An Agenda for Action

Recommendations for School Mathematics for the 1980s
1980

Direct quotes are denoted in italics

Why?

The 1960s was a period of major activity and reform in mathematics education, and for better or worse was known as the "*new math"* era. The 1970s brought reactions to some of these changes and resulted in a back-to-basics movement accompanied by growing attention to test scores. Teachers, schools and the public were looking for help in shaping the direction of mathematics for the next decade.

What?

In response to this situation, the National Council of Teachers of Mathematics (NCTM) with support from the National Science Foundation initiated a project called Priorities in School Mathematics (PRISM) in the mid-1970s. This study, together with the first two National Assessment of Education Progress (NAEP) reports, provided data used to support the issues addressed in the NCTM document *An Agenda for Action: Recommendations for School Mathematics for the 1980s*.

Who?

The NCTM Board of Directors issued the *Agenda for Action: Recommendations for School Mathematics for the 1980s* in 1980. The Board of Directors included: Shirley Hill, President; Max Sobel, President-elect, and members Sarah Burkhart, LeRoy Dalton, Edgar Edwards, Gail Lowe, Jane Martin, Douglas Potvin, James Rubillo, Jesse Rudnick, William Stannard, Catherine Tobin, James Wilson, and June Yamashita. The *Agenda for Action* resulted from the work of several committees, including Mathematics Curriculum for the 1980s Committee (George Immerzeel, F. Joe Crosswhite, LeRoy Dalton, Catherine Tobin, and James Wilson); Task Force on Recommendations (Harold Trimble, Jane Gawronski, James Gray, Patricia Koch, Donald Kreider, and Gwendolyn Shufelt), and Priorities in School Mathematics (PRISM) (Alan Osborne, Jon Higgins, Peggy Kasten, and Marilyn Suydam).

What was produced?

The 29-page document included the following recommendations:

1. *Problem solving be the focus of school mathematics in the 1980s.*
2. *Basic skills in mathematics be defined to encompass more than computational facility.*
3. *Mathematics programs take full advantage of the power of calculators and computers at all grade levels.*
4. *Stringent standards of both effectiveness and efficiency be applied to the teaching of mathematics.*
5. *The success of mathematics programs and student learning be elevated to a wider range of measures than conventional testing.*
6. *More mathematics study be required for all students and a flexible curriculum with a greater range of options be designed to accommodate the diverse needs of the student population.*
7. *Mathematics teachers demand of themselves and their colleagues a high level of professionalism.*
8. *Public support for mathematics instruction be raised to a level commensurate with the importance of mathematical understanding to individuals and society.*

Each recommendation was accompanied by a discussion and specific action plan that would make progress toward its implementation. For example, with respect to Recommendation #2, six sub-recommendations detailed the action plan. In its focus basic skills, the NCTM agreed with the NCSM that problem solving was one of ten identified basic skill areas, but also recommended that this list be periodically revisited and refined as necessary to adapt to changing times. And, possibly in anticipation of the first *Standards* (NCTM, 1989) document (to be published a decade later), there is specific reference to the connection between basic skills and important mathematical thinking skills such as estimation, reasoning, and communication. The specific actions associated with Recommendation #2 are given below:

2.1 The full scope of what is basic should contain at least the ten basic skill areas identified by the National Council of Supervisors of Mathematics' "Position Paper on Basic Skills." These areas are problem solving; applying mathematics in everyday situations; alertness to the reasonableness of results; estimation and approximation; appropriate computational skills; geometry; measurement; reading, interpreting, and constructing tables, charts, and graphs; using mathematics to predict; and computer literacy.

2.2 The identification of basic skills in mathematics is a dynamic process and should be continually updated to reflect new and changing needs.

2.3 Changes in the priorities and emphases in the instructional program should be made in order to reflect the expanded concept of basic skills.

2.4 Teachers should incorporate estimation activities into all areas of the program on a regular and sustaining basis, in particular encouraging the use of estimation skills to pose and select alternatives and to assess what a reasonable answer may be.

2.5 Teachers should provide ample opportunities for students to learn communication skills in mathematics. They should systematically guide students to read mathematics and to talk about it with clarity.

2.6 The higher-order mental processes of logical reasoning, information processing, and decision making should be considered basic to the application of mathematics.

Mathematics curricula and teachers should set as objectives the development of logical processes, concepts, and language.

A second example (highlighted in the PowerPoint presentation) focuses on Recommendation #1:

1. *Problem solving be the focus of school mathematics in the 1980s.*

The specific recommended actions for implementing this recommendation call for a wide range of K-12 changes involving curriculum materials, teaching techniques, classroom environments, and research in effective ways to include problem solving at all grade levels. The specific actions associated with Recommendation #1 are given below:

1.1 The mathematics curriculum should be organized around problem solving.
1.2 The definition and language of problem solving in mathematics should be developed and expanded to include a broad range of strategies, processes, and modes of presentation that encompass the full potential of mathematical applications.
1.3 Mathematics teachers should create classroom environments in which problem solving can flourish.
1.4 Appropriate curricular materials to teach problem solving should be developed for all grade levels.
1.5 Mathematics programs of the 1980's should involve students in problem solving by presenting applications at all grade levels.
1.6 Researchers and funding agencies should give priority to investigations into the nature of problem solving and to effective ways to develop problem solvers.

The reproduction of the entire document is on the PDF.

Significance of the Report

The *Agenda for Action* was widely circulated among teachers, supervisors, parents, schools, school boards, and politicians. The document was a public relation bonanza for NCTM as its release stimulated many editorials, much positive reaction across the United States, and a dramatic increase in the membership of NCTM.

While there were only eight main recommendations in the document, each one was specifically focused. This perhaps resulted in each recommendation being more fully addressed, sometimes by different groups. For example, the *Agenda for Action* stimulated unprecedented activity in and attention to problem solving in mathematics classes during the 1980s. For example, nearly every mathematics textbook series that was published in the 1980s laid claim to its attention to problem solving. It also helped broaden the scope of and intellectual discussion of basic skills in mathematics. Most commentary on mathematics education during the remainder of the 1980s alluded to the report, and it paved the way for the *Curriculum and Evaluation Standards for School Mathematics* published by NCTM in 1989.

References

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