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we simply don't know, or by the sheer complexity of teaching in today's USA, or by the weight of evidence that can be marshalled to support at least three sides of any controversy?

Perhaps we can jump off from Al Shanker who asked and answered (New York Times April 23rd) the question, "Why Are We So Far Behind?", meaning, of course, behind practically every serious industrial nation in the world. There are five reasons given, but to mention only the one given most space in the article, they track their students by ability, we tend not to. It "violates our beliefs" and "flies in the face of our cultural values". In my school, which is independent, we have accelerated sections and "regular" sections. That's about as far as we go. I know what it's like having a wide range of ability in a classroom, and I'm talking about classes of only 8 to 15 kids. It's Hard! Hard! Hard! And I have virtually complete freedom regarding content and methods. Some of my colleagues have come from schools committed to not tracking. It's a wonderful goal, they say, but so exhausting to implement that two years is about as long as you can keep it up. And Shanker acknowledges that in the real world of our average classroom, there's no way you can avoid boring some kids and baffling others. Amen. So that's the dilemma, says Shanker, "you can't teach mixed ability kids using traditional methods".

Then there's the writer (*One Point of View*, Arithmetic Teacher, April, 1989) who aggressively insists that "tracking doesn't work". Research has proven this beyond any doubt, and if you're still tracking, you've got to be some kind of ignorant, uncaring conservative who probably doesn't allow calculators and insists on endless repetition of mindless algorithms. Well OK, but the point is, not tracking hasn't worked either, and we ought to respect how difficult it is and how hard we're all trying.

Calculators are another case in point. To read the Report to the Nation from the National Research Council called "Everybody Counts", which is typical of many, and doesn't differ much from the NCTM Standards in this respect, you'd think these little devices were some kind of magic bullet. As many experienced teachers will tell you, they're not. Commenting on "Everybody Counts", a mathematics professor from University of California wrote, "Anyone who has taught calculus knows who's failing the exam. Just look for the students pressing buttons." One could make the point a bit more politely, but the better the student, the less the need for calculators. Why they receive so much emphasis is a mystery to me.

And the textbook controversy? Drill and practice and rote learning versus the emphasis on reasoning implicit in the NCTM standards? One of our most energetic workers in this field, Zalman Usiskin of the University of Chicago, acknowledged the matter is complex and we don't have the answers yet to resolve the question. And the chairman of the mathematics department at Pace University quoted Alfred North Whitehead, "Civilization advances by extending the number of operations we can perform without thinking about them." Rote is not in opposition to reasoning. To me, it's clear one supports the other, and they are both essential.

So what about the Standards. I have gone to bed now for two weeks reading the Standards. Just opened the book randomly every night and read. It's dense. It's massive. It's exhaustive. The advice and examples are enormously valuable, but there's no index. I ran across several positive references to Logo, but now that I'm writing this, I can't find them. It's easy to poke fun at the turgid "bureaucratese". For example, "These three years of mathematical study will revolve around a core curriculum differentiated by the depth and breadth of the treatment of topics and by the nature of applications." (p 125). I think I know what that means, but I doubt it is valuable, and it took too long to figure it out. There are too many of those for my taste. Δ

Some Final Notes

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your needs in this publication,
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