

JUNIOR HIGH SCHOOL MATHEMATICS IN THE CLASSROOM

By S.E. Sigurdson and T.P. Atkinson

Editors' Note: On Monday, March 6, the two editors visited classrooms in Ponoka Junior High School to observe teachers and classes working with mathematics as presented by the textbook series Exploring Modern Mathematics. They wish to express their appreciation for the cooperation and helpful comments which they received from Mrs. M.G. Astley, Mrs. D.A. Elliot, Mrs. S. Clark and Mrs. E.L. Freeman. This article summarizes the ideas formed by the writers as a result of observing the classes and talking to the teachers.

The implementation of the new program has proceeded reasonably well, although it has demanded a willingness to accept it and considerable inservice work on the part of the teachers. Now that the change to a modern program has been effected, certain results seem evident.

The pupils like the majority of the material, especially the geometry. The ideas in general are more challenging than in the previous program and pupils are able to handle more difficult concepts. The level of mathematical thinking has risen.

The teachers are using the textbooks as a distinct aid to their teaching and in a variety of ways. One most interesting feature was the manner in which the exploratory exercises were used - in three distinct ways: for individual work in class; for homework (to be discussed the next day); and as a basis for discussion. A comment made by one teacher to her class indicates that the program is being entered in the right spirit: "There are no bears in these woods, so don't be afraid to explore." However, another teacher suggested that only pupils of above-average ability could use the "Let's Explore" exercises in the manner for which they are intended.

One aspect of the modern programs once again raised its ugly head, namely terminology. There seems to be an excessive amount of it. The difficulty is compounded by the two series being used in the junior high school. The vocabularies and the notation of the two do not

match at all. A common departmental examination for Grade IX will always be a problem because of this. Perhaps it is the duty of every teacher to make sure that the terminology is approached appropriately so that it can be a help, not a hindrance.

Credit is due to Mrs. Freeman for her experimental work prior to the general use of the EMM program. In the 1965-66 and the 1966-67 school years she has taught Grade IX mathematics from EMM 3. She teaches 120 pupils in five classes this year. Two groups we observed seemed to be competent with the mathematical ideas they had met. The results of the Grade IX examination written by last year's classes were encouraging.

It is indeed a pleasure to enter a junior high school mathematics class and observe students and teachers working on mathematical ideas that are significant and important for modern learning. It is somewhat surprising to see Grade VII students interested in clock arithmetic. They are interested not because of its usefulness but because of the mathematical relationships they discover. We distinctly had the feeling that mathematics is being studied for much more than its applications, namely because it is a basically fruitful and enlightening activity. As we listened to the discussion of the arithmetic of the five-minute clock, we were impressed by the idea that every educated person in our society has the basic right to learn about a mathematical system that can be made by using five elements.

IMPROVE YOUR TEACHING OF MATHEMATICS

The two major universities in Alberta are offering this summer, in the category of Continuing Professional Education, non-credit programs in mathematics education for teachers. The programs are essentially the same as those offered in previous years. The material dealt with will be pertinent to junior and senior high school mathematics courses, with specific attention to the newly authorized series of texts for Grades IX and XII. Presentations will be in the form of both lectures and workshops. Listed on the following page are the courses offered.