

## HIGHER ED AND THE COMMON CORE STATE STANDARDS | CRITICAL CONNECTION

Higher education has a crucial role to play in the implementation of the Common Core State Standards (CCSS) throughout the K-12 and postsecondary education systems. The CCSS provides a perfect opportunity for our nation's K-12 and higher education systems to collaborate around aligning the academic expectations for both high school graduation and postsecondary enrollment, better assessing and monitoring students' progress towards postsecondary readiness, and improving teacher preparation and professional development. This brief provides an overview of key aspects of the CCSS, how states are working towards developing common assessments aligned to the CCSS, and the importance of aligning teacher preparation and professional development programs with the CCSS.

### ABOUT THE COMMON CORE STATE STANDARDS

By 2018, close to two-thirds of all jobs in the U.S. will require a degree or credential beyond a high school diploma. At the same time, the global economy is becoming more and more competitive and is demanding higher level knowledge and skills of our students. Central components of all students' preparation for both college and career are the knowledge acquired and the skills mastered in core academic areas of English Language Arts (ELA) and mathematics.

In recognition of this, the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) coordinated a state-led effort to establish a single set of clear, focused academic content standards for ELA and mathematics that states can share and voluntarily adopt – the Common Core State Standards. On June 2, 2010, CCSSO and NGA released the final version of the CCSS. Constructed from the best models and practices available, these K-12 content standards in English Language Arts and mathematics define the knowledge and skills students should acquire to be ready for success in entry-level, credit-bearing college coursework and in workforce training or certification programs.

The Common Core State Standards Initiative is an unprecedented state-led effort, both in design and accomplishment. The Initiative began by developing a set of college- and career-ready standards that define what students should know and be able to do in ELA and mathematics by the time they graduate from high school. These standards were developed by K-12 and higher education experts from around the country, drawing on research and data from the College Board, ACT, and other sources. With the college- and career-ready standards in hand, expert working groups were then formed to design a progression of knowledge and skills that students should learn from kindergarten through 12<sup>th</sup> grade so that they meet the college- and career-ready standards by the time they graduate.

The committees included experts in assessment, curriculum design, cognitive development, early childhood, early numeracy, child development, English-language acquisition and elementary, middle, and postsecondary education. The work groups undertook an extensive process to ensure that the CCSS are aligned with college and work expectations; built upon the strengths and lessons of current state standards; informed by other top performing countries; and grounded in research and evidence. In addition to culling the best expertise available, the CCSS work groups also took great care to design standards that are clear and consistent, include rigorous content, and require the application of knowledge through high-order skills.

Drafts of the CCSS were vetted by the initiative's Feedback Groups and Validation Committee and were subjected to considerable state and public scrutiny. The CCSS work groups revised the standards several times in response to feedback from state departments of education and more than 10,000 individuals, including educators and business leaders. During the development of the CCSS, many state departments of education conducted "crosswalk comparisons" between the draft CCSS and their own content standards. These comparisons helped states generate feedback on content and structure and allowed education leaders within the states to develop familiarity with the CCSS.

As of April 2011, 44 states and territories and the District of Columbia have adopted the CCSS (see Table 1 for a list of the states that have adopted). No matter how comprehensive the CCSS are, their adoption will only take states so far. Standards-based reform is rooted in the notion that the primary elements of an education system are aligned with content and performance standards to support and guide teaching and learning. Due to higher education's far-reaching impact – from defining and measuring college and career readiness to transforming teacher preparation and professional development – it is clear that this sector must have a hand in shaping and implementing these efforts.

### **KEY ELEMENTS OF THE COMMON CORE STATE STANDARDS**

The committees that developed the CCSS made careful use of a large and growing body of evidence that includes:

- Scholarly research;
- Surveys on what skills are required of students entering college and workforce training programs;
- Assessment data identifying college- and career-ready performance; and
- Analysis of standards in high-performing states and nations.

A particular standard was included in the CCSS only when the best available evidence indicated that its mastery was essential for students to be college- and career-ready in a 21<sup>st</sup> century, globally competitive society. By focusing on the most essential elements of college and career success, teachers and students gain time to practice and achieve excellent performance.

Below is a brief overview of how the English Language Arts and mathematics CCSS responded to the best evidence available. As new and better evidence emerges, the CCSS will be revised accordingly.

