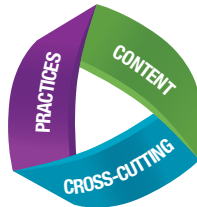
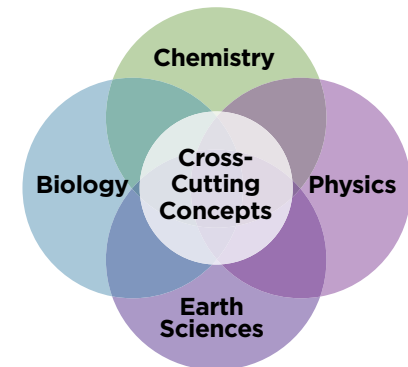


Academic standards set the foundation for our schools and set the expectations for what students should know and be able to do each year and upon graduation. While state science standards historically have been inconsistent, unfocused, and unimaginative — and not anchored in real-world expectations — 26 states are taking a step forward by developing the Next Generation Science Standards (NGSS).



The Next Generation Science Standards have some important innovations to ensure students are prepared for the challenges of college and the workplace, including:

- Every NGSS standard has three components: *content*, *scientific and engineering practices* and *cross-cutting concepts*. The integration of rigorous content and application reflect how science is practiced in the real world —and on-the-job in STEM occupations.
- A focus on a few disciplinary core ideas to ensure coherence within and across grades. This moves science education away from the siloing effect that occurs between Chemistry, Biology, Earth Sciences, and Physics, so that students can understand how the various science disciplines overlap, interact, and build on one another.
- A clear set of expectations for how scientific knowledge and engineering applications intersect across the disciplines.



Rather than siloing, NGSS includes cross-cutting concepts so students can understand how various science disciplines overlap and interact.

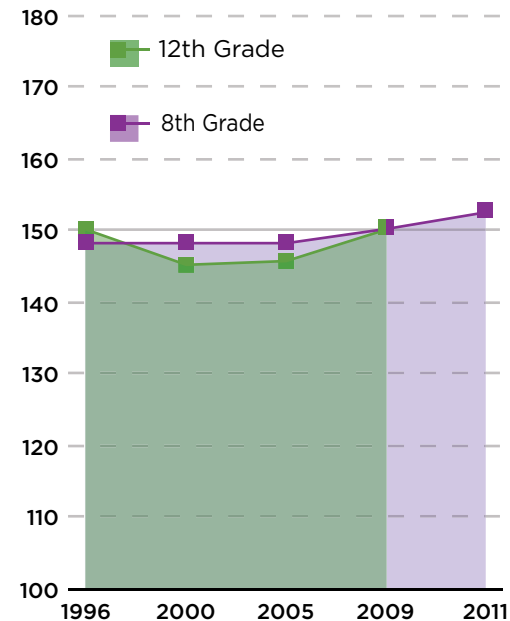
Key Messages

- The U.S. has a leaky K-12 STEM talent pipeline, with too few students entering STEM majors and careers, and too few highly-qualified teachers in the science disciplines. We need new science standards that stimulate and build interest in STEM education.
- 26 states are leading the development of the K-12 Next Generation Science Standards, which will be rich in content and practice and prepare students for college and careers.
- We can't successfully prepare students for college and careers unless we set the right expectations and goals. While standards alone are no silver bullet, they provide the necessary foundation upon which the rest of the science (and STEM) education system can be built.
- The NGSS are critical to the business community because they are designed to prepare all students today for the jobs of tomorrow.
- The NGSS will ensure that all students graduate from high school with the scientific skills and knowledge needed to excel in the workplace. And in turn, this will lead to more STEM-ready employees at all levels.

30%

Percent of high school graduates who took the ACT, scored college-ready in science

On the Nation's Report Card, U.S. Students' Progress Has Been Flat Since 1996 (Out of a Possible Score of 300)



Source: <http://nces.ed.gov/nationsreportcard/science/>





The business community has a legacy of being at the forefront of efforts to improve public education in America. Companies have made strategic investments—of time and funds—in education because the success of our nation in the global economy depends on a quality workforce.

To inform and rally more advocates within the business community, Achieve and the GE Foundation have developed *Business Resources for a College- and Career-Ready America* for business leaders interested in supporting college- and career-ready education reform. These resources provide:

- Case-making facts and data that outline the urgency for business engagement around education reform
- Critical and relevant background on college- and career-ready reforms, including the Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS) and the U.S. education system.
- Actionable strategies for engaging with employees, peers, CEOs and corporate executives, business associations, elected officials and the media in support of education reform

Additional Resources and Advocacy Tools

We encourage you to visit www.achieve.org/business for additional tools and strategies that will support your education advocacy efforts.

- Customizable PowerPoint slides and presentations for business leaders to use as they engage their networks internally and externally
- Templates for developing organization-specific fact sheets
- Clear examples of how current business leaders are educating, advocating and engaging in support of education reform

Sign up at www.tinyurl.com/Business-Resources-CCR-America for updates and new resources so you always have the most current information and tools at your disposal.

About Achieve

Created in 1996 by the nation's governors and corporate leaders, Achieve is an independent, bipartisan, nonprofit education reform organization leading the effort to make college and career readiness a national priority.

To this day, Achieve remains the only education reform organization led by a Board of Directors comprised of national business executives and prominent governors from each political party.

