

Did Bush Do The Math?

America might not need lots more science students

By Alex Kingsbury

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For the past 50 years, the country that invented the nuclear bomb, the telephone, and the light bulb has been worried about its technical prowess. In the early days, the Soviets posed the greatest threat; now the bogeymen of global competition are China and India. President Bush's call in his State of the Union address for more spending on science and math reflects this persistent national anxiety that the country is falling behind. Bush's goal of continuing to "lead the world in human talent and creativity" was well received, but not everyone agrees on the nature of the threat.



What if *American Idol* auditioned engineers? Just a thought.

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There is little doubt that schools could do a better job educating students, especially in math and science. The National Assessment of Educational Progress, aka the nation's report card, found that only 36 percent of fourth graders and 30 percent of eighth graders were proficient in math last year. In 12th-grade tests in 2003, the United States ranked 16th out of 21 countries in science and 19th in math. And those scores matter: A production associate's job in an automobile plant requires basic math skills that nearly half of America's 17-year-olds do not possess. "The problem is not a lack of spending but a lack of focus on math and science and the importance of continued American competitiveness," Rep. Howard McKeon told a congressional hearing last summer.

The president's "competitiveness initiative" will commit \$136 billion to science and math education over the next 10 years. It calls for the training and hiring of 70,000 new science and math (as well as foreign language) teachers for high-level courses like Advanced Placement, recruiting 30,000 professionals as adjunct math and science teachers, and extending No Child Left Behind accountability testing to science classes. "Filling the education pipeline with math and science students is critical, and this is a good beginning," says Nils Hasselmo, president of the Association of American Universities, who taught foreign languages in the United States under the auspices of the National Defense Education Act, a government-funded science initiative in the 1960s.

Engineering mechanics. While there is strong support for better education, not everyone agrees that the country is losing its competitive edge or that there is a shortage of skilled workers. Critics note that while business leaders and politicians insist there is a shortage of engineers, such indicators as higher salaries have not resulted. A 2004 report by Rand found no evidence of

shortages in the scientific workforce, and a study from Duke University last month revealed that the number of engineers earning degrees in foreign countries was exaggerated and misleading. China, for example, classifies auto mechanics as engineers.

The latest round of hype leads some to fear a repeat of the 1990s, when perceived shortages prompted thousands of students to earn computer science degrees only to have their jobs vanish when the tech bubble burst. "Convulsive fluctuations in supply and demand are unhealthy when the lag time for producing workers is so long," says Michael Teitlebaum, a demographer with the Alfred P. Sloan Foundation. Plus, he says, such fluctuations make future students reluctant to study glutted disciplines.

But all sides agree that math and science education needs improvement. Later this month, Congress will hold hearings on two bills that echo the president's recommendations. Whatever the future holds for the scientific workforce, the most important thing the president may have done was simply to raise the issue. For years, business leaders and educators have sought a Sputnik moment--a patriotic call to spur American competitiveness. Ending an "addiction to oil" through scientific innovation may be the moment they've been waiting for.