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## Letters

### Math ed: What's missing?

Thirty years after the onset of the last "math panic" created by Sputnik in 1957, we find ourselves faced with another one ("Education: Math and aftermath," SN: 1/31/87, p.72). Let's not make the same mistake we made last time. The "new math" cure for a nonexistent crisis is now seen as the cause of a real one today.

So what do we do now? The answer, it seems to me, must lie in a genuine effort to find out what is wrong, and change it. If our students lack basic skills, then we should drill for mastery of those skills. If they lack problem-solving ability, then devise curricula that emphasize the thinking associated with solving problems. Do they lack critical number sense? Then teach number relationships, systems and development. If there is a deficiency, there is a solution.

We can learn from our mistakes of the sixties. Just as "sets" did not address the problems perceived in 1957, so shall other non sequiturs be avoided today. We cannot cure

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Cover: A skeleton from a newly found species of the large group of invertebrates called bryozoans seems to beckon with its appendages. Because of its spiny appearance, scientists know this individual was the one responsible for establishing a community of its peers on a single grain of sand. The discovery of new species capable of colonizing sand grains explains how bryozoans spread across the shifting sea floor. (Photo: Courtesy of Judith Winston, American Museum of Natural History)



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blindness with an appendectomy.

Arthur E. Sebelius  
West Hartford, Conn.

to get them. We do the same, but the things are other.

David B. Bronson  
Cambridge, Mass.

Why is more mathematical achievement necessary or, for that matter, desirable? Mathematical thinking is so restricted that more will not be more.

There may be a need for more students of mathematics in order to produce more mathematicians — for the restricted uses we have for them — on the farm team/major league principle, but this would better be met by better, rather than more.

In this context it seems to make sense that Americans value reading more highly than mathematics. It is not only that we want a literate citizenry, but also that with such a heavy flow of data from television, the critical skills that are peculiar to reading and writing are more important than ever.

A lot of the fuss about international competition seems to ignore that societies make trade-offs. Japan has opted for certain things and is willing to give up certain other things

As an educator of some 40 years of experience, I have come to believe that the main lack in the teaching of mathematics in the United States is, of people generally and especially of teachers in our elementary and high schools, the failure to recognize that mathematics is a visual language. It is not only the one language understandable worldwide, it is also the ultimate language of the universe.

To teach it only by rote, or only as a means of problem-solving, is to teach it only as an introduction to its utility as a language.

Higher mathematics has many extensions of that basic mathematical language, i.e., other "vocabularies" and languages of still greater conversational utility.

I, for one, regret that I was never taught mathematics as a language, but am glad that I did discover for myself that it is.

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MARCH 7, 1987

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