

Math education establishment turns screws on teachers to accept 'reforms'

by Susan Welsh

If your child comes home from school this fall and tells you that a "paradigm shift" is going on in his math class, you'd better grab a picket sign and head down to the principal's office. Because a nasty program is under way, funded in part by the federal government and supported by virtually the entire mathematics education establishment, to break down "resistance to change" on the part of educators, and to introduce "reforms" that will wreck what little is left of quality math teaching in America.

The poster on the facing page is a product of this effort. Although produced as a commercial endeavor by *USA Today* newspaper, the poster is more than an advertisement for that bastion of intellectual achievement. It is being circulated by The Math Connection, a group that is coordinated by the Mathematical Sciences Education Board (MSEB) of the National Research Council in Washington, which is part of the National Academy of Sciences. Members of The Math Connection include: American Association of Colleges for Teacher Education; American Association of School Administrators; Mathematical Association of America; National Association of Elementary School Principals; National Association of Secondary School Principals; National Association of State Boards of Education; National Council of Teachers of Mathematics; and National School Boards Association.

What sort of "reform" are these "experts" proposing? What vital issues do they want mathematics teachers to address, in order to be "with it" in what they call "the real world"? The poster gives an example: "How many boxes of Cracker Jack would it take to circle your classroom once?" This is math for a nation that expects its children to become employees at fast-food restaurants, and aspires to teach them merely how to punch the numbers correctly into the cash register. This is the mathematics counterpart of the broader push for "outcome-based education" in the public school system.

A brainwashing package

The *USA Today* poster is part of a propaganda package that is being circulated by The Math Connection to educators around the country, which includes: videotapes on "model schools"; brochures on such themes as "the continuing gap between today's schools and the adult world"; a "presenter's guide," consisting of "outlines for short presentations to a

variety of groups, with spaces for you to personalize your speech"; slip sheets with canned answers to questions such as "What is my stake in this change? Why should I care?"; sample articles to provide to local newspaper editors; overhead transparency masters with "Chairman Mao"-type slogans: "Empower teachers so that they can empower students," or "Parents as partners."

The Math Connection's brainwashing package is the product of a years-long effort, notably by the National Council of Teachers of Mathematics, to develop "national standards" for mathematics education, and to wipe out traditional approaches, which they denounce as "drill and grill" (see accompanying article on opposition to this from maverick publisher John Saxon).

At a national video-conference on Oct. 2, 1993 sponsored by The Math Connection and hosted by ABC News correspondent Bill Blakemore, educators from all over the country assembled for a day-long indoctrination session, using that most effective of brainwashers, the television set. The theme was set immediately with the presentation of a film called "The Business of Paradigms," by Joel Barker, who tells the audience: "I'm a futurist. I study change and the resistance to change." Prepared originally for use among business executives, the film tells the tale of the Swiss watchmakers who dismissed the invention of the quartz watch, being conservatively rooted in their old ways of doing things, and hence lost the enormous market potential to the U.S. and Japanese competitors. And then there was the man who invented the photocopying process, but whose company was not interested in it—and so Xerox Corp. ended up making all the money instead.

In case anybody had missed the point, Blakemore announced that America was facing an equally difficult "paradigm change" in education, and that everybody would have to help out to make it a success. (Blakemore was my high school English teacher many years ago; he was a talented teacher, and should have stuck to Shakespeare.)

Attending the video-conference in Northern Virginia, I asked the college math teacher next to me what she thought of the proceedings and the method typified by the *USA Today* poster. Her response gives an idea of the kind of resistance the math establishment knows it has to break down. "What we really need is excellence," she said. "I taught my son



The Math Connection, an umbrella group of national mathematics education associations, passes out this poster as part of its "math education reform" package. Where would mathematics be today, if Bernhard Riemann and Georg Cantor had learned their science from the pages of USA Today?

math myself, since he couldn't even do his multiplication tables. The public schools are oriented toward making children feel good, but that feeling is not based on real achievement."

The materials from the video-conference are scheduled to be released for broader circulation soon.

What kind of reform?

The need for improved math education is shown by statistics that are rattled off by those on all sides of policy debate:

- A 1991 report by the Educational Testing Center in Princeton, N.J. showed that U.S. 13-year-olds finished 14th among 15 countries in a standardized math test. The American children answered only 55% of the questions correctly.
- Between 1971 and 1991, the number of science and engineering doctorates awarded to U.S. citizens fell by 10%, while the number awarded to non-U.S. citizens rose 135%. (National Science Foundation)
- Among college-bound high school seniors taking the Scholastic Aptitude Test (SAT), 11.4% had verbal scores over 600 in 1972 (the scale runs from 200 to 800), whereas by 1983 only 6.9% scored over 600—a decline of nearly

40%. The scores remain in that range today. The math SAT scores over 600 dropped from 17.9% of students in 1972 to 14.4% by 1981, then back up to 17.9% in 1991. But this pattern reflects in part an influx of high-scoring Asian-Americans, who now make up 8% of those taking the test, as compared with 2% in 1972. (Daniel J. Singal, "The Other Crisis in American Education," *Atlantic Monthly*, November 1991)

- Of the nation's 200,000 secondary school teachers of mathematics, over 50% do not meet current professional standards for teaching mathematics. Among elementary school teachers, the figure is estimated at "probably no more than 10%." (National Research Council)

The question is, what kind of reform do we want? The accompanying articles point to some alternatives to the kooky New Age methods of the math establishment—the establishment that brought us the failures of the current system in the first place. In Maryland, a debate has recently broken out over a proposal to abolish university degrees in education, and to insist instead that teachers get their degrees in the subject matter they wish to teach. That would certainly be a step in the right direction.