

U.S. House of Representatives
Committee on Education and Labor
Testimony by Tom Luce
Chief Executive Officer
National Math and Science Initiative
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Mr. Chairman, thank you for the honor of testifying here today and for your longtime leadership on education issues. I know you are proud to be the grandfather of five, as I am proud of my seven grandchildren. My wife Pam refers to them as “The Magnificent Seven.” They are a constant reminder to me of why the work of this committee on education is so important – and why we must act now to keep our country from sliding further behind in math and science.

This truly is a “Paul Revere Moment” for our country – we must spread the alarm that our country is falling behind in math and science achievement and we must get moving with all possible speed to shore up our system. Paul Revere warned “one if by land, two if by sea” --- I would add “three if by Ethernet.” America is rapidly losing its dominance in the high tech fields where the jobs of the future are: 80 percent of the jobs in the future will require some form of math and science skills, according to the National Science Foundation.

American students are increasingly at a global disadvantage because the rest of the world is becoming more educated while we are focusing less and less on critical skills like math and science.

- Thirty years ago, a third of the students attending college worldwide were Americans. Today, the U.S. can claim only 14 percent.
- During most of the 20th century – when today’s high tech innovations were being incubated – Americans were considered the best educated in the world. But foreign countries now have more high school graduates in their workforces – and the U.S. has dropped to 17th.

Put another way, the U.S. won the Cold War – but that opening has unleashed millions of new capitalists who are eager to learn and invent and compete. We now have millions more

competitors at a time when American students are ranked 15th in reading, 19th in math and 14th in science by the Organization for Economic Cooperation and Development.

Just last week, you may have seen the news story that graduates of Chinese universities have now taken the lead in earning American PhDs. Tsinghua and Peking Universities now have moved ahead of the University of California at Berkeley as the top sources of students who go on to earn doctorates at American universities. Seoul National University in South Korea was third. Cornell University now is fourth and Berkeley has dropped to fifth.

While we can't begrudge the outstanding students from other countries from seeking higher education and a better future, we must be concerned that American students are not keeping pace.

This is something that we must come to grips with as a country and a culture. As the former NASA Astronaut Sally Ride, who serves on our NMSI board, explains it, we are like the Wile Coyote character in the old roadrunner cartoons – we have run right off a cliff and our legs are still churning, so we don't realize we are hanging in mid-air, about to plummet.

What can we do now? We cannot attack this problem with more pilot programs – quite frankly, time is running out too fast. We have already lighted a million pilot programs in this country, but we haven't ignited the central heating system. Programs that help 1,000 kids in one site are wonderful and I mean that sincerely, but remember, we have 55 million students in American public schools that we must reach. We must take programs that already have a proven track record of success and give more of our young people the chance to benefit from them.

That's where the National Math and Science Initiative comes in. The beauty of the NMSI approach is that it takes good, proven programs and multiplies their reach. As some of you may know, NMSI was created in response to the landmark report, "Rising above the Gathering Storm" in 2005. That report by the National Academies, our nation's top science advisers, warned in stark terms that the U.S. was falling in math and science achievement and that it is beginning to harm our ability to compete in the global arena.

To its credit, Congress responded by passing the America COMPETES Act, proving that our elected Representatives can join in a bi-partisan way to respond to a pressing national need. The private sector responded by funding the National Math and Science Initiative, with ExxonMobil, the Gates Foundation and Dell Foundation leading the way.

NMSI is unique in that it offers a new kind of philanthropy – bringing the private sector together with the public sector to take worthy projects to a national scale. NMSI has started by replicating two projects that were commended by the "Rising above the Gathering Storm" report:

- The Advanced Placement Training and Incentives program – which brings more rigorous math and science coursework to more students.
- And the UTeach program – which produces more of the math and science teachers our country desperately needs by allowing them to earn an undergraduate degree in math and science at the same time they earn their teaching certificate at no extra charge.

Since this is a time of scarce resources, I think you will be glad to know that these two programs offer tremendous leverage for a relatively small federal investment – your federal dollars will be immediately multiplied by private dollars at a national and state level. That means programs in your states will immediately benefit – the money can be having an impact in schools in your districts within a semester.

In our first year, NMSI has launched AP Training and Incentive programs in six states and UTeach programs in 13 states. But we had applications from more than 40 states. With additional funding, we could reach many more students before another class graduates.

Within the next five years, we could have AP Training and Incentive programs in 25 states, impacting students in more than 2,000 American high schools. We could have UTeach programs replicated in as many as 50 universities, boosting dramatically the number of highly qualified math and science teachers in the U.S.

Our goal eventually is to take other successful programs and follow this exact process of replication, because you cannot address the math and science crisis in this country unless we start taking successful programs to a national scale. We must work our way out of this problem by growing a national workforce that is more science and math literate. Math and science are the new foundational literacy for everyone.

That's the bottom line. It is a daunting task. It is a scary task. But there is no other way to accomplish what we all in this room understand is needed as rapidly or as effectively.

Reinforcing math and science is the most common-sense way for our country to grow economically and to maintain our competitive leadership in the world. And again, this can't just apply to the top 5 percent, the top 1 percent of students – this has to apply to 55 million students in public schools in order for everyone's kids to a chance at the jobs of tomorrow. They have to reach a higher standard than they are reaching today and the only way to do that is on a national scale.

To use an analogy we're familiar with in America, we're on the one-yard line. The only problem is it may be our opponent's and we have 99 yards to go. But that's what we are here about today – to move the agenda so we can reach that goal line.

To move forward, the next step is up to you. Congress must complete the work begun with the passage of the America COMPETES Act and approve a significant infusion of funds for more rigorous math and science programs in our schools. More support is urgently needed to train the math and science teachers who can educate tomorrow's workers and thinkers and inventors. You can make a major difference by providing more funding for the AP Inventive and the Teachers for a Competitive Tomorrow program – both of which were authorized under America COMPETES.

I can assure you that in this time when resources are hard to come by, your support will be leveraged many times over by the contributions from the private sector -- and your constituents will be able to apply for those grants immediately. If you act this fall, you will see the benefits to math and science in your district schools by the spring semester.

As my friend Norm Augustine, who chaired the "Rising Storm" committee, says, "If we continue to ignore the obvious task at hand while others beat us at our own game, our children and grandchildren will pay the price."

I thank you for focusing on this urgent challenge for our country and I look forward to answering your questions.

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