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New Research Reinforces the Need for Next Generation Science Standards

Since the *Sputnik* launch, Americans have regarded science education as vital to national security and economic growth. Yet, recent research indicates that U.S. students lag internationally in science education, making them less competitive for jobs in the global workforce. The Thomas B. Fordham Institute released [The State of State Science Standards](#), which points out that the K-12 science standards of most states are mediocre, at best, placing America's technological prowess and scientific leadership in jeopardy. (Watch the panel discussion [video](#).) Just recently, a National Science Board [report](#) found that the U.S. could soon be overtaken as global leader in supporting science and technology unless improvements are made.



The need for the next generation of science standards is both real and urgent: Over the past 15 years, students' achievement in science has remained stagnant with no more than 30% of students meeting the proficiency mark on the National Assessment of Educational Progress (NAEP) and about the same percentage of students at the "below basic" level. Internationally, between 2000 and 2006, the number of countries scoring higher than the U.S. on the PISA science assessment rose from 6 to 12. Economically, over the past 10 years, growth in science, technology, engineering and mathematics (STEM) jobs was three times greater than that of non-STEM jobs, and STEM jobs are expected to continue to grow at a faster rate than other jobs.

The Georgetown University Center on Education and the Workforce recently released a report exploring both projections for STEM jobs and how STEM skills are utilized across non-STEM jobs: "STEM provides choice for people both immediately after school and at mid-career, allowing people to transition to different and oftentimes more lucrative career pathways, including management and healthcare that provide long-term stability and excellent wages," said Anthony P. Carnevale, the Center's director and the report's lead author. (See a state-level analysis of STEM jobs [here](#).)

It's clear that we must provide our students a strong science education so they have the necessary knowledge to compete in a global economy. A strong understanding of science is crucial not only to our success as a nation, but to

living in the 21st century, and first-class K-12 science standards provide the necessary foundation.

All of this underscores why twenty-six states are leading the development of the [Next Generation Science Standards](#) (NGSS), a shared effort that will clearly define the science content, practices and crosscutting concepts all students will need to learn from kindergarten through high school graduation.

The NGSS are being developed in a two-step process in partnership with the National Research Council (NRC), the National Science Teachers Association (NSTA), the American Association for the Advancement of Science (AAAS) and Achieve. The first step was the development of [A Framework for K-12 Science Education](#), led by the NRC, which identified the broad ideas and practices in natural sciences and engineering that all students should be familiar with by the time they graduate from high school.

The second step is drafting standards true to the Framework. Led by 26 states, a writing team comprised of science educators and experts from around the country have begun drafting the Next Generation Science Standards, a process which Achieve is managing. The final standards will be released in early 2013, with two public review and feedback periods scheduled for the spring and early fall of 2012. For more information, see www.nextgenscience.org.

New from Achieve

ESEA WAIVERS

On February 9, ten states were granted ESEA waivers from the U.S. Department of Education. These waivers will provide the states with flexibility in meeting the federal accountability requirements established through No Child Left Behind, based on the states' promises to hold students to rigorous (college- and career-ready) standards and to establish new strategies for evaluating educators and turning around struggling schools. The first 10 states to receive the waivers are Colorado, Florida, Georgia, Indiana, Kentucky, Massachusetts, Minnesota, New Jersey, Oklahoma and Tennessee, with most other states, including New Mexico, working on their applications or deciding whether they want to pursue a waiver at a later time. For more on the waivers, visit the [U.S. Department of Education website](#) or read the *Education Week* [article](#), or watch President Obama's remarks [here](#).

PARCC

The Partnership for Assessment of Readiness for College and Careers (PARCC) released an Invitation to Negotiate (ITN) for Education Leader Cadres, which will engage educators in the implementation of the Common Core State Standards (CCSS) and the PARCC assessments. The purpose of this ITN is to procure services to support a three-year effort to develop and interact with a network of

K-16 educators to build expertise in the CCSS and PARCC. [More...](#)

In January, PARCC and the SMARTER Balanced Assessment Consortium announced they have awarded a contract to Pearson to develop a new Technology Readiness Tool to support states as they transition to next-generation assessments. This new open source tool, with the assistance of the State Educational Technology Directors Association (SETDA), will support state education agencies as they work with local education agencies to evaluate and determine needed technology and infrastructure upgrades for the new online assessments to be launched by the two consortia in the 2014-15 school year. [More...](#)

In December, PARCC also released an ITN to select contractor(s) for the development of items, tasks, and related assessment materials for PARCC's mid-year, performance-based, and end-of-year assessment components in ELA/literacy and mathematics. This procurement will generate a large bank of materials to support the development of the PARCC assessments that will be administered in all member states in 2014-15. [More...](#)

Embracing the Common Core: Helping Students Thrive

Academic content standards define what students should know and be able to do, and provide guidance to teachers and schools on content and instruction. Ohio's schools will soon move from the current standards in mathematics and English language arts to more rigorous standards developed and embraced by a consortium of 46 states and the District of Columbia. Ohio joined other states in adopting these new standards, and the aligned assessments that go with them, to help ensure that students learn the knowledge and skills needed for success in college, careers, and life.