#### ***English Language Arts***

The CCSS in English Language Arts (ELA Standards) articulate a clear progression of learning from kindergarten to 12<sup>th</sup> grade and illustrate a vision for student literacy – including history, social studies, and science – that applies to reading, writing, speaking, and listening.

The ELA Standards are designed by individual grade levels in grades K-8, then two-year grade bands in grades 9-12 (9-10 and 11-12) to allow schools, districts, and states greater flexibility in high school course design. The Standards are designed to show teachers how each element connects with the grades preceding and following, and ultimately the connection to college and career readiness. They also include three appendices that provide: extensive information on the research supporting key elements of the ELA Standards, examples of texts to illustrate appropriate range of reading for various grade levels, and annotated writing samples to demonstrate adequate performance at various grades levels.

The ELA Standards respond to the evidence base by emphasizing:

- ***Greater focus on text complexity.*** There is clear evidence that the texts students are reading today are not of sufficient complexity and rigor to prepare them for the reading demands of college and careers. The ELA Standards devote as much attention to the complexity of what students are reading as to how students read. As students advance through the grades, they must both develop their comprehension skills and apply them to increasingly complex texts.
- ***Shared responsibility for students' literacy development.*** Most college and career reading consists of sophisticated informational text in a variety of content areas. The ELA Standards include a significant focus on informational text in grades 6-12, and a special section designed for history/social studies and science teachers to supplement the content standards in their respective disciplines. This focus is in addition to, not in place of, literary texts.

- ***A focus on writing to argue or explain in the later grades.*** The ELA Standards include student capacity in three areas of writing: argument, information/explanation, and narrative. As students progress toward grades 9-12, the emphasis on writing shifts to focus overwhelmingly on writing to argue, inform, and explain through the use of evidence. This emphasis is in accordance with National Assessment of Educational Progress' shifting emphasis.
- ***Research and media skills integrated into the ELA Standards as a whole.*** In college and the workforce, students will need to research information and must consume and produce media. As media is embedded into every element of today's curriculum, it is also embedded throughout the ELA Standards rather than treated as a separate section.
- ***Recognition that both content and skills are important.*** The ELA Standards require certain critical content for all students, including classic myths and stories from around the world, America's Founding Documents, foundational American literature, and Shakespeare. Appropriately, the remaining crucial decisions about what content should be taught are left to state and local determination. In addition to content coverage, the ELA Standards require that students systematically acquire knowledge in literature and other disciplines through reading, writing, speaking, and listening.

### ***Mathematics***

The CCSS in mathematics (math Standards) articulate a progression of learning that deepens a student's ability to understand and use mathematics. The math Standards concentrate on core conceptual understandings and procedures starting in the early grades, thus enabling teachers to take the time needed to teach core concepts and procedures well – and to give students the opportunity to really master them.

The math Standards have made careful use of a large and growing body of evidence, including scholarly research; surveys on what skills are required of students entering college and workforce training programs; assessment data identifying college- and career-ready performance; and comparisons to standards from high-performing states and nations. Notable in the research base are results from TIMSS and conclusions from other studies of high-performing countries that the traditional U.S. mathematics curriculum must become substantially more

coherent and focused in order to improve student achievement.

The K-5 mathematics standards provide a continuous progression from grade-to-grade. Today's best state standards, as well as international models, education research, and the insights of professional mathematicians informed these grade-by-grade progressions.

By drawing on the best lessons from high-performing countries, the standards provide the *foundation for redesigning and focusing the math curriculum* and move sharply away from the "mile wide and inch deep" curricula currently in place throughout the U.S.

The math Standards ensure that students spend sufficient time mastering the building blocks of mathematical thinking in grades K-5, allowing middle school and high school teachers to engage students in hands-on learning and real world application in geometry, algebra and probability, and statistics.

The math Standards respond to the evidence base by emphasizing:

- ***Focus as seen in high-performing countries.*** In current practice, many teachers must rush through material in an effort to cover a broad swath of topics. As a result, students learn enough to get by on the next test but do not engage in deep learning. Teachers must then spend significant time reviewing concepts again the following year. The math Standards focus on critical elements for future learning and application, giving students more time to develop the procedural fluency and conceptual understanding that are needed to truly master mathematical concepts.
- ***A solid foundation in whole numbers, addition, subtraction, multiplication, division, fractions, and decimals.*** Taken together, these elements support a student's ability to learn and apply more demanding math concepts and procedures. The math Standards devote attention to these building blocks, thus aligning with practices of high-performing countries and the recommendations of our own National Research Council's Early Math Panel report.
- ***Preparation for algebra in grade 8.*** The math Standards for middle school are robust and provide a coherent and rich preparation for high school mathematics. Students who have mastered the content and skills through the 7<sup>th</sup> grade will be well-prepared for algebra in grade 8.