Through its 35-state ADP Network, Achieve supports governors, state K-12 and postsecondary leaders, and business leaders as they work together to develop policies that make the transition from high school graduation to postsecondary education and careers seamless. Achieve partnered with NGA and CCSSO on the Common Core State Standards Initiative, and was selected by states to manage the PARCC assessment consortium to create next generation assessments aligned to the CCSS. Achieve is also managing a state-led process to develop the Next Generation Science Standards.



www.achieve.org

About GE Foundation

GE Foundation works to solve some of the world's most difficult problems.

In coordination with its partners, GE Foundation supports U.S. and international education, developing health globally, the environment, public policy, human rights, disaster relief and community success around the globe. Through the Developing Futures™ in Education program, GE Foundation has committed nearly \$200 million to seven U.S. school districts to improve student achievement through a rigorous math and science curriculum, professional development opportunities for teachers and management capacity improvement.



GE Foundation

www.gefoundation.com



Two Paths to Effective Assessments: SBAC & PARCC

Led by educators, researchers, policymakers and community stakeholders, two groups of states – PARCC and SBAC – are developing next-generation assessment systems.

Anchored in real-world expectations, these assessments will measure the full range of knowledge and skills required by the new college- and career-ready (CCR) mathematics and English/literacy standards.

Both groups are developing technology-based assessment systems that will allow students, educators, parents, policymakers, and the public to identify whether students are on track to being academically ready for college and careers (within weeks of the test), where the learning gaps exist, and how those gaps can be addressed in high school before students enter college or the workforce.

While each state has their own priorities and challenges, PARCC and SBAC provide the opportunity for states to come together and move the field forward and break new ground in assessment

Benefits of SBAC and PARCC Assessment Systems

Consistency:

Comparable student achievement within and across states.

Equity:

The same college- and career-ready expectations for all students, regardless of zip code.

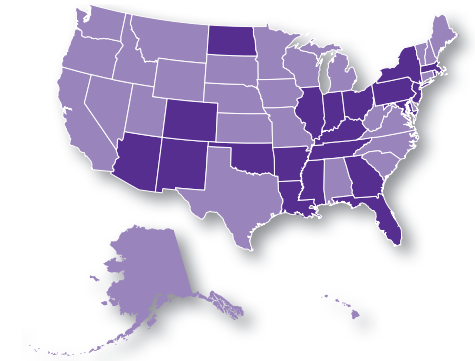
Mobility: As students move to new schools, educators can immediately assess their abilities with minor classroom disruptions.

Real World Skills: Skills that students need upon graduation.

Performance-based:

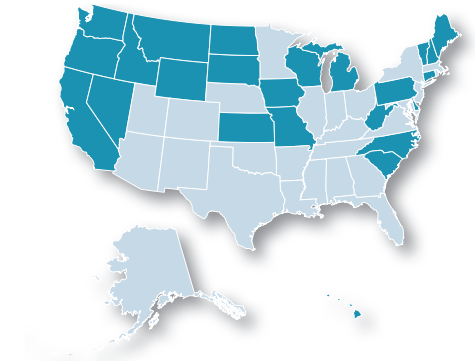
Assessment tasks will require students to apply their knowledge, not just fill in bubbles on multiple choice tests.

The Partnership for Assessment of Readiness for College and Careers (PARCC) has 22 member states that educate a combined 49 million public K-12 students.



www.parcconline.org

The Smarter Balanced Assessment Consortium (SBAC), consists of 24 member states that educate a combined 22 million public K-12 students.



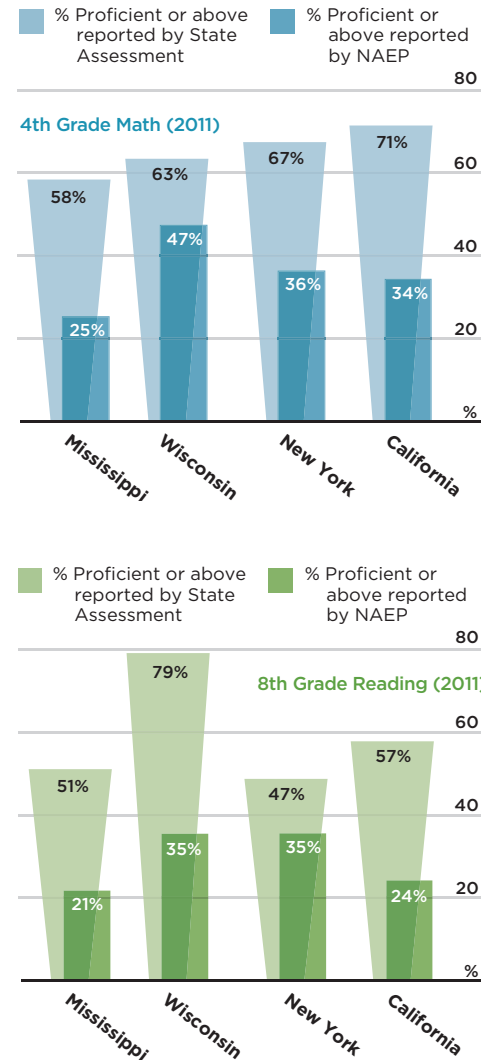
www.smarterbalanced.org



Key Messages About SBAC & PARCC

- The Common Core State Standards are a critical first step in improving our education system. The next step is creating K-12 assessments that measure the full range of the standards and ensure students are on track to be college- and career-ready.
- Too often, existing assessments aim too low. They fail to deliver honest, timely results that enable teachers to adjust instruction as necessary — and allow students to get the support and enrichment they need.
- SBAC and PARCC states have come together to develop common assessments, which will first be administered in the 2014-15 school year. They are anchored in college- and career-ready expectations and will provide an accurate picture of how well students and schools are achieving in mathematics and English/Literacy.
- These assessments will be critical to economic development. They will assess the knowledge and skills all students need for the careers of tomorrow, including the ability to communicate effectively, apply math to real-world situations, critically analyze literature and informational texts, and demonstrate problem-solving techniques.

