

RESPONSE TO AN OPINION PIECE IN THE GLOBE AND MAIL
submitted by Peter Liljedahl to the Globe and Mail and to this newsletter

Basic facts needed for debate about the basics

It's easy to rattle people's cages about mathematics when it's presented as part of a war in which our children are tragically failing. But the glaring inaccuracies from Margaret Wenté's column "*What's the newest thing in math? Old math*" on Tuesday, September 26, 2006 is doing less to inform readers about the real issue and more to evoke anxieties people may have about mathematics – that they can't do it and neither can their children. In order to have a more balanced and informed discussion, readers should consider the following clarifications of points made by Wenté:

Canadian kids do somewhat better than American ones, but worse than those in Asia.

Take a look at the 2003 PISA mathematical literacy results. It is the standard by which international assessments are made. The top scoring country was Hong Kong. The confidence intervals show that there is no significant difference between how students in Hong Kong scored versus students in Quebec, British Columbia, and Alberta. As a country, Canada did score slightly lower than Hong Kong (and Finland) but drastically higher than the US. Ironically, the interpretation of such results requires more than the 'basic' understanding of mathematics that Wenté is advocating for. Singapore, which was regarded in the article as a country with high-performing mathematics students did not participate in the assessment.

Parents sometimes complain that their kids spend more time writing about math than doing it. Meantime, quick recall has been abandoned in favour of calculators.

Of course there are those who are concerned about a new way of learning mathematics – it looks so different from what we learned as children. I speak with parents all the time about this issue. When asked about their mathematics experiences they tell me woeful tales of anxiety, and torment – "I didn't enjoy it", "I wasn't good at it", "I was always afraid". Then why is there such a drive to ensure our children have similar experiences? The article perpetuates a false dichotomy that can only confuse the matter by saying that "fuzzy math" is about not learning the basics and that "back to basics" is the basics. These are two different things. Traditional math was all about outcomes, knowing things. The reform movement focuses on processes in order to improve the chances that students are going to learn the mathematics – to make it accessible and achievable for all students. Writing is one of these processes. If students can articulate their understanding then we are sure that they are understanding.

Faculties of education are among the biggest obstacles to change. They are devoted to constructive math, which ties into the current, very hot idea that kids have many different learning styles.

Assuming that the columnist isn't trying to galvanize faculties of education against departments of mathematics in this country, the fact is that math education does not live in faculties of education alone. Mathematics education and the pursuits of learning are practiced within both departments of mathematics, and faculties of education, and the tensions that Wenté is trying to draw between mathematicians and educators are tensions that exist between individuals, not fields or professions. Some mathematicians are unhappy with what students lack when they get to university to do further mathematics. But this raises the question "is preparation for university-level math the only reason to teach math in elementary and high schools?" Are there not other goals that need to be achieved that do not involve Calculus? I'm thinking in particular of efforts to produce students that are: numerate, able to understand mathematics, able to apply mathematics in their daily life, AND not afraid of mathematics.

So, are the math wars over?

The "math wars" is a US phenomenon – which is largely taking place in some of California's 1000 school districts. Contrary to what Wenté would have us believe, the "war" is not about whether or not they should get rid of "fuzzy math", it is about whether or not they should introduce it. This is the opposite of the "war" that Wenté is advocating for in Canada. Her position is that we should be fighting to reverse the reforms that have been made in Canada over the last decades. This is something that should be seriously considered. As long as Canada is so dramatically outperforming the US, while at the same time keeping pace with the leading nations, we should perhaps be looking at what it is that we are doing right.