

# FOR IMMEDIATE RELEASE

## FACT SHEET

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*The Bayer Facts of Science Education X: Are the Nation's Colleges and Universities Adequately Preparing Elementary Schoolteachers of Tomorrow to Teach Science?*

### **New K-5 Schoolteachers and Deans of Schools of Education: A Side by Side Comparison**

	<i><b>NEW K-5 SCHOOLTEACHERS</b></i>	<i><b>DEANS OF SCHOOLS OF EDUCATION</b></i>
<b>Preparation to Teach Core Subjects</b>	Many more new teachers give an “A” grade to their English and math teacher preparation (39 % and 28 %, respectively) than they do to their science teaching preparation (18 %).	Many more deans give an “A” grade to their English and math teacher preparation (76 % and 56 %, respectively) than they do their science teaching preparation (40 %).
<b>Core Subject Emphasis</b>	More than eight in 10 teachers (82 %) say, overall, English receives the most emphasis, while science and social studies vie for least emphasis (25 % and 60 %, respectively) in their schools.	Nearly three-quarters (72 %) of deans say, overall, English receives the most emphasis, while science and social studies vie for least emphasis (26 % and 45 %, respectively) in their teacher preparation programs.
<b>Qualified to Teach Science</b>	Teachers are least likely to call themselves “very” qualified to teach science (61 %), as compared to English (85 %), math (87 %) and social studies (66 %).	Deans are least likely to call their graduating K-5 teacher candidates “very” qualified to teach science (60 %), as compared to English (90 %), math (78 %) and social studies (69 %).
<b>Comfort Answering Students’ Questions About Science</b>	Nearly six in 10 (57 %) say they are “very” comfortable answering their students’ science questions, while one-third (36 %) characterize themselves as “somewhat” comfortable in this area.	Three in 10 (31 %) deans believe their graduating K-5 teacher candidates are “very” comfortable answering student questions about science, while six in 10 (60 %) believe they are “somewhat” comfortable.
<b>Most Effective Way to Teach Science</b>	Nearly all (93 %) of teachers say the most effective way for students to learn science is by conducting experiments, forming opinions and discussing and defending their conclusions with others.	Nearly all (95 %) of deans say the most effective way for students to learn science is by conducting experiments, forming opinions and discussing and defending their conclusions with others.

	<i><b>NEW K-5 SCHOOLTEACHERS</b></i>	<i><b>DEANS OF SCHOOLS OF EDUCATION</b></i>
<b>Pre-Service Education Emphasis in Science Teaching Preparation</b>	More than eight in 10 teachers (84 %) say their pre-service education most often emphasized a hands-on, inquiry-based approach to science teaching where students conduct experiments, form opinions and discuss and defend their conclusions with others.	More than eight in 10 deans (83 %) say their institution most often emphasize a hands-on, inquiry-based approach to train its teacher candidates to teach science where teachers have students conduct experiments, form opinions and discuss and defend their conclusions with others.
<b>Grades for Pre-Service Education’s Exposure to Hands-On, Inquiry-Based Science Teaching</b>	Teachers say: A = 40 % B = 37 % C, D or F = 22 %	Deans say: A = 80 % B = 17 % C, D or F = 6 %
<b>Grades for Pre-Service Education’s Practical Training in Hands-On, Inquiry-Based Science Teaching</b>	Teachers say: A = 31 % B = 38 % C, D or F = 30 %	Deans say: A = 80 % B = 16 % C, D or F = 7 %
<b>Future K-5 Teacher Education Preparation and Science</b>	A large majority of teachers (72 %) agree that “elementary teacher education programs should require their undergraduates to take more coursework both in science itself and in science teaching methods.”	A large majority of deans (84 %) agree that “elementary teacher education programs should require their undergraduates to take more coursework both in science itself and in science teaching methods.”
<b>Science as the “4<sup>th</sup> R”</b>	Half the teachers (53 %) say they <i>believe</i> science should be the “fourth R” (i.e., have the same emphasis as reading, writing and math) in elementary school. The other half (46 %) say they <u>do not believe</u> science should be the “fourth R” in elementary school.	More than three-quarters of deans (77 %) <i>believe</i> science should be the “fourth R” (i.e., have the same emphasis as reading, writing and math) in elementary school. The remaining one-quarter (23 %) say they <u>do not believe</u> science should be the “fourth R” in elementary school.
<b>Confidence in K-5 Science Education for Today’s Students</b>	Some 44 % of teachers are “very” confident and another 44 % are “somewhat” confident that their students are getting a good science education. Roughly one in 10 (9 %) are “a little” or “not at all” confident. <i>However, only 14 % assign an “A” to their school’s overall science education; nearly one-third give it a “C, D or F”; 56 % a “B.”</i>	Only 7 % of deans are “very” confident and another 37 % are “somewhat” confident that today’s K-5 students are getting a good science education. More than half (56 %) are “a little” or “not at all” confident.”

	<b><i>NEW K-5 SCHOOLTEACHERS</i></b>	<b><i>DEANS OF SCHOOLS OF EDUCATION</i></b>
<b>Familiarity with <i>National Science Education Standards</i></b>	Two-thirds (66 %) of teachers report they are familiar with the <i>National Science Education Standards</i> (23 % very familiar; 43 % somewhat familiar); one-third (34 %) say they are “a little” or “not at all” familiar with the <i>Standards</i> .	More than three-quarters (77 %) of deans report that they are familiar with the <i>National Science Education Standards</i> (32 % very familiar; 45 % somewhat familiar); one-quarter (23 %) say they are “a little” or “not at all” familiar with the <i>Standards</i> .
<b>Impact of <i>National Science Education Standards</i></b>	Nine in 10 teachers (90 %) agree that “science education reform as exemplified in the National Science Education Standards will substantially strengthen science education and improve student performance” (22 % strongly agree; 67 % somewhat agree).	Nine in 10 deans (90 %) agree that “science education reform as exemplified in the National Science Education Standards will substantially strengthen science education and improve student performance” (41 % strongly agree; 49 % somewhat agree).
<b>Science Literate?</b>	Roughly three in 10 teachers (29 %) consider themselves “very” science literate; 62 % say “somewhat;” and, 9 % say “a little” or “not at all.”	Three in 10 deans (30 %) call themselves “very” science literate; 51 % say “somewhat;” and, 19 % say “a little” or “not at all.”