Proficient Does Not Mean Prepared



Getting Your Business Association/Coalition to Step Up Their Education Activity

Do you belong to a business association or coalition that has a strong commitment to supporting K-12 education? Is the organization focused on the most important reforms?

Working with state and local business associations, such as chambers of commerce, business roundtables, industry associations, or business-education coalitions, can be a powerful way to promote education reforms and harness the power of a collective business voice.

Maintaining a focus on education

The most effective business groups focus on their key education issues and then maintain a commitment to those issues to ensure they are implemented successfully. These groups (and their leaders) meet with policy leaders, collaborate on op-ed pieces, speak at (and host) community events, provide testimony, and advocate in support of critical legislation, regulations, and implementation plans.

If your state or local business association is not speaking out about education issues, your company can encourage the organization to reevaluate its top priorities and get involved. Associations are established to represent the concerns of their members. Therefore, if it's a concern to you, it's likely to be a concern to others and should be on the association's agenda.

Key Messages

Education reform, aligned to the goal of all students graduating ready for college and careers, directly impacts:



Economic Growth

Job Creation



Workforce Development

Strategies for Engaging Your Business Association or Coalition

Working through a business coalition can be a powerful catalyst for change.

If your association is not yet active around college- and career-ready reform, you can:

- **Speak up at events** — whether they are related to education or not — about college and career readiness.
- **Extend an open-ended offer** to the association to be on meeting agendas to discuss how business can champion college- and career-ready reform.
- **Contribute any materials** your company uses to advocate for education — including the *Business Resources for a College- and Career-Ready America*.

If your association is already active around college- and career-ready reform, and you want to encourage them to play a larger role, you can:

- **Offer to lead an initiative** that is dedicated to advancing college- and career-ready reform.
- **Set up a special working group** to focus on this particular issue.
- **Encourage partnerships** with other organizations or coalitions to further amplify their voice.



Since 2004, the Georgia Partnership for Excellence in

Education, in cooperation with the Georgia Chamber of Commerce, has held more than 175 briefings (by request) on “The Economics of Education” to stakeholders including legislators, educators, business leaders, and locally elected leaders. The briefings provide an overview of educational achievement and attainment across the state, as well as the cost of an undereducated population to Georgia, and advocate for strengthening the “birth to work pipeline,” raising educational expectations and improving transitions to college and work.



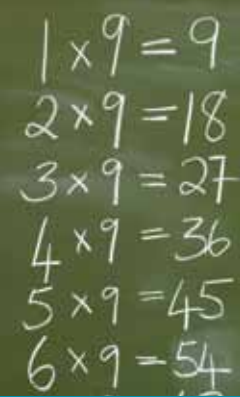
Engaging Your Employees

Employees are invested in the future of education. Your employees have children, grandchildren, nieces, nephews and children of their friends who are in schools today preparing for the careers of tomorrow. They also are aware that the workplace is demanding higher levels of knowledge and skills than ever before — a trend which will continue into the future.

Shaping the Message

Sharing what your company is doing to support education can be a powerful catalyst for engaging employees in your efforts. Once you begin to speak out about education, you'll find that many of your employees are already active in their local schools. They serve on school boards, volunteer as mentors, and tutor students on their own time. They also volunteer to speak at career fairs and in their children's classrooms. Your employees want to engage with students to help motivate them to pursue challenging, rewarding careers.

Your employees can deliver information to help students envision their future more clearly. Students need role models and are more likely to remain interested in their education if they understand how their studies link to the world of work.



Key Messages



Students today are our future employees.

They are your future colleagues.



For some of you, they are your children.

It is imperative they graduate high school with the skills and knowledge that prepare them for college and careers.

Strategies for Employee Engagement

- Profile activities in company newsletter to update the company on what employees have done to advocate for high-quality education.
- Share news articles about local schools or districts in your company's newsletter or listserv.
- Communicate directly from the top; messages from the CEO and senior leadership can reinforce the need for employees to support college and career readiness.
- Host quarterly brown bag lunches to share information and keep employees updated on developments in education.
- Post information on education, standards and reform activities on your company's intranet site.
- Start employee "Education Advocates in Action" groups to allow employees to meet frequently, share experiences and keep each other motivated. In time, honor top employee advocates.
- Consider sharing business expertise with states, districts, and schools as they align their processes and systems with college and career readiness.



