

Blue Math

AUG. 25, 2006 WAS A DIFFICULT DAY FOR ME, as it may have been for you. It was the day many of us learned that Pluto had been de-listed from the solar system's Big Board of planets. What a bummer!

I suspect that Sept. 12, 2006, must have been a difficult day for high school and college students across the land. It was the day when many of them learned that the basic mathematics training they'd received in grade school was no longer deemed to be appropriate. Also a bummer!

That training, called "reform math" by some and "fuzzy math" by others, concentrated on conceptual understanding and open-ended problem solving, while downplaying rote fundamentals like learning the multiplication tables. It was a controversial approach recommended by the National Council of Teachers of Mathematics (NCTM) back in 1989.

The NCTM has now reversed itself (oops!) and is endorsing many of the tried-and-true methods that our grandparents were raised on. And all of those students who had giddily avoided the hard lessons of rote memorization and tests with right and wrong answers are now branded as something less than full planets in the constellation of math users.

Many people would say that it's about time the NCTM came to its senses.

One of those would be Ellen Hoerle, a mother from Eden Prairie, Minn., who wrote this in a letter to *The New York Times* (9/24/06): "When my sixth-grade son is in school, studying his 'fuzzy' math, he is asked to contemplate why dividing the day into 24 hours was a better choice than 23 or 25. When he gets home and studies his sixth-grade Singapore Math book (based on the national curriculum of a country whose students recently ranked first in international testing of eighth graders), he learns how to solve simple algebraic equations."

Another who would say it's about time is actuary Chuck McClenahan. In the May 2000 issue of the *Actuarial Review*, he wrote: "I am increasingly concerned about the state of mathematical education in this country... In a misguided attempt to eliminate math anxiety, these (reform)

programs avoid placing the student in a situation where he or she can be wrong." He cited reform math questions such as, "If mathematics were a color, what would it be and why?" as an example of his concern.

I wrote to Chuck recently to ask his opinion about the latest NCTM statement and to see if his position had softened in the intervening years. His response was anything but fuzzy: "Obviously, this is a triumph of the rational mind over those who would increase self-respect by lowering expectations."

The satisfaction in the town of McFarland, Wis. must be bittersweet, though.

It was there, in December 1998, that eight families decided to pull their third-, fourth-, and fifth-grade students out of math classes based on the "reform" curriculum and home-school them for one hour a day according to a more traditional curriculum.

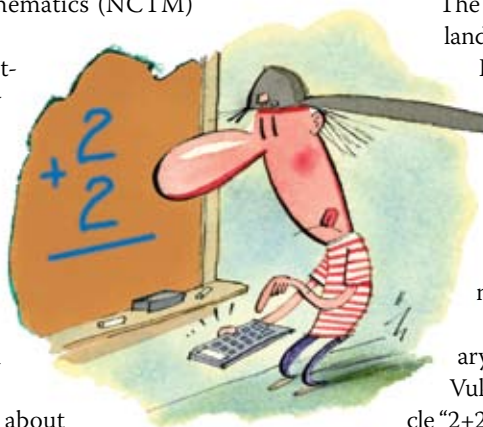
Their plan proceeded until January of 2000 when (according to Leah Vukmir in her highly informative article "2+2=5: Fuzzy Math Invades Wisconsin

Schools") "the school district informed them that their children would be in violation of school truancy laws" if the practice continued. And, of course, what sensible parent would risk a child's chance of gaining admittance to a top-tier college by being branded as a "fuzzy-math dissident"?

How much damage has been done by this detour in the standards of math education?

It's difficult to say. Mr. McClenahan feared that the actuarial profession might suffer a talent drain if the "dumbing down of mathematical education continued." I tend to be concerned at least as much for the less sophisticated math users who simply need to balance a budget or understand the consequences of an adjustable-rate mortgage.

As for those non-judgmental problems cited above, I thought everyone knew that mathematics is cerulean blue etched in tangerine. But I still have no clue why the day is divided into 24 hours instead of 25. So maybe there's something to be learned from this fuzzy-math stuff after all.



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