high school students, secondary school mathematics teachers and postsecondary institutions. A report of the panel's work was released at a press conference in March 1993. The report contained 53 recommendations to Alberta Education, school boards, teachers, the ATA, postsecondary institutions,

departments of mathematics, teacher preparation programs, students and parents, business and industry. A copy of the report is available through the ATA.

The Blue Ribbon Panel was disbanded in fall 1994. A number of the panel's recommendations have been addressed by the various educational partners. In particular, Alberta Education has seriously examined all recommendations.

Two major problems remain: first, Mathematics 30 does not reflect the students who enroll in the course, and, second, postsecondary math prerequisites must be further reviewed. Some institutions are still using Math 30 as a screening device to limit student admission.

The following leaders of mathematics education served on the panel: Art Jorgensen (chair), Helen Stewart and Ken May (mathematics teachers), Florence Glanfield (Alberta Education representative), Tom Kieren (professor, University of Alberta), Jean Phelps (associate dean, Lethbridge Community College) and Bob Hart (mathematics teacher and then president of MCATA).

AD 1971

Canada adopts metric measurement system.

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Texas Instruments produces first electronic pocket calculator (weight: 1.1 kg; cost \$150).