Advocacy in Action: GE Foundation Brown Bag Series

The GE Foundation is planning one-hour, brown bag sessions during lunch at their headquarters in Fairfield, CT, where presenters will describe the changes happening in education (specifically the Common Core State Standards) and how the reforms will impact their employees' children and communities. They will also provide resources for more information and set aside ample time for Q&A. The event will be live streamed to allow more employees to participate. The GE Foundation plans to replicate this event across all of their business units, leveraging their affinity networks. By the end of 2012 they hope to reach half of their U.S. workforce — more than 75,000 employees.





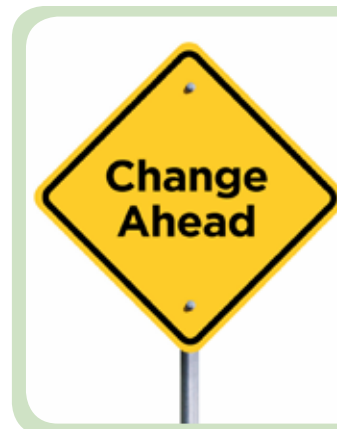
Corporate executives are critical supporters of college- and career-ready education because they understand what is required for employees to succeed and advance within their companies. If students in your state are not graduating college and career ready, employers will be forced to look elsewhere.

Corporate executives are busy and have likely been asked to support education in the past. What's critical to stress now is that the U.S. education system is going through a once-in-a-lifetime transformation, which will benefit students, teachers, and employers on a systemic level.



“Rigorous standards in the classroom are key to making sure we have a skilled workforce.”

Mark Grier
Vice Chairman of Prudential Financial



Key Messages

The U.S. education system is going through a once-in-a-lifetime transformation, which will benefit students, teachers and employers, on a systemic level.

How to Engage Your Leadership Around College and Career Readiness

- **Learn more:** Meet with Human Resources to learn about the specific challenges your company is facing in recruiting qualified candidates. Ask for data that will help you prepare for upcoming meetings with company leadership.
- **Step up:** Schedule meetings with leaders inside your company and share the data from HR and information from *Business Resources for a College- and Career-Ready America*.
- **Engage:** Ask to be added to the agenda for the next leadership team meeting so you can share information with the broader team.
- **Focus:** Prepare specific questions for your leadership about how they can best support college- and career-ready efforts in your state or community.

Strategies for Engaging Your Leadership

Engaging your company's leaders on supporting the college- and career-ready agenda should be focused on where they can have the greatest impact possible. They have limited time available to devote to supporting education reform so use their time strategically.

Some examples of how you can begin to engage leaders around college and career readiness:

- If your CEO is speaking at a community event or to a business audience, include a call for action on supporting college and career readiness in the speech.
- Work with business associations to identify opportunities for your CEO or senior executives to co-author an op-ed piece in local or national publications.
- Before your company's leaders are interviewed by the media, provide talking points on the link between education reform and business growth.
- Record a message from the CEO on the importance of the college- and career-ready reforms — and stream it on your company's website.



Accenture Executive Chairman William Green, State Farm CEO Edward Rust, Jr. and former Intel Chairman and CEO Craig Barrett authored a joint op-ed in the *Huffington Post* in September 2010, titled *What is Right with Education Reform*. They wrote: "As employers, we understand the important role that the U.S. business community must play in ensuring that the American education system prepares our youth to meet the challenges of higher education and the workplace."



"It will take all of us working together and supporting the hard work of the education community to continue to improve graduation rates and preparedness for careers and college. American business has an enormous stake in the success of our students. It's time to commit more innovation and resources to the task."

Randall Stephenson
CEO & Chairman, AT&T

VOLUME



The media is perhaps the business community's most powerful tool for promoting college- and career-ready (CCR) reforms. The media can amplify your voice and broaden your audience. They can help you spread your message about America's ability to educate our students for the global economy.

As a business leader, you play an important role in the media's narrative about education, the workforce, and U.S. competitiveness. After all, you are the future employers of today's students.

Friday, April 1, 2011

North Bay
Business Journal
SONOMA, MARIPOSA AND NAPA COUNTIES

Commentary: High expectations, high achievement

By Cynthia Murray

U.S. News
& WORLD REPORT

Investing in Education Is Smart Business

The U.S. economy needs a STEM-educated workforce

August 29, 2011

By Deirdre Connelly

THE WEEK America's Education Challenge

The Crucial Need to Hold Students to a Higher Standard

Shaping the Message

As a leader of economic growth and job creation in your community, your voice carries weight in support of these critical education reforms. Local, state, and national media outlets are eager to hear business leaders' thoughts on economic issues as well as policy initiatives that affect business growth in your state or community.

For maximum impact, make sure your media outreach is aligned with your state's education reform strategy and implementation plans. By speaking out in favor of the CCR message, your voice can even inspire others to take action. Your example can provide others with case-making materials to show their own support of the education agenda.

Initial Steps for Engaging the Media

1. Convey why your company is speaking out on this issue.
2. Develop a few key messages that clearly and concisely make that point
3. Create a quick reference list of examples which highlight your company's (or industry's) efforts to advocate for CCR.
4. Start slow — find ways to incorporate CCR messaging into your existing media strategy.

Strategies for Engaging the Media

Where should you begin? A good place to start is by finding ways to work college- and career-ready messaging into your existing media strategy. Later, you can step up your engagement by planning targeted media events.

