
Utah may get new math

Posted by professor - 2008/07/22 07:44

This thread discusses the Content article: Utah may get new math

Looks like someone is finally doing their homework and suggesting a math program for Utah children that makes sense!

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Re:Utah may get new math

Posted by Senator - 2008/07/22 08:33

What makes sense is the realization that not every child is going to do well at math no matter the program.

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Re:Utah may get new math

Posted by Steven Jarvis - 2008/07/22 10:16

As a kid I would have done both Singapore Math books in a week if left to my own devices since it has significantly less content per grade level than what I was exposed to. I fail to see why this program should be seen as a catch-all for Utah's math education. It seems more like another cookie-cutter band aid approach. Instead of addressing the core problem, many failing students aren't vested in their education, we are again looking at programs as our holy grail.

While it is a strong program, much better than the stand-alone Investigations program ASD has run, we are ignoring other factors that contribute to Singaporean mathematic success. Do we want the High Stakes testing, and accountability for learning directly on the student? That I believe is why Utah and the US has been caught up to in Math by the rest of the world, because we aren't willing to have students accountable for their own learning (or lack there of). We instead focus on the teacher or the programs.

Until we address student accountability in education, things like this are band-aid fixes designed to make politicians and the establishment feel better, not to effect change.

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Re:Utah may get new math

Posted by math teacher - 2008/07/22 10:31

It's great that Utahns are researching math programs. But there is an obvious mathematical fact that everyone seems to ignore about these countries that are scoring so much better than the United States. For example, the Singapore school calendar is 280 days per year. Utah children are required to attend 180 days per year. Do the math. That's at least 1200 more days of math instruction before college. Who will be willing to pay for this? Also, thanks Steven. Your comments are too true.

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Re:Utah may get new math

Posted by WaynesWorld - 2008/07/22 12:25

Time to implement (or re-implement) the metric system!

Our archaic measurements in yards, feet and inches are yet another hurdle that potentially slows our children down.

By the way, I don't think Ronald Reagan cares anymore.

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Re:Utah may get new math

Steven,

Although I generally agree with you on math and education issues and feel that Saxon is one of the best programs, you are grossly understating the Singapore program out of misunderstandings about how it works. Looking solely at the workbooks and thinking that's what the program covers is not accurate. The program is deep and rigorous. Purchase a set of the challenging word problems that accompany the grade level work and you'll get a different perspective. My child that just finished 5th grade Saxon work can't do most of these 5th grade Singapore problems because by this point Singapore children are doing algebraic concepts and the workbooks are only showing the basic work they do at home for practice. There are also intensive practice problems.

The results of the program speak for themselves. In the U.S. by 4th grade, about 7% of our students have an advanced understanding of math where 38% of Singapore students do. By 8th grade the gap widens and 7% of U.S. children are advanced and 44% of Singapore children are advanced (2003 TIMSS Results). Imagine if Utah had 40% of the population with an advanced understanding of math!!!

I have spoken with schools and districts doing Singapore math. It requires special training for teachers to be able to teach it. It is not beyond our teachers' capabilities. Ten years ago Singapore teachers were 90% non-college graduates. The program was producing these results with minimal teacher education. Today 50% of the elementary teachers are still non-college graduates.

The top performing school in AZ for several years was a Saxon school. Last year they were surpassed by a Singapore school. In NYC and LA there are major improvements in students math abilities (which would have happened under Saxon as well), but Singapore has a different approach that is both visual as well as rigorous. It is the reason Singapore leads the world in math.

Re:Utah may get new math

Posted by oak - 2008/07/22 17:11

To the poster that wrote the senator and said, "What makes sense is the realization that not every child is going to do well at math no matter the program."

This is false. Singapore has a high stakes test at the end of 6th grade which determines if a student can go on into 7th grade or if they need remedial work to be prepared for secondary school. Only 0.2% of the children that take this test don't pass.

Contrast that with the 20% failure rate on the UBSCCT test for our seniors. Those children that don't pass the test (and it's a pretty challenging test), attend a remedial program the next year to ensure they are prepared for 7th grade and then they're ready unless they have a severe learning disability.

This program is as close to a silver bullet as we have available and even if it didn't work for some children, it works for more children than any other program and turns them into mathematical powerhouses.

Re:Utah may get new math

Posted by Steven Jarvis - 2008/07/22 19:18

Oak,

My only experience with Singapore is limited to first grade where I, and the school were disappointed with it. Budget constraints left educators only with student manuals which to teach from, so it was likely a failed implementation, but better than having no test at all like many in ASD. Perhaps the upper grades offer more substance. I did like how visual it was for the students.