On February 15 the Thomas B. Fordham Institute will host an event in Columbus, Ohio — which will be [streamed live](#) — around the how and why the Common Core and more rigorous assessments are necessary to improve the educational outcomes and life chances of Ohio students. Topics to be covered include the implementation

News Clips

1. North Carolina Prepares for Common Core

North Carolina schools are gearing up to implement the Common Core State Standards. Jason Van Heukelum, assistant superintendent of curriculum and instruction for Cabarrus County Schools, said "You could argue this is stemming from the economic crisis, the perception that America is lacking behind other countries, especially in math and science." [More...](#)

2. Ohio Sets Bar Higher

Ohio State Superintendent of Public Instruction Stan Heffner wants to help raise the bar and set new

timeline, challenges and opportunities associated with the Common Core standards and aligned assessments, and exactly why the Common Core standards are needed for the state's children and their collective future.

Confirmed presenters are:

- Mike Cohen, president of Achieve
- Stan Heffner, Ohio state superintendent of public instruction
- Melissa Cardenas, director of academic quality and assurances for the Ohio Board of Regents
- Steve Dackin, superintendent of Reynoldsburg City Schools
- Chester E. Finn, Jr., president of the Thomas B. Fordham Institute
- Eric Gordon, CEO of Cleveland Metropolitan Schools
- Debe Terhar, president of the Ohio State Board of Education
- Deb Tully, director of professionals issues for the Ohio Federation of Teachers

There is no need to register for the webcast — simply visit the website, www.edexcellence.net/events/, at 9:30 a.m. ET on February 15.

standards for Ohio's public school children to meet in the next few school years. Beginning with the 2014-15 school year, changes include new learning standards and course content, with new tests to be performed online.

[More...](#)

3. **Common Core Gets Moving in Louisiana**

The wheels of the Common Core State Standards are in motion for the Concordia Parish School Board. Dr. Rhonda White Wilson said the ability to have the entire country on the same page regarding curriculum and lesson planning could be extremely beneficial. "Right now every state does their own thing, which isn't good if you have a student moving to another state who has to repeat or make up work," Wilson said. "This way we would be teaching the same thing in Louisiana in the third grade as they would be teaching in Mississippi or Arkansas." [More...](#)

New Resources

- In a trend largely motivated by the Great Recession, most incoming college freshmen now say their primary reason for going to college is to be able to get a better job, according to a survey by higher education researchers at UCLA. The trend represents a radical departure from pre-recession years, when most incoming freshmen indicated that their primary reason for going to college was to learn more about things of interest. Specifically, in 2006, before the current recession, the report states, 76.8 percent of incoming freshmen indicated that learning about things that interested them was "a very important" reason to go to college, whereas only 70.4 percent indicated the same for getting a better job. Now, 85.9 percent say getting a job is very important, whereas 82.9 percent said learning more about things of interest was very important. [The American Freshman: National Norms Fall 2011](#) was prepared by the Cooperative Institutional Research Program, or (CIRP), at the Higher Education Research Institute at UCLA.
- The Data Quality Campaign (DQC) released [Data for Action 2011](#), which underscores the growing momentum across states around the use of data to inform education decisions. It finds that states increasingly are providing stakeholders with appropriate access to data but are failing to build these stakeholders' capacity to effectively use the data to make decisions. "States have undeniably made tremendous progress in collecting quality data, but simply put-it isn't enough," said Aimee Rogstad Guidera, DQC executive director and one of [TIME's 12 Education Activists for 2012](#). "The hard work lies ahead, and we won't meet our educational goals until everyone in education, from parents to policymakers, is empowered to use data to make informed decisions aimed at improving student achievement." Commenting on the report, former Tennessee Gov. Phil Bredesen (and a former Co-Chair of Achieve's Board of Directors) told [The Tennessean](#) that, "You manage what you measure." But he stressed that the state — and the nation — are "just taking the very first steps" toward using data to help raise students' academic performance. To see a state by state analysis, visit www.dataqualitycampaign.org.

- According to *Education Week's Quality Counts 2012*, the nation receives a "C" when graded across the six distinct areas of policy and performance tracked by the report: Chance for Success, K-12 achievement; standards, assessments and accountability; teacher profession; school finance; and transitions and alignment. The *Quality Counts 2012* — the 16th edition of this annual analysis — also included a particular focus on international education, with commentaries on the nation's international standing in education, and lessons to be drawn from high-performing countries.



Achieve Job Opportunity

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