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Business

Raytheon gives \$1m to help cultivate engineering

Museum of Science effort targets US gap in grade-school skills

By **Michael B. Farrell** GLOBE STAFF OCTOBER 05, 2011

Raytheon is expected to say today that it will contribute \$1 million to a Museum of Science initiative to spark grade schoolers' interest in engineering, a subject in which US students lag far behind their global counterparts.

The Waltham-based defense contractor's money is intended to expand the reach of Engineering is Elementary, an eight-year-old program that brings engineering and technology lessons to elementary school classrooms across the country. It will establish teacher training centers in Washington, D.C., Phoenix, and Huntsville, Ala.

Education specialists, policy makers, and business leaders have long stressed the need for schools to focus more attention on the so-called STEM subjects (science, technology,



Bob Imber, a teacher at Rice Square School in Worcester, introduced fourth-graders to “Now You’re Cooking: Designing Solar Ovens.” The program, from Engineering is Elementary, couples the topic of energy with green engineering.

engineering, and mathematics) so the United States can better compete with countries that are turning out many more science and engineering graduates.

Engineering is Elementary grew out of the Museum of Science’s desire to connect young students with technology and engineering lessons outside its walls, said Paul Fontaine, the museum’s vice president of education.

Over the years, it has reached more than 27,000 teachers and about 2 million students across the country. “The museum recognized in the early 2000s that there was a huge gap and opportunity in engineering and technology education,” Fontaine said.

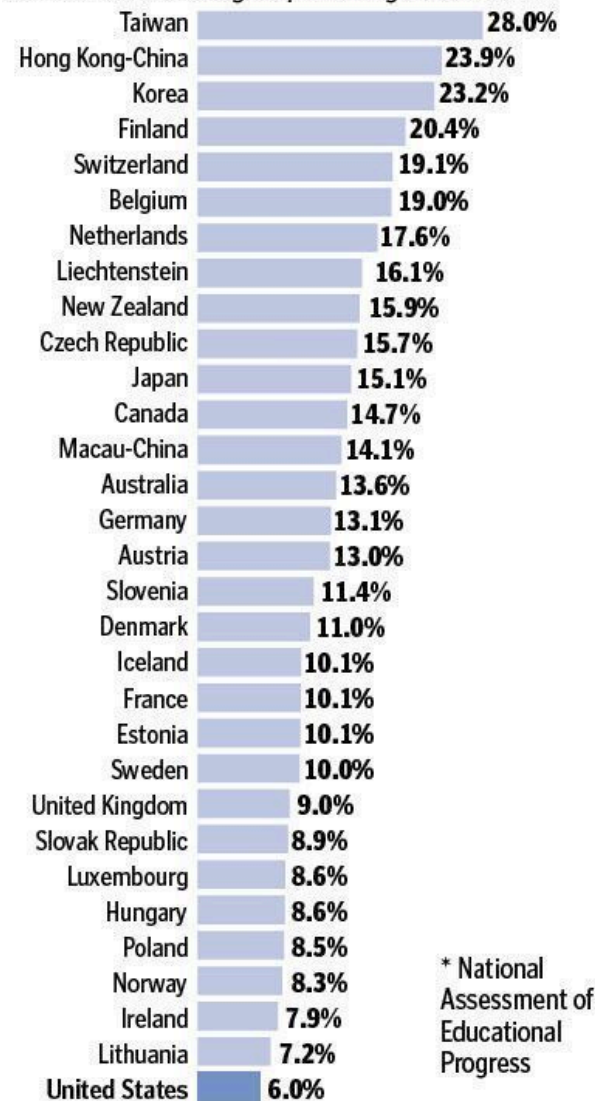
The program’s ultimate goal, he said, is “to create a science- and-technology-literate population who are coming out of American schools.”

Eric Hanushek, the Paul and Jean Hanna senior fellow at the Hoover Institution of Stanford University, said there is much progress to be made.

“We fall down in many of our math and

Percentage of students at or above advanced level on the NAEP* math test

30 countries have higher percentage than the US



* National Assessment of Educational Progress

SOURCE: “US Math Performance in Global Perspective”
GLOBE STAFF

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Just 6 percent of US eighth-graders are rated advanced in math, versus 28 percent in Taiwan.

science skills” during elementary school years, he said.

Increasingly, young students’ exposure to these areas is critical for creating the building blocks of interest and capabilities in STEM subjects, said Hanushek, who is not affiliated with the Museum of Science program.

Six percent of US students are rated as advanced in eighth-grade math, while 28 percent of Taiwanese students are considered high math achievers, according to a 2010 report coauthored by Hanushek and published by Harvard University’s Program on Education Policy and Governance.

When the report compared states, Massachusetts rated the best, with 11 percent of students considered advanced in math.

“Our research showed that the drop in interest and capability in STEM subjects started in middle school,” said Pamela Wickham, vice president of corporate affairs and communication at Raytheon. “All we are trying to do is reconnect the importance.”

Wickham said she wants children to connect their interest in such things as playing video games and texting to the engineering and math that make those activities possible.

Boosting interest in engineering is especially important for high-tech defense corporations such as Raytheon. It is one of Massachusetts’s largest companies, with \$25 billion in sales last year and a global workforce of 72,000, but faces a potential shortage of engineers.

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