We must have a more sound math policy, but I am a little leery of adopting one program and only one. We need some flexibility because the way each child learns varies making some approaches far superior depending on the child and their mathematical talents. There might even be a child where investigations math is the best (perhaps a young Einstein or young Hawkins).

Re:Utah may get new math

Posted by The Pi Project - 2008/07/22 23:26

I am in my 4th year of teaching Singapore Math, and do teacher training as well, and am thrilled with the success of this program. The curriculum is conceptual, not algorithmic; visual not rote, and it is fun. It emphasizes mathematical understanding, mental math competency, and a visual approach to word problems.

I teach 5th - 8th grade at a small school in California, and my students are showing increased test scores, increased motivation, and greater readiness for algebra. My 8th graders often comment that algebra is easy "it's just arithmetic letters instead of numbers."

Teacher training is essential, however, because Singapore Math does not teach by rote, as many American elementary teachers remember learning math. With training, however, most teachers come to love teaching Singapore math, mainly because it works!

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Re:Utah may get new math

Posted by Senator - 2008/07/22 23:46

Oak, what I said is not false. If 44% of Singapore students are at an advanced level, where are the other 56%? I didn't say that we couldn't improve, just that realistically you will never get a 100% mastery of math. The next question that begs to be asked is what is everyone going to do with those math degrees? Our country is so mired in debt, that I doubt we will see any large amounts of money thrown at engineering projects. Between government debt and outsourcing (which is due to making money more than lack of talent in this country), I'm not so sure that a new math program is going to be the silver bullet everyone is looking for. We have become a society of quick and easy money, and working as an engineer or rocket scientist is not on the radar of many young people, while becoming a professional athlete or working as an athletic trainer or in sports medicine seems to be the big dream of the young. In order for a more math literate society to take shape, we need to have a severe cultural shift, otherwise it will be nothing more than a waste of time.

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Re:Utah may get new math

Posted by oak - 2008/07/23 05:33

Senator, I don't think you're understanding the TIMSS exam scores. The exam isn't like a CRT where everyone falls into a category that adds up to 100%, it's a measure of how many total students are in each category. So here's a full breakdown and perhaps this will make more sense.

4th grade:

Low benchmark rate

Singapore 97% USA 93%

Intermediate

Singapore 91% USA 72%

High

Singapore 73% USA 35%

Advanced

Singapore 38% USA 7%

8th grade figures are similar but Singapore is a couple of points higher at every level (99% pass the low level) and the USA is lower at every level.

What this means is you have a population that is full of people who can think logically. It's not the amount of scientists and engineers that we're solely wanting, math is the single most important skill anyone can have aside from knowing how to read. Dr. Yeap Ban Har came and visited Utah in June and one of the profound things he said was, "we are not teaching math, we are teaching thinking through the medium of math." Math skills are primarily logic skills which are useful for everyone.

Steven, here's an example of a couple of problems my kids are doing from the word problems books.

2nd grade: A toy bear weighs 12 oz. It is 7 oz lighter than a toy seal.

a) what is the weight of the toy seal?

b) how much do the two toys weigh altogether?

2nd grade: Alex had the same amount of money as Patrick. Alex saved another \$72 and Patrick spent \$19. How much more money did Alex have than Patrick in the end?

5th grade: Ryan has three times as many stamps as Hal and twice as many stamps as Jimmy. If they have 220 stamps altogether, how many more stamps does Jimmy have than Hal?

5th grade: Wendy and Tania had 130 rubber bands altogether. After Wendy gave away $\frac{1}{5}$ of her rubber bands and Tania gave away 40 of her rubber bands, each girl had the same number of rubber bands left. How many rubber bands did Tania have at first?

These are algebraic in nature and the 5th grade problems would be extremely difficult for our students. Singapore is teaching very difficult concepts with a slightly different model than we use and it's quite brilliant. For an example of this model, I have put Dr. Yeap's presentation on my website. Here's a link. Look at pages 48-52, and 92. Page 93 shows a fun 2nd grade activity example of how they create fun but solid activities.

As I said before, Singapore doesn't have remediation issues. Everyone learns math because it's presented so clearly that they pretty much all get it.

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Re:Utah may get new math

Posted by oak - 2008/07/23 05:58

To the Math Teacher that said Singapore children are in school 280 days, you are incorrect. They are in school 200 days. Singapore also has no Kindergarten. Grades 1-10 are the primary grades with grades 11-12 counting as junior college.

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