

**Public Comment to "The National Math Advisory Panel"**  
**Palo Alto, California November 5,6 2006**  
**Presented by: John Stallcup**  
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Mr. Chairman and panel members welcome to California, I thank you and the Panel for this opportunity to speak today. I am the initiator and Co-Founder of APREMAT/USA. APREMAT is the most effective Spanish language early elementary math program in existence and is in use today by over two million first, second, and third grade students in a number of Latin American countries. APREMAT/USA as a program of the Heritage of America Foundation will be providing the APREMAT program free to the two million Spanish-speaking first, second, and third grade students in the US who by and large are failing to become proficient in mathematics.

I want to point to four areas of opportunity that need the Panel's attention:

First: There is a lack of focus, attention, energy or concerted effort, on effective early elementary math education in general and specifically for English language learners. Not only is there no one person or entity in charge of early elementary math education at the federal, or state level but no major grant making authority either public or private funds early elementary math programs that reach large numbers of students even though efforts to improve reading are well funded across the board at all levels and by corporations including Toyota and State Farm.

The lack of effective early elementary math instruction creates the pervasive lack of computational skills in the middle grades and is a primary cause of future problems learning algebra and higher math. You cannot reasonably expect the average student to be able to master Algebra without having learned their computational skills to the level of automaticity.

There is a National Institute for Literacy, a National Science Foundation, a Reading First initiative, support from all levels of government and non profits for reading programs large and small. Not only is there no National Institute for Mathematics, or a National Mathematics Foundation, there isn't even a

Mathematics **Second** Initiative. There are no governmental organizations or initiatives (present company excluded) focused exclusively on mathematics education let alone elementary mathematics.

Symbols and hero's matter a great deal. Laura Bush and many other celebrities champion reading. Who will champion mathematics? Without focus you get failure. Without funding you flounder. Without attention there is no energy.

If Mathematics education is "**Mission Critical**" you sure can't tell by where the attention, energy and resources are going.

Second: Math is a world language and a fungible skill set. There are a number of proven well researched early elementary math instructional programs being effectively employed to teach literally millions of less academically fortunate students around the world that could be effectively employed here with little funding or iteration and are not. I would be surprised if anyone in the room had ever heard of APREMAT before today and that is emblematic of a key problem in our attempt at improving math education in the US. Cost effective, easy to implement early elementary math instructional practice and programs have been developed, researched and fielded around the world, and all but completely ignored in the US to our continuing detriment.

- There is near universal employment of the Abacus in parts of China to enable their five year old students to acquire number sense, and compute large columns of figures easily. Chinese students are getting a two-year head start over our best math students because they employ a simple, easy to use, inexpensive, tool. In practice a near system wide "**advanced placement**" program. Chinese educators understand the positive impact of the manipulative aspects of the abacus on brain function for learning more complex subjects. All we need to get started is a set of well-produced Utube training pod casts, a few million dollars for a supply of Abacus and the will to use them.
- Many countries in Latin America use the APREMAT program. First initiated in 1998 by a Honduran foundation APREMAT is already

effectively used by over two million first, second, and third grade students to learn mathematics because it works. Unlike the US, if you don't pass the math exam for your grade level in Latin America you do not advance to the next grade.

If you think we have problems finding qualified math teachers willing to work in harsh environments, imagine the problems educators have in the jungles of Latin America (no roads, no windows, dirt floors, no college degrees, no money, etc). Yet the second poorest country in Latin America, Honduras created an effective easy to use, consistently administered, inexpensive, research based, instructional practice for teaching math on the radio in Spanish.

Two thirds of the three and a half million Hispanic k-3 students in the US speak Spanish at home and are by a large margin not "*proficient*" in math by any definition. Hispanic students taking the California high school exit exam fail to pass the math portion more often than the reading portion. The word's "destination disaster" come to mind.

Third: We can choose to use the internet to empower math education or not. But we cannot claim there is not an effective, inexpensive way to do so. The greatest potential opportunity to advance the level of mathematics instruction occurred a few weeks ago when Google bought Utube. The internet is already an effective, albeit disorganized "force multiplier" for education. The future of math education may in large part be determined by how well educators, organize and integrate online distance learning with the classroom.

Imagine if someone had bothered to videotape a years worth of Jaime Escalante teaching calculus. India and Singapore are collaborating on [www.heymath.com](http://www.heymath.com) a math instruction website for high school students. A great deal of math instructional content is already available online, whether The Math Forum at Drexel University or MIT's Open University. The opportunity is "*here and now*" to organize both existing and new content into easy to use, effective math education "*toolsets*" for students and

teachers. The content is not well organized or easy to navigate but I suspect the Googleplex down the road could fix that in very little time.

Fourth: Mathematics needs a new narrative. Mathematics as a brand needs to be repositioned. When you listen to the majority of Americans, discuss mathematics you get the distinct impression that something in our bottled water or our Starbucks coffee has given us a mass case of math phobic "**dyscalculia**". This includes many educators. In America we are ashamed when we are illiterate but it is ok to be innumerate. The far too common and universally acceptable refrain "*I am just no good at math*" implies a cultural belief in ability over effort. This debilitating belief combined with the general acceptability of being innumerate are two of the biggest impediments to increasing the level of math achievement in the US.

In order to change the narrative two things must occur.

- Parents must understand "**How high is up**". The "**fraud of proficiency**" that now exists due to NCLB, must be exposed publicly to enable parents to understand what mathematics problems their child needs to be able to solve. This could be accomplished in part by providing an online quiz based on the NAEP math questions with the national version of "**proficiency**" as the yardstick. You could encourage daily newspapers to publish the NAEP and TIMSS questions as well.
- The Gross Rating Points (GRPs) of mathematics in the media (electronic & print) need to be significantly increased. The number of hours available of high quality, excellent, relevant, "Sticky" television programming that either directly (Discovery Channel) or indirectly (CSI) teaches science and history are in the thousands. The number of hours of mathematics programming is too low to mention. Ask Madison Avenue and Hollywood for help.

I suspect no more proficient group of mathematics professionals has ever been assembled. Expectations for this panel are high. Educators across the country are hoping your work will result in actionable concrete

recommendations that work for all students no matter their income, origin, or genotype.

Although the Federal budget only provides about 8% of education funding, you will set the mathematics education agenda for at least the coming decade. The ability to identify, clarify and help initiate fundamental positive changes in mathematics education is in your hands.

I hope you create a clarifying focus on all levels of mathematics that isn't there at the state or federal levels. I hope you encourage more foundation support for early math education. I hope you will benchmark and borrow proven effective mathematics instructional programs from other nations. I believe if you leverage the internet today thru public private collaborations you will accelerate the process of improvement and last but not least please begin the process of changing the present negative, exclusive debilitating, narrative to the positive, empowering, inclusive, story that is mathematics. Thank you and good luck.