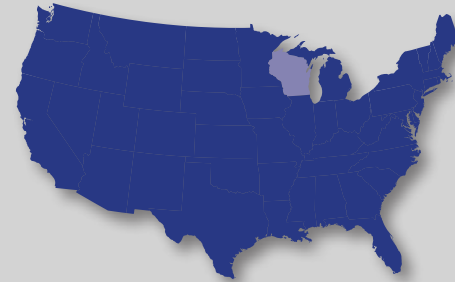
Start Small

- **Connect the dots between “education” and “business.”** Raise the importance of CCR issues whenever your company addresses an issue pertaining to a skilled workforce. When your senior executives talk about economic development or global competitiveness, make sure they include CCR messaging!

Go Bigger

- **Host media briefings.** Invite reporters to CCR roundtables with leaders from your company or business coalition.
- **Meet with journalists.** Explain why the business community has a vested interest in CCR policies.

Connection Between Education and Business



Media Strategy in Action: Express support for policy-makers leading CCR reforms

In 2012, the first round of test scores from Wisconsin’s new and more rigorous annual assessments were released. Rooted in higher expectations, the assessments yielded significantly lower scores than in previous years.

In response, two business leaders — Bill Berezowitz, VP at GE Healthcare and Tim Sheehy, president of the Metropolitan Milwaukee Association of Commerce — wrote an op-ed piece on the importance of supporting Wisconsin’s efforts to raise the bar. “This new data [show] how Wisconsin’s students perform when we use a higher common standard to compare with students in other states... We need to improve the performance of *all* our kids. There is simply no other option if we want our city to be an economic engine for generations to come.”



Hiring the right employees for the increasingly sophisticated jobs that are available isn't easy. Every employer in every industry faces this skills mismatch. Companies want to grow their U.S. workforce but to do so they must have employees with the knowledge and skills today's jobs require.

Alone, your business can be a powerful advocate for college and career readiness. But there's strength in numbers. Joining forces with other companies makes your voice a more powerful call for change.



Why Join Business Associations/Coalitions?

States that have had the most success transforming their education systems all have had something in common. Their businesses joined together — through chambers of commerce, business roundtables, industry associations, business-education coalitions — to speak out about the need to support college and career readiness.

Business groups can collectively do the heavy lifting to ensure changes are made — and implemented — in the education system. They can keep the momentum going as states face competing priorities, limited budgets, and leadership turnover.



Key Messages

Business has the opportunity to join and lend its voice to college- and career-ready education reforms today to ensure that America has the skilled workforce it needs tomorrow.



The Massachusetts Business Alliance for Education's (MBAE) Board and Advisory Council represents more than half of the 25 largest employers in the state, providing jobs to over 110,000 people. The three most influential statewide business organizations—Associated Industries of Massachusetts, the Massachusetts Business Roundtable, and the Massachusetts Taxpayers Association—pursue their education agenda through MBAE rather than tackle issues in isolation. In 2011, MBAE hosted three forums on the Common Core State Standards and common assessments and continues to supply a range of materials in support of college- and career-ready reforms.

The Right Fit: Finding an Active Business Association

Working through state and local business associations can be a powerful way to promote education reform policy and harness the power of a collective business voice.

Before joining a business group or coalition, consider:

- Do they have a history of advocacy? Have they supported education or similar issues in the past?
- Will you find allies to support your education reform strategy and college- and career-ready standards specifically?
- Does your association have the reach and influence with key stakeholders — policymakers, the media, the education community — to affect change?

Once you determine which association you would like to join, attend a meeting to learn more about what they are doing to support education. Find out how you can support their efforts to be the voice of business throughout the implementation of the college- and career-ready standards and related policies.



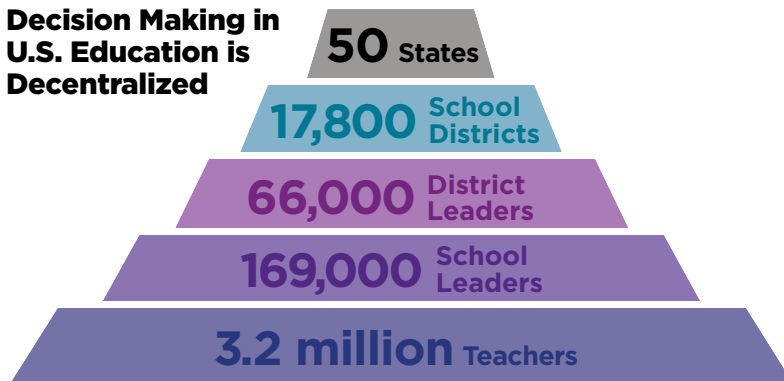
The Austin Chamber of Commerce saw a problem in its community. Local residents without a college degree were having a hard time finding jobs. One report showed that 84% of the unemployed people in one Austin county never obtained a college degree. Austin business leaders sprung into action. They spearheaded a suite of education initiatives, from partnering with Austin Community College to advocate for financial aid, to studying why some high school graduates don't go to college. Over 50 companies, non-profits and higher-education institutions have signed on in support of the Chamber's goals.



