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Calling a truce in the math wars



By [Joanna Weiss](#) | JANUARY 08, 2016

IT'S TIME to call a truce in the math wars.

You know what I mean. The homework comes home in the backpack, unrecognizable, with circles and dots and arrows where equations used to be. The kids ask for help; parents have fits; the teachers gripe that parents are bound to old and backward ways.

I delivered my own rant a few months ago about a question on last year's PARCC exam, which presented an "area model method" for solving long division. It struck a nerve: Parents wrote to thank me, math lovers wrote to curse me. (And some math experts conceded that, while they applauded the "area model" concept, they thought the question itself was flawed.)

And then, some math teachers started working on me, arguing that the idea behind the Common Core — to give kids a deeper understanding of the concepts behind the math — is ultimately good for kids and education. A chief proselytizer was Richard Bisk, an outgoing mathematics professor at Worcester State University, who has long run professional development programs for math teachers, many of whom grew up with old math like the rest of us.

As the Common Core sets in, we're seeing more of these programs. At Boston College, mathematician Sol Friedberg and education professor Lillie Albert lead an experimental program — partly funded by the National Science Foundation and Math for America Boston — that pairs new teachers in high-need middle and high schools with veteran math teachers and mathematicians.

And Bisk argues that better training is especially important for elementary school teachers — who, in many states, need minimal math courses to get their elementary certification. (Massachusetts recently upped its requirements.) It's not disparaging teachers to suggest that some of them could use extra help — and many, in Bisk's experience, are excited to get it.

Last month, Bisk invited me to sit in on a training program in Andover, where he described a "bar model method" of solving problems that would otherwise require basic algebra to solve. I sat with a collection of teachers in an elementary school library, doing the problems my way and then his — drawing long rectangles, dividing them up, breaking down division and ratio

problems into their component parts. I prayed that I'd understand. To my relief, I did — though it helped that Tom Fortmann was looking over my shoulder. He's another proponent of deeper math understanding, an electrical engineer and former member of the Massachusetts Board of Education who also teaches math to teachers.

That afternoon, Fortmann put concepts in my head that I'd never really thought about. For instance, that subtraction is just “un-addition,” the ultimate distance between two numbers. In my head, negative numbers turned from a series of tricks to memorize into a concept I could visualize.

I left on a high. A week later, I tried to show the bar models to my daughter, and found that I'd forgotten how they worked.

When I confessed this to Bisk, he wasn't surprised. “That particular method's really interesting,” he told me. “When you show it to people, it really makes the math problems so clear. But it takes a certain level of practice to get comfortable with it.”

That's why Katherine Richard, the K-12 math coordinator in Andover, suggests a brilliant way to bridge the gap: Change the way we handle homework. Don't teach kids a new method one day, then expect them to recreate it at home, inviting confusion and panic and snide Facebook posts. Instead, use homework time to reinforce basic concepts — ask kids to play the “war” card game, or practice doing simple math in their heads.

And then, when you're certain that kids truly understand the new methods, send them home to teach them to their parents.

To really teach a concept well, you have to understand it. We all can agree on that. And on this: The problem isn't “new math,” but the way we talk to each other about it.

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