

D-11 poised to set tone for math education

Two weeks ago, the District 11 school board held a math work session. It ran late; I didn't get home until 11 pm. Still, the majority of the board, parents and teachers stayed till the end. Good for you; you know who you are.

What I didn't say that night was that the U.S. National Mathematics Panel had met that very afternoon. They held a session for public comment and talked about the same issues. The difference is, D-11 is ahead of the game. Or at least we can be.

You may not have heard about the National Mathematics Panel. Appointed by the president last April, it is charged with fixing American mathematics education. American students' math skills lag far behind those of their international peers. That's because America's children fill the body bags of the Math Wars.

On one side are advocates of the "new new math." After successfully lobbying the Department of Education, their curricula spread through public schools like wildfire. These programs emphasize letting children construct their own ways of finding answers ("children know best how they learn"), spiraling through topics multiple times in multiple grades ("they'll see it again if they don't get it the first time") and staying away from repetitive practice ("drill and kill").

On the other side are the reformers. We want standard algorithms, "drill for skill" and complete mastery of one foundational skill before moving on to the next. The reformers could be mathematicians or scientists like myself, but are more likely to be professionals with children in public schools. When it comes to outrage at bad math, an engineer mom has nothing on a soccer mom.

The National Math Panel is not perfect. For one thing, it needs more K-12 teachers. I'm also concerned that it's dominated by the defenders of the status quo in mathematics education. To them, a panel is just another opportunity for money and power.

But there is hope. The strongest member of the panel is Dr. Liping Ma, America's leading researcher in mathematics education. Her work shows that all math teachers need a "profound understanding of fundamental mathematics." You can't get that without a rigorous math background in college. This is something the overwhelming majority of American teachers do not have.



OPINION
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This isn't the teachers' fault, it's just the way the system is set up. K-6 teachers must be generalists: One teacher teaches all subjects.

But it doesn't have to be that way. Children could go to a special math classroom, taught by teachers with a math degree. We do this already with art and physical education. Presumably, we believe teaching art well requires artistic ability, and teaching gym well requires athletic ability. Dare I suggest that mathematics falls in the same category?

There's so much D-11 can do while the national spotlight is focused on this issue: Remove calculators from K-5 classrooms; Replace constructivist math programs with content-rich ones; Track CSAP scores longitudinally, so that we can learn how kids from different schools perform as they move through the math pipeline.

D-11 taxpayers need to understand that the pipeline is 12 years deep. The time to fix this problem may go far beyond the term of any current board member. D-11 parents need to realize that, if we reformers have our way, their children will get poorer grades in math if they don't produce the right answers. They may even be held back until they master fundamental skills.

The teachers' union needs to recognize that technical degrees command a higher premium in the marketplace. If we want more teachers who have them, they'll need to be paid more. To do otherwise in the name of "fairness" is to institutionalize envy as public policy.

Finally, D-11 teacher buy-in is absolutely essential. Without a shared sense of conviction among the district's best educators that the mathematical skills of America's students must be improved and that content-based reform is absolutely the right thing to do, no progress will be possible.

All politics is local. The right statement from the National Mathematics Panel might improve the political climate for math reform, but it won't mean anything unless local districts make it policy. That's why the D-11 school board and its mathematics education professionals have a real opportunity for leadership on their hands., provided they choose to exercise it.

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