

# Defenders of fuzzy math do students a disservice

It's déjà vu all over again. Is Colorado public education in the "Twilight Zone"? Is Bill Murray going to show up at the Capitol, reliving a mathematical "Groundhog Day"? That's how I feel after seeing the latest CSAP math scores.

In 2004, I was invited to a District 11 Math Town Meeting to testify about math education. I explained that the longer you stayed in Colorado public schools, the less likely you were to be proficient in math. There was also a significant minority achievement gap.

Both of these things could be fixed by changing the content and philosophy behind Colorado mathematics education. I said the same things in 2005 and 2006, because nothing had changed.

Now it's 2007. There's a new school board in District 11. I suppose they think I'm the old regime's Boy Toy, which would explain why I haven't been invited back. Not that it matters. As reported in *The Gazette*, 2007 CSAP scores show that the longer you stay in Colorado public schools, the less likely you are to be proficient at math. There is also a significant minority achievement gap.

Someone said the definition of insanity is to do the same thing over and over while expecting different results. Clearly we're not insane. We're just flirting with dementia.

In the 1980s, a philosophy of mathematics teaching took the education establishment by storm, with the blessings of the National Science Foundation and the newly created Department of Education. Emphasizing self-discovery, group work, and self-esteem above all, it also meant less work for teachers, less pain for students, and seemingly happier parents. It seemed like a win for everyone.

That is, until math scores started dropping, and knowledgeable parents started actually looking at what their kids were learning. Then the Math Wars began.

Technical professionals such as myself and like-minded parents are trying to undo the damage of the past two decades by getting traditional, direct instruction in the math classroom. I've been in this fight for a few years, and I've learned a thing or two.

I've learned that any solution to the math problem will be fought bitterly if it threatens the status quo. Studies that support fuzzy math will be embarrassingly weak or gim-



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micked to the point of fraud. Teachers will play the "we're the experts" card to silence frustrated parents.

In math content reform, benefits are spread out among children, families and taxpayers. Costs are borne by teachers who have to retrain, administrators who have to admit mistakes, and textbook publishers who'd lose millions of dollars. That's why we've got an uphill battle. Maybe even a vertical one.

By contrast, solutions that mean more money and clout for district employees will be enthusiastically supported. Benefits are concentrated in the hands of a few. Costs are spread out among the many. This is why D-11 is hiring more "math coaches," presumably with our new school board's blessing.

Shouldn't we be asking why math coaches are even necessary? What is it about math teaching that means math teachers need extra help? How come we never hire history coaches? Social studies coaches? Science coaches? Football coaches? Oh wait, forget that last one.

Math coaches are expensive. Changing math content isn't. Why not try the latter before the former?

Parents, learn more about mathematics education reform and get a dog in this fight. There are all sorts of things you can do.

Work for school vouchers. If fuzzy math is really so great, competing schools will fall over themselves to offer it.

Move your child to a school with a real math program. Most independent and charter schools "get it." They've thrown their fuzzy-math books in the trash.

If you're happy with your school but want better math, demand a more traditional, direct-instruction oriented math section for your child. Once other parents find out that your son or daughter is finally mastering math, they'll want the same for their kids.

Ultimately, unless we do something truly different and embrace mathematics content reform, we'll continue to do the same things and expect different results. In 2008, we'll learn that the longer you stay in Colorado schools, the less likely you will ever be proficient at math. And 2009, and 2010 . . .

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