

A Teacher's Opinion

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Assignment: Give a short description of what you would do to change mathematics and mathematics instruction in Grades VII to XII.

This short paper will consist of ideas in three parts: province-wide changes, divisional or school thoughts, and course ideas for mathematics.

First, let's deal with the province of Manitoba as a whole. A key concept which needs to be expressed regards the division of mathematics from Grade IX up into three disjoint areas or domains. These include social mathematics, technical mathematics, and academic mathematics. The social domain would include all mathematics important to personal being and citizenship in society and would cover such skills as reading, use of symbols, arithmetic calculations, measurement, ratio, estimation, graphing, data interpretation, intuitive geometry, metrication and logical thinking. Preparation for leisure time should also be part of social mathematics. Technical mathematics would include the use and calculations necessary for various skilled jobs and professions. Topics might include the ratio approach to trigonometry, scale drawings and measurement, access to computer programs and some on-the-job training. Academic mathematics would consider mathematics as a formal system to be studied in and of itself. This program would be for those students capable of and interested in a theoretical study of mathematics.

A basic standardized curriculum across Canada with provisions for provincial and divisionally instituted options at each grade level would satisfy the traditional and the modern teacher.

The public school system needs regulations regarding attendance and promotion. An aid to a well-disciplined school system would be a governmental lowering of the compulsory attendance school age to fourteen. Expulsion should be rare, but a student who does nothing and who is not interested in any aspect of academic learning should terminate his relations with the public schools as a favor to himself and society. The school and society should then arrange a job for this student.

During the final year of high school, each student could be awarded a subject grade by his school. He should also have the option of writing a final examination, set and marked by a chosen committee. The committee should consist of representatives from Red River Community College, Manitoba's three universities, and a number of representatives from various divisions. An attempt should be made to keep the committee together for a three-year period.

Questions which ought to be considered on a provincial basis might include:

1. Should "new" techniques be tested under controlled conditions?
2. Is a stable period of three or four years with few content changes necessary?
3. Are renewable five-year contracts or compulsory moves from one division to another after seven years useful?

4. Should sabbatical leaves for all teachers be awarded for the purpose of full-time study in education? This would necessitate the elimination of all summer and evening programs for a Master of Education degree. Courses could still be taken in summer in order to change grant ratings or to improve expertise in a certain field.
5. Should the budget for books and materials to aid individualization be increased?

Next, let us consider some needed changes at the divisional and school levels. There should be a removal of unsatisfactory teachers and administrators from the system, although several pertinent questions need to be answered here. Who is unsatisfactory? Why are they unsuitable? Who decides?

A student should have free choice as to which course he will attempt, but in order to remain in that level he should have to maintain a "C" or 60 percent grade.

Evaluation should be based on knowledge, manipulation, the understanding of concepts and processes, the ability to solve mathematical problems, sound reasoning, the use and appreciation of mathematics. What is the value of any subject which cannot be used or at the least cannot be appreciated for some intrinsic value?

Other concerns at the divisional level are:

1. the possibility of some form of streaming in junior high (why does everything happen in Grade X?);
2. more guidance for those teachers who need or want it;
3. a reintroduction of the work ethic for both students and staff;
4. the use of inspection teams to evaluate staff and school;
5. some stress on retention and drill;
6. an end to continuous promotion after Grade VII;
7. an increased interest in mathematics contests and puzzles; and
8. discussion with mathematics teachers both above and below one's own level.

Finally, let us turn our attention toward the mathematics course content. This has been dealt with briefly already but other changes which could be included are:

1. two courses at the Grade IX level (these courses would be in the areas of social and technical mathematics);
2. academic courses would begin in Grade X;
3. geometry taught in one full course and as an option;
4. changes in the Algebra 100 course content;
5. a full course in trigonometry; and
6. the same 24 percent time allotment for Math 300 as for English 300.

The conservative reactionary feelings seemingly expressed in this paper may not be really mine. The devil made me do it! (Author's name withheld.)

Note: The foregoing is a response provided to the above assignment by a student in course 81.701 Seminar in Mathematics Education. A response would be welcome.
- A.M. MacPherson

ANNUAL NCTM REGIONAL CONFERENCE SEPTEMBER 28-30, 1978 CHEYENNE, WYOMING

Name-of-Site Convention Presents A Cure for Mathemyopia



Walter Rader and Christine Ivey
Publicity
1978 NCTM Regional Conference

The 1978 National Council of Teachers of Mathematics (NCTM) Regional Conference to be held September 28 to 30 in Cheyenne, Wyoming promises to be a very special one.

INTERFACE is the key word for this conference. Reading, science, and math are all brought together in over 118 workshops and sectionals in a true interdisciplinary effort. Hosting parts of this conference, in addition to the NCTM, are the National Science Teachers Association (NSTA), and the International Reading Association.

There is no danger that this conference will be a grim affair. With Dr. Harold Jacobs, the featured speaker from Van Nuys, California, there is a promise of a good share of insight and entertainment. Dr. Jacobs will be speaking on such topics as "The Clock That Had Raisins in It" and "Of Ostrich Eggs, Rotating Pyramids, and Hershey Bar Graphs." Dr. Jacobs is a contributing author to Freeman Press and has written, among many things, a book *Mathematics: A Human Endeavor*. The book is a sure cure for those of you who are "sick and tired" of math.

Sectionals and workshops will cover Grades K-14 in math/reading, math/science, and science/reading as well as each area alone. A few of the concerns to be covered are: "Math Among Other Things"; "Why Debbie Can't Visualize"; "What Students Say About Reading Science and Math"; "Teaching Reluctant Readers in the Secondary School"; "Appetizers For Learning." The offerings are chock-full of humor, hard facts, and new ideas to stimulate interest in topics that may have grown dry and difficult to student and teacher.

Presiding will be Dr. Dorothy Strickland (IRA), Dr. Shirley Hill (NCTM), and Mr. John Akey (NSTA). As many as 1500 educators are expected from the Rocky Mountain area to attend this '78 conference in Cheyenne, Wyoming. Mark your calendar for this fall extravaganza, September 28-30. Join in! This conference is a winner!