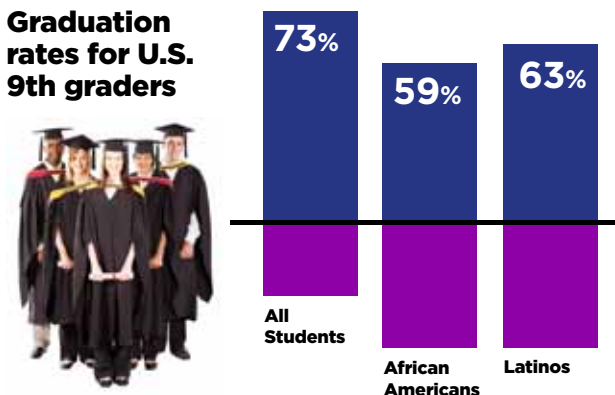
True or false: The U.S. education system is highly centralized at the federal level with consistent standards and assessments across states.

Many would probably answer “True.” But a snapshot of American schools shows a very different picture. K-12 education is diffuse and decentralized. Local school boards and state governments play more prominent roles than the federal government. Academic expectations historically have varied widely from state to state making it virtually impossible to compare results.

Decision Making in U.S. Education is Decentralized



Graduation rates for U.S. 9th graders



The Numbers

As of 2009, the public K-12 system included more than 17,800 districts educating more than 49 million students, about 16% of U.S. population.¹ The country’s education system is far more diverse than the overall population.

One challenge with such a large and diverse student population is ensuring all have access to the academic content and skills they need to be able to graduate and pursue the career of their choice.

Graduation Rates

About 73% of students who enter high school graduate within four years, but only about 60% of African American and Latino students earn a diploma within four years.² In 2010, 38% of Americans had attained at least an associate’s degree or higher.³

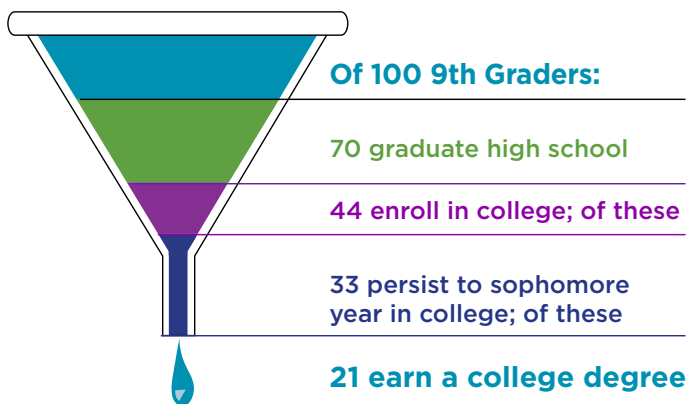
The Cost of Education

The U.S. Department of Education, which has a budget of about \$70 billion, covers only about 10% of overall K-12 public school funding. The remaining 90% comes primarily from state and local governments, with some support coming from private sources.

State Education Spending

In 2010-11, about \$10,500 was spent per child on K-12 public school instruction (which doesn't cover other administrative costs, such as transportation, school lunches or supplemental services, which can increase the per-pupil estimate significantly). As is the case with most facets of the U.S. education system, major differences in funding levels persist across states.

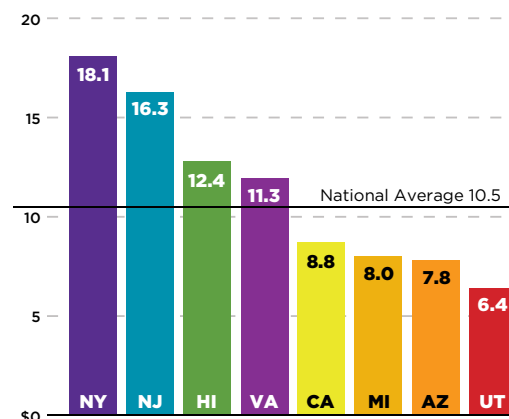
The Shrinking Supply of U.S. College Graduates



Source: National Center for Higher Education Management Systems

Highest and Lowest Education Spending Per Pupil in 2010-11

(in \$ thousands)



Source: NEA Research. Ranking and Estimates: Ranking of the States 2010 and Estimates of School Statistics 2011.

¹ National Center for Education Statistics, Common Core of Data 2008-09; U.S. Census Website

² Education Week (2012). Graduation in the United States. <http://www.edweek.org/media/ew/dc/2012/Graduation-in-the-US-table.pdf>

³ U.S. Census, American Community Survey, 2010



The U.S. faces mounting competition from developed and developing countries across the globe, and our education system simply has not been keeping up. Young adults — ages 25-34 — in the U.S. are 12th in postsecondary attainment behind Korea, Japan, Norway, and Canada, even though they are just as likely to earn a college degree as older Americans.

U.S. educational achievement and attainment rates are staying flat, while competitors are surpassing us by any measure used.

An Internationally Competitive Education System

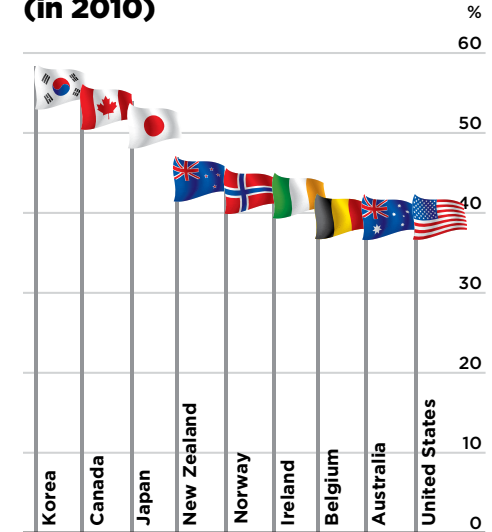
The global economy and technological advances are accelerating the demand for skilled employees.

