

Solving our math and science problem

By: Dr. Taylor W. Lawrence, Raytheon Missile Systems president

Here's a tough math problem. How do you increase the number of Americans in science, technology, engineering and math careers when Baby Boomers currently in these jobs are starting to retire and young people are losing interest in these subjects?

That's the problem facing our country today. Science and technology are the bedrock of the global economy, and according to business and labor statistics, employment in these areas will increase about 70% faster than the rate for all occupations. So, it's bad timing that today's students are not demonstrating the necessary levels of interest or proficiency in math and science to fill these technological jobs.

American students are great at math compared to their international peers--in elementary school. However, by the time they reach middle school, only 32% are at or above a proficient level in math, according to the 2007 Nation's Report Card by National Assessment of Educational Progress, and they fall behind internationally.

Part of the reason for this decline in math skills is the stigma associated with excelling in math and science. Promising young students are often hesitant to achieve when good grades can earn them labels of "geek" and "nerd." In addition to peer pressure, many lack the role models to demonstrate the value of a math education and how it can prepare them for success. Even the success of übergeek Bill Gates has not really reversed this trend.

Middle school students need our attention. We need to nurture and support students' math abilities during these critical grades, before negative peer pressure takes hold. We need to provide them with suitable role models and show them the practical application of math in their lives.

New media tools are one way to reach them. This age group needs to have the wonders of math reinforced outside of school, on their terms, in a medium such as the Internet. They need to see how math is related to their interests, such as music, fashion or sports. They need to see that math can be fun, and that pursuing math can lead to scholarships and rewarding careers.

Diversity also needs to be a focus. According to the Census Bureau, minorities currently account for one-third of U.S. residents, and that proportion is expected to be close to half of all U.S. residents by 2050. In addition, women now outnumber men on college campuses, but in too many engineering programs, women still make up less than 20% of the students. To solve our math problem, science, technology, engineering and math professions need to be attractive and welcoming to all talent pools.

Governments and academia are doing their part in providing new funding, curricula, and better tools and training for teachers. Yet they cannot solve this problem alone. U.S. businesses must do their part. They can leverage their expertise in areas like marketing

and new media to support inventive programs, and provide passionate employee role models to spark and sustain interest in scientific education and careers among children of all ages.

Middle school, diversity rules, role models and new media tools--that is how we in America's business community can help address our national math problem.