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IN THE AFTERMATH OF SEPTEMBER 11, U.S. SECURITY IS A NEW REASON TO IMPROVE SCIENCE EDUCATION

Innovations in science and technology have long been synonymous with economic prosperity. On the other hand, it's probably safe to say that science and technology and the state of U.S. science education aren't the first things that come to mind when one thinks about the events of September 11. Or is it?

Consider the findings of a recent survey of adult Americans the Gallup Organization conducted on behalf of Bayer Corp. The survey reveals Americans are not only overwhelmingly cognizant of the role science and technology play in U.S. security, almost all call it "critical" and say it will be "very important" in helping the United States meet future terrorist threats. At the same time, however, they are concerned about whether today's students have the skills necessary to produce the science excellence required for homeland security and economic leadership in the 21st century.

In The Bayer Facts of Science Education IX: Americans' Views on the Role of Science and Technology in U.S. National Defense, Americans say the military and other agencies assigned to protect them both at home and abroad rely heavily on science and technology and that America's growing emphasis on national security will create new science and technology job opportunities for today's students. But they fear that many of today's students are not being prepared educationally for these opportunities. This may very well be the reason why many believe the United States must make improving precollege science and math education a major national priority. And, they believe business and industry have an important role to play in this effort.

INTERSECTION OF SCIENCE AND SECURITY

The events of the last two years clearly have had a profound effect on the collective American consciousness. One result is that a growing number of Americans recognize the intersection of science and security. They understand that today science and technology not only provide us with new medicines, better electronics, and hi-tech gadgets, they are part of a country's front-line defense.

Unfortunately, they're also the basis of many of the potential security threats that confront us today, threats such as bioterrorism, nuclear terrorism, and cyberterrorism.

To understand and deal more effectively with these threats, Americans cite science literacy as a powerful tool not only for those professionals engaged in security, but also for average Americans. Many of those polled say it would be wise for them to bolster their own level of science literacy so they can make better decisions about protecting themselves and their families against these threats. And, most believe that since Sept. 11, it is even more important for today's students to be science literate.

DEVELOPING SCIENCE LITERACY

How can we, as an industry, ensure a science literate American citizenry?

The experts say this begins with quality science education that starts in elementary school. They advocate replacing traditional textbook-based education with hands-on science learning that helps bolster students' science literacy by building their critical-thinking, problem-solving, and team-working skills. This is something that almost nine in 10 Americans endorse in the survey.

Exposing students to real-life role models is another excellent way to ratchet up the quality of science education. In fact, Americans believe it is particularly important for companies that employ science and technology workers to play an active role in improving precollege science education, with almost two-thirds (63%) calling it "very important." What kind of company-sponsored programs get high marks? Friends and colleagues take note: Americans prize most highly programs that bring scientists, engineers, and technical workers into classrooms to work with students and teachers. They also value greatly programs that provide one-on-one mentoring between scientists and engineers and middle- and high-school students, as well as high-school internship programs that bring students into companies to interact with these professionals.

These types of programs don't involve a huge financial investment on the part of corporations. What they do require is commitment.

Americans have spoken. Now it's up to each of us involved in the business of science and technology to make the commitment. In the end, science education is our business, too.

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