

## **A Lesson from Sputnik: Invest In Science Education For Future Rewards**

By David R. Smith, M.D.

Fifty years ago today, Oct. 4, Sputnik was launched into orbit. That technologic feat — called by many the “shock of the century” — showed that America had been out maneuvered and out flanked at the very start of the Cold War. The Soviet launch of the first artificial satellite raised deep concerns about our academic and scientific prowess.

To regain its edge, our nation invested in a bold new partnership: a joint venture between the federal government, private industry and educational institutions to build an academic platform steeped in math and science. Never before had the value of higher education been so universally appreciated. We were inspired to achieve and afraid to fail.

Today, we can argue that we again need the galvanizing effect Sputnik provided. The United States is in danger of being surpassed in our classrooms and laboratories. The excitement regarding science education — which helped to create a well-educated workforce — has dwindled. In our own state we confront the necessity to educate science-literate professionals in the face of eroding state and federal support for universities and research, a decline in students who are prepared for college-level science courses, and a lower-than-average high school graduation rate. This collision of realities must be our call to action.

While fear for our future is a hefty motivator, we can also look to the positive to address this challenge. This year, 89 percent of New York’s graduating seniors took the SAT exam, more than any other state in the nation except Maine. This is a strong indicator that an increasing number of students see themselves as college bound. According to the Labor Department, workers with a bachelor’s degree earn 45 percent more in median wages, and those with a master’s degree earn 55 percent more, than those without. Of the top 20 fastest-growing careers in New York state, fully three-quarters demand some form of higher education and half require familiarity with science or engineering.

At our own university, which educates future doctors, nurses, health professionals and biomedical scientists, I see students who reflect the promise of science education and who will be rewarded with interesting careers. Every degree program we offer requires a strong understanding of science — which is less about memorizing a collection of facts, and more about embracing an entire way of thinking. Our students also want to share their enthusiasm: last spring, more than 30 medical students mentored fifth graders at the Dr. King Magnet School for three months, culminating with a science fair. Preparing more young people to succeed in school, and then at our neighboring colleges and universities, will benefit us all.

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On the state and national level, there are encouraging signs. A report from the National Science Foundation detailing concerns about American competency in science and math prompted bipartisan support in Congress for a new law that calls for investment in education and research. A state program offers SUNY scholarships to New Yorkers who agree to teach math and science for five years. This commitment to new scholarships, teacher training and funding for labs is a good start, but more needs to be done.

Fifty years ago, Sputnik was a wake up call. The vision was clearly defined and the public investment in education was forthcoming. The return on investment resulted in a golden age of scientific accomplishment that transformed and improved the way we live. Today we need a similar aggressive strategy— one that recognizes that an investment in science education is the best way to meet our need for a competitive labor force and to launch the best in human potential.

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