

Forge Math-Science Hub Here

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A crisis is brewing, and it needs our attention. In our local and national economies, innovation is the prerequisite for developing the new ideas that will produce jobs. Such innovation requires people trained in math and science. However, the United States is lagging far behind other countries in producing college graduates with degrees in math and science.

The problem begins in the elementary and secondary schools. The Council on Independent Colleges and Universities recently reported that in the fourth grade, U.S. students score above the international average in math and near first in science. In eighth grade, they score below the international average in math and only slightly above in science. By 12th grade, they are near the bottom of a 49-country survey in both fields.

Political and business leaders agree that to reverse this trend we must produce more math and science teachers. The Business Council of New York, for example, adopted an "innovation agenda" designed to grow the state's economy. One of its five priorities is more math and science teachers. A panel of experts from the National Academies has identified as its No. 1 recommendation that we yearly recruit 10,000 math and science teachers, and strengthen the skills of 250,000 existing K-12 teachers.

Our political leaders have submitted a number of proposals designed to create incentives for those who enter the math and science teaching profession.

Sen. Charles Schumer, D-N.Y., recently introduced a bill titled the "Math and Science Teaching Corps" intended to recruit, train and retain math and science teachers. Participants would receive stipends in addition to their regular salaries. This program would be especially attractive to those with math or science degrees who want to start a teaching career.

Various proposals also are circulating at the state level in New York to:

- Authorize college scholarships in exchange for a commitment to teach math or science in New York schools.
- Create a loan repayment program in which the state would pay part of the college loans incurred by students who agree to teach math or science in New York schools for a designated period.
- Create math and science high schools throughout the state.

- Fund summer institutes that would offer programs to strengthen the skills of current teachers.

Each of these proposals and others deserve prompt attention.

At Nazareth College, we already are examining ways to increase the focus on math and science education. In the past few years, one-half of our math majors became teachers, and most of them remained in western New York. One of our faculty members just received a large, two-year grant from the National Science Foundation to develop innovative interdisciplinary approaches to teaching math and science.

We are considering the feasibility of a degree in math and science teacher education. This summer, we will partner with Infotonics to conduct a science camp for 50 children in fifth through eighth grades.

The many outstanding higher education institutions in the Rochester area also have a unique opportunity to develop a center that could become a national base for preparing college students in math and science. Besides a few large metropolitan areas, no area in the country has the collection of academic institutions that exists here. Working cooperatively, we could become a national site for education of students in the various fields requiring math and science.

Through partnerships with government and business, we could become a national leader in these critical efforts.