

Skydiving without Parachutes

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by Barry Garelick

“What’s a court doing making a decision on math textbooks and curriculum?” This question and its associated harrumphs on various education blogs and online newspapers came in reaction to the February 4, 2010 ruling from the Superior court of King County that the Seattle school board’s adoption of a discovery type math curriculum for high school was “arbitrary and capricious”.

In fact, the court did not rule on the textbook or curriculum. Rather, it ruled on the school board’s process of decision making—more accurately, the lack thereof. The court ordered the school board to revisit the decision. Judge Julie Spector found that the school board ignored key evidence—like the declaration from the state’s Board of Education that the discovery math series under consideration was “mathematically unsound”, the state Office of the Superintendent of Public Instruction not recommending the curriculum and last but not least, information given to the board by citizens in public testimony.

The decision is an important one because it highlights what parents have known for a long time: School boards generally do what they want to do, evidence be damned. Discovery type math programs are adopted despite parent protests, despite evidence of experts and—judging by the case in Seattle—despite findings from the State Board of Education and the Superintendent of Public Instruction.

It is obvious to parents that the discovery programs are largely ineffective. They have suffered through Investigations in Number, Data and Space with its homework assignments asking students to show three ways to add $343 + 267$ and draw pictures to illustrate what is going on. They have suffered through the ill-sequenced spiraling of Everyday Math, with fractions one day, geometry the next and the alternative (and inefficient) algorithms for multiplication and division. They have seen the ill-posed and

open-ended problems for which their children have not been given prior instruction and who are asked to develop “strategies” for their solution. They have asked their kids to see the textbook to be told there is no textbook; only worksheets, and no worked examples.

Many of these parents are scientists, mathematicians, engineers and teachers, who understand the necessity of a solid foundation that is in a logical sequence which then builds upon itself. Many of these parents are forced to teach their children what they are not being taught in school, hire tutors, or enroll their children in learning centers like Sylvan, Huntington, or Kumon.

It is obvious to the parents that children do not learn what they haven’t been taught. But parents are put in a position of having to “prove” to school boards that this is true. To these parents, this is tantamount to having to prove that jumping out of an airplane without a parachute is life threatening. Yet, school boards repeatedly tell parents the equivalent of “Yes you can jump out of an airplane without a parachute if it’s done the right way.” And of course, to be done the right way, instructors must be trained properly. It is obvious to the parents that for the various discovery math programs they are fighting against, no amount of training will make a difference because the programs are inherently bad. But school boards have had their minds made up.

These parents are viewed by the education establishment as the great unwashed—people who “just don’t understand” what education is about. In meeting after meeting across the country, for a period now spanning more than two decades, school boards have told parents that they are misinformed, that they think that how they learned math is the only way, and that the reason they don’t like the particular math program being considered is because they didn’t learn math that way. They are told that traditional math is rote memorization; there is no real thinking, no deep understanding of concepts, and no real problem solving. There is only mind-numbing exercises—procedural fluency and conceptual understanding are mutually exclusive.

In meeting after meeting, parents have been told that traditional math may have worked for some people, but it also failed large numbers of students. The school boards don’t bother defining what they mean by fail, or how many students in fact “failed” or what specific era they’re talking about. They just say that traditional math doesn’t teach all students, but this new program does. The school boards trot out test scores from other schools that use the program but parents are not told to what degree students are tutored. To the school boards, the test scores represent the effectiveness of the program under discussion. There is never any consideration that the test scores reflect the

effectiveness of outside help students have received.

Parents have heard it before. They know that this new discovery, inquiry-based, standards-based and vendor-based program lowers expectations to the extent that everyone gets a high grade. Process trumps content: if students can show the thought process, it doesn't matter if they get the right answer or not. Parents in affluent communities know this. In poorer communities, there isn't as much protest.

I am hopeful that the Seattle court decision will at least force evidence to be considered. Of course, this means that school boards may now carefully craft answers to dismiss evidence that is presented and come to a decision that won't be ruled arbitrary and capricious. But at least they will have to work a bit harder in refuting the evidence that jumping out of airplanes without parachutes leads to death.

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One Response to “Skydiving without Parachutes”

1. ZeroSum Ruler^[3] Says:

October 17, 2010 at 7:06 am

I would love to collaborate with you. I teach in Boston and am writing my thesis on a tool I developed to help my students – eleventh graders – overcome their deficiency in adding and subtracting integers (think “ $3 - 8 = -11$ ”). Although a whole breakdown of why TERC is no good and that it does not do what it should (my students also can't multiply, which I had to memorize [sorry I swore] by 3rd grade), I'd still like to expand beyond my thesis to really talk about what TERC is doing to our kids. There has got to be a reason my students can't multiply and think $-22 + 5 = -27$. It's not FAIR to the kids. Moreover, a language-based math curriculum kills the essence of math- that it is the only universal language (well, other than love, but let's not get carried away). It also alienates our English language learners, which is something Boston is getting the smack down for right now.

I'd love to talk with you further about the information you've gathered and the observations I've made.

Reply

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