Countries with the most successful education systems have some unique strategies in place. For one, they typically have common academic standards, which ground their systems and allow teachers to focus instruction on the most important topics, help students

gain a deeper understanding of their subjects, and reflect the skills most demanded by employers. These international K-12 standards set up students for success in college and careers.

The U.S. is now moving in this direction, with most states adopting common standards that are internationally benchmarked — meaning they are more focused and anchored

Percent of 25-34 Year Olds With a Secondary Degree (in 2010)






Source: OECD. Education at a Glance, 2010

in real-world expectations. Support for these college- and career-ready standards from the business community is critical to helping our students be ready for the global economy, and to ensuring the U.S. maintains the most talented workforce in the world.

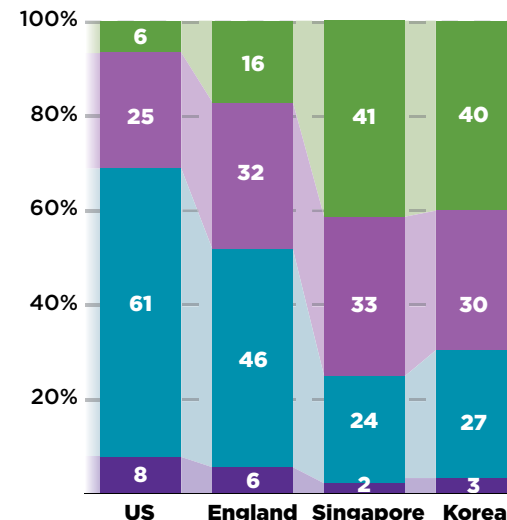
Why College- and Career-Ready Expectations?

- On a 2009 international assessment of 15-year-olds, more than 20 countries had higher average achievement scores than the U.S., but also had higher percentages of students performing at the highest levels of mathematics literacy.¹
- Americans 55 years old and over still have the highest postsecondary degree attainment in the world; young adults (ages 25-34) have the 12th highest postsecondary degree attainment in the world, even though they are just as likely to have a degree as older Americans.²
- Our education system has grown stagnant, while other countries are accelerating. We can no longer afford to stand still.
- Our education system — and therefore our students — can't compete internationally unless we set the right expectations and goals for them. Standards, such as the Common Core State Standards in mathematics and English/literacy and the Next Generation Science Standards, provide the necessary foundation upon which the rest of the system can be built, including curriculum and instruction.

Japan and Korea are producing more engineers each year than the U.S.³ despite having only a fraction of our population.

			
Population (in millions)	127.5	48.9	311.6
# of Engineers (in 2008)	95,216	77,238	69,908

Too few U.S. students acquire strong math skills⁴



- Students are below low International Benchmark.
- Students have some knowledge and/or can apply basic mathematical knowledge in straight-forward situations.
- Students can apply their understanding and knowledge in a variety of relatively complex situations.
- Students can organize and draw conclusions from information, make generalizations, and solve non-routine problems.

⁴ TIMSS 2007 International Mathematics Report: Findings from IEA's Trends in International Mathematics and Science Study at the Fourth and Eighth Grades (page 71, Exhibit 2.2) Findings from IEA's Trends in International Mathematics and Science Study at the Fourth and Eighth Grades (page 71, Exhibit 2.2)

¹ <http://nces.ed.gov/surveys/pisa/index.asp>

² OECD, "Education at a Glance," 2010 (All rates are self-reported)

³ National Science Foundation, 2012, Table 2-33. www.nsf.gov/statistics/seind12/c0/appendix.htm#c4



Academic standards set the foundation for our schools and the expectations for what students should know and be able to do each year and upon graduation. While state standards historically have been inconsistent and unfocused — and not anchored in real-world expectations — 46 states and Washington, D.C., have taken a step forward by adopting the Common Core State Standards (CCSS).

The CCSS have important innovations to prepare students for the challenges of college and the workplace, including:

Important Innovations in CCSS:

Math:

Mathematical “habits of mind,” that foster reasoning, problem solving, perseverance, decision making, and engagement among students.

English:

An emphasis on explanatory writing, including writing from sources and using evidence.

Mathematics

- Standards for Mathematical Practice, or mathematical “habits of mind,” that foster reasoning, problem solving, perseverance, decision making, and engagement among students.
- A sharper focus on key topics in each grade allows educators and students to go deeper into the content, and students to better understand concepts and tackle more complex content as they progress.
- An emphasis on mathematical modeling — the use of mathematics and statistics to analyze economic, social, and everyday situations and make informed decisions.

English/Literacy

- A balance between literature and informational texts to reflect reading demanded on the job and in college.
- Speaking and listening expectations, applied through presentations and group work.
- An emphasis on explanatory writing, including writing from sources and using evidence.
- Literacy standards for science, history, and technical subjects to enable students to read and write in a wider range of contexts.



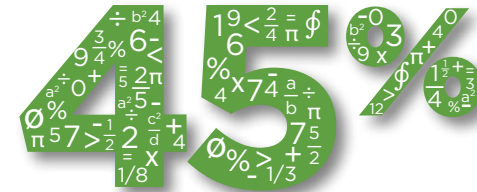
“Having a common standard — and then a measurement system — is extremely powerful. It’s how the best businesses operate in order to know they are going to survive in the future...”

