

AD 1932

ICM establishes the Fields Medal, the greatest honor that can be conferred on a mathematician, named after Canadian J. C. Fields. The Medal was first awarded in 1936 (the original die hangs at the University of Toronto). Today, four medals are awarded every four years.

## Project Calculator

Marshall P. Bye

*Excerpted from Mathematics Council Newsletter, Volume 7, Number 2, February 1968, pp. 5-8.*

"Students are asking if they can return after school to finish their math assignments."

"Students, during assemblies that run over into math classes, are asking to be allowed to return to their math classes."

"Students are performing five, six, seven or more step problems without assistance."

You may ask, "What is so different about all this?" Many teachers may not see anything different in this, but to two teachers in particular these "happenings" are rewards for the extra work that has gone into two projects: Project Calculator I and Project Calculator II. The young people described above are not average students. They have been failing mathematics for years; some have not passed a math course since Grade 2. They have hated mathematics. These students attend the junior and senior vocational mathematics classes being offered by two academic-vocational schools in the Calgary public school system [Van Horne Secondary Vocational School and Ernest Manning Academic-Vocational High School].

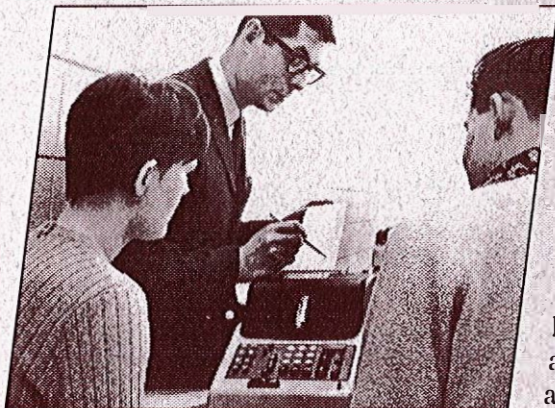


*C. S. Swaney chats with two students in Project Calculator I at Van Horne Secondary Vocational School, Calgary.*



In September [1967], Olivetti Underwood offered, on loan, 18 Divasomma Calculators for Ernest Manning and 10 for Van Horne. The writer, while at the NCTM meeting in Las Vegas last April, had gathered some information and suggested lesson plans from "Concepts and Applications of Mathematics Project" (CAMP). This information was for calculator-centred mathematics courses and related to the use of low charts.

At Van Horne, C. S. Swaney worked these ideas from CAMP into his own thinking, and this is how Project Calculator I was born.



*R. M. Radomsky with a mathematics class in Project Calculator II at Ernest Manning High School, Calgary*

Mr. Swaney is building a course centred around the use of the calculator to meet the interest and needs of the students.

Among other advantages, the calculator develops interest and puts "activity" into the math program. It provides a measure of success. Mr. Swaney and those associated with this project are amazed at the level of achievement the students are attaining and the changes in attitude toward the mathematics classes. The project continues.

At Ernest Manning, principal T. T. Humphrey gave approval for R. M. Radomsky to teach Project Calculator II to three classes of

Mathematics 15. Mr. Radomsky built his course to augment the current textual material and to encompass topics related to other vocational subjects. He found that the students could handle difficult and complex problems much more rapidly and to a greater extent than he had expected. The students could master a large number of problems of a more challenging nature. When asked how the project was proceeding, Mr. Radomsky commented, "Just come in and watch the students. See for yourself." I did just that. I saw students working diligently, in pairs, often one helping the other. There were no discipline problems. A student raised his hand and asked if he could come back early at noon to finish his assignment. I saw students do mental calculations with confidence, far beyond the level at which they were able to work just two months before. Many other positive changes were observed. I was convinced of the success of the program.

It is hoped that the data collected from this experiment will support the hypothesis that Project Calculator II results in a positive change in attitude toward mathematics, an increase in problem-solving ability and an increase in ability to perform simple computation.

Perhaps it is too early to predict with sophistication the exact effect of the extended use of calculators in mathematics, but the results being obtained are exciting, promising and favorable.

AD 1936

Alan Turing describes a hypothetical computer with infinite storage capacity, capable of performing any conceivable calculation.