

Creating A Healthy U.S. Science Pipeline Is Rooted In College Teacher Training Programs

(NAPSA)—The National Science Foundation and its governing board, the National Science Board, issued companion reports recently confirming the U.S. is facing a critical science pipeline problem that threatens to undermine our global preeminence in science and technology. Simply put, the U.S. is not producing the numbers of scientists and engineers it needs to fill a job sector that is growing faster than any other.

But how can we expect our students to achieve in science and go on to pursue careers in these fields when their teachers don't feel qualified to teach the subject?

That question is the focus of a new national survey commissioned by Bayer Corporation that polled deans of the nation's schools of education who are responsible for training America's teachers and the country's newest generation of elementary teachers themselves.

The Bayer Facts of Science Education X survey finds that while deans believe science should be the fourth "R" and placed on equal footing with reading, writing and math, science is still treated as a second-tier subject, as much in teacher training programs as in the classroom itself.

For example, new teachers report that when they were in college, science received less emphasis than English and math in their teaching methods courses, a finding with which the deans concur. And, many more new teachers and deans gave "A" grades to their English and math teaching prepa-

ration than to their science prep. Further, of all subjects, science is the one new teachers say they wish had been given more emphasis in college, with one in three saying they rely more on what they learned in high school to teach it.

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This all impacts today's elementary school classrooms, where most teachers polled say that, unlike other core subjects, they do not teach science every day. Second, fewer new teachers say they feel "very qualified" to teach science compared to the other basics. Only 14 percent rate their school's overall science program excellent, while another 30 percent rate it fair or poor.

"Considering how important science is to the nation, that is unacceptable," said John Payne, President and General Manager of Bayer HealthCare LLC—Animal Health Division, North America and Chairman of Bayer's *Making Science Make Sense* program. "During elementary school we get the best first opportunity to grab students' attention and keep them engaged. That's when students, if taught science in a hands-on, inquiry-based manner, begin to develop important lifelong science literacy skills, such as problem solving, critical thinking and team

working."

In the survey, hands-on, inquiry-based science learning gets the clear thumbs-up. Nearly all deans and teachers agree that this is the most effective way for students to learn science.

Further, eight in 10 deans report that this is the method their institution primarily uses to train its elementary teacher candidates to teach science, a finding confirmed by the teachers surveyed. Eight out of 10 new teachers say it's the method they use most often in their classrooms, versus the six in 10 who weighed in 10 years ago in the first *Bayer Facts* survey.

"While there is definitely movement in the right direction, the survey tells us that elementary science education needs a stronger emphasis in college teacher training programs if we are to successfully make science the fourth 'R,'" said Payne. "We also know that colleges and universities need not go it alone because model programs that give science first-tier emphasis exist and can be emulated by others."

Payne pointed to California University of Pennsylvania, Duquesne University and Robert Morris University in Pittsburgh, Western Washington University in Washington state and West Liberty State College in West Virginia as among those having model programs.

For more information, please visit www.BayerUS.com/MSMS.