Jeff Wadsworth
President & CEO, Battelle



Key Messages

- The Common Core State Standards (CCSS) are K-12 standards in English and mathematics that are grounded in research, internationally benchmarked, and anchored in college and career readiness.
- 46 states and Washington, D.C., have chosen to adopt the CCSS because they are more rigorous, clear, and focused than most current state standards — and will implement them fully by the 2014-15 school year.
- We can't successfully prepare students for college and careers unless we set the right expectations and goals. While standards alone are no silver bullet, they provide the necessary foundation upon which the rest of the system should be built.
- College- and career-ready standards, like the CCSS, are critical to the business community because they were designed to prepare students for the jobs of tomorrow.
- CCSS will ensure that all students graduate from high school with the core academic skills and knowledge needed to excel in the workplace, including problem solving, communications and teamwork skills.



45%
of high school graduates who took the ACT, scored college-ready in mathematics



52%
of high school graduates who took the ACT, scored college-ready in reading



STEM education — science, technology, engineering and mathematics — is a pathway to prosperity.

The ability of U.S. businesses to remain competitive in the global economy depends on increasing the number of qualified STEM graduates. Companies can't recruit their way out of the shortage of STEM workers. We can — and must — secure our nation's future by supporting high-quality STEM education at every level to prepare a skilled workforce and strengthen U.S. competitiveness.

The STEM Challenge

7.6 million people work in STEM occupations, almost all of which pay above the median wage. STEM jobs are growing at two times the rate of non-STEM jobs.¹ Yet too few students are pursuing a STEM education, despite the workforce demand for employees with those skills. One reason for this is because STEM programs are still built on existing state standards in mathematics and science, which typically do not focus on exposing students to engineering practices and mathematical applications regularly.

Companies are now competing with each other for a limited number of students graduating in STEM fields. The only way to solve this problem is to increase the number of students who are college and career ready.

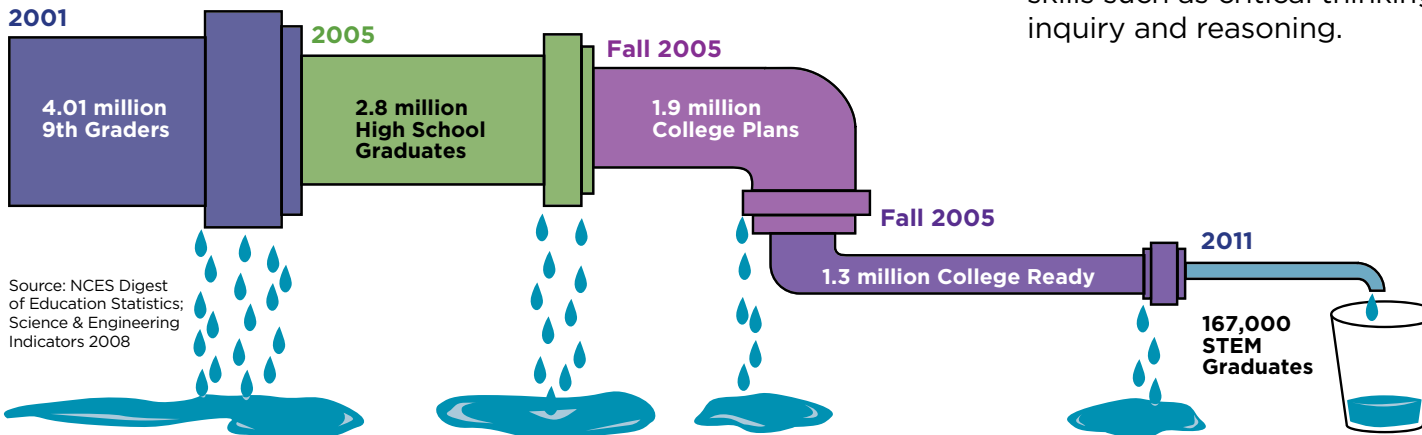
Promoting STEM education — anchored in college- and career-ready standards — nurtures a skilled workforce, widens the pool of desired job applicants, and strengthens U.S. competitiveness.



Why College- and Career-Ready STEM expectations?

- We can't successfully prepare students for college and STEM careers unless we set the right expectations and goals. Standards, such as the Common Core State Standards in mathematics and the Next Generation Science Standards, provide the necessary foundation upon which the rest of the system can be built.
- These new standards encourage students to apply their knowledge and skills to solve real-world problems starting in the early grades to engage students at all levels.
- Implementing science standards will help build a more robust STEM pipeline by preparing more high school graduates for the rigors of science-based college courses and careers.
- Looking ahead, employers will be able to hire workers with stronger skills—both in specific content areas and skills such as critical thinking, inquiry and reasoning.

A Leaking STEM Pipeline



¹ http://www.esa.doc.gov/sites/default/files/reports/documents/stemfinaljuly14_1.pdf

² http://www.bhef.com/publications/documents/BHEF_Research_Brief-STEM_Interest_and_Proficiency.pdf

³ http://www.esa.doc.gov/sites/default/files/reports/documents/stemfinaljuly14_1.pdf