- **Application to the real world.** The middle school and high school standards call on students to practice applying mathematical ways of thinking to real world issues and challenges; they prepare students to think and reason mathematically. The math Standards set a rigorous definition of college and career readiness, not by piling topic upon topic, but by demanding that students develop a depth of understanding and ability to apply mathematics to novel situations, as college students and employees regularly do.
- **Emphasis on mathematical modeling.** The math Standards require middle school and high school students to use mathematics and statistics to analyze empirical situations, understand them better, and improve decisions. As students choose and use appropriate strategies, they develop a better sense of quantities and their relationships in physical, economic, public policy, social, and everyday situations. Students are encouraged to use technology in developing mathematical models, allowing them to vary assumptions, explore consequences, and compare predictions with data.

## ASSESSMENTS

Assessing student progress against academic content standards is a critical ingredient of teaching and learning. Two interstate consortia – the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium (SMARTER) – were awarded federal Race to the Top grants to develop comprehensive assessment systems aligned to the Common Core State Standards. These new assessment systems have the potential to meet the instructional needs of teachers and the accountability needs of policymakers and the public; generate economies of scale by reducing assessment development costs; and allow for real comparisons of student achievement across states.

Forty-five states and the District of Columbia are participating in one or both of these consortia and have committed to implementing the new assessments in the 2014-15 school year (see Table 1 for a list of states that are participating in each consortium). Each consortium is comprised of governing/lead states and participating/advisory states. Governing states have decision-making authority within each consortium and are only allowed to work with the consortium in which they are a lead state. If they are a participating/advisory state, they may

be involved in both consortia if they choose.

Each consortium is designing a comprehensive assessment system that includes:

- Formative assessment tools, which can be embedded in instructional activities to provide teachers with immediate feedback;
  - Interim assessments, which are administered periodically throughout the school year; and
  - Summative assessments, which are given at the end of a set of learning activities.
- These assessments will allow teachers, schools, and systems to evaluate the progress that students are making towards becoming career- and college-ready early enough to change their trajectory.

**The common assessments being designed by the state consortia also provide an opportunity for K-12 and higher education to agree on one measure of college readiness – in ELA and mathematics – that defines the minimum knowledge and skills a student needs to enter an entry-level, credit-bearing college course.** Significant differences currently exist between the content high schools teach and the expectations postsecondary institutions have for incoming students, and many of the assessments students take in high school are not related to, or do not correlate with, the placement tests they take at the college or university level. Mastery of the CCSS is characterized as the threshold of college readiness in ELA and mathematics. In ELA, the focus on text complexity will bring high school work into alignment with college expectations. Students won't simply read and compare texts, but will now be expected to research, apply, and build knowledge. In mathematics, students will be expected to learn high school math through Algebra II – often a general requirement for college admission – which would be sufficient background for an entry-level course in college algebra but not adequate preparation to begin a calculus course. **Though colleges and universities will continue to set their own admissions standards and placement requirements, it is expected that the assessments being designed by the two consortia will give students, parents, and colleges a clear signal about their readiness for general education-level college courses.**

**TABLE 1. STATES WITH ADOPTION STATUS AND ASSESSMENT CONSORTIA AFFILIATION**

State	Adopted CCSS	PARCC*	SMARTER <sup>+</sup>	State	Adopted CCSS	PARCC	SMARTER
Alabama	X	P	A	Montana			G
Alaska				Nebraska			
Arizona	X	G		Nevada	X		G
Arkansas	X	G		New Hampshire	X		G
California	X	P		New Jersey	X	G	
Colorado	X	P	A	New Mexico	X		G
Connecticut	X		G	New York	X	G	
Delaware	X	P	A	North Carolina	X		G
District of Columbia	X	G		North Dakota		P	A
Florida	X	G		Ohio	X	P	A
Georgia	X	G		Oklahoma	X	G	
Hawaii	X		G	Oregon	X		G
Idaho	X		G	Pennsylvania	X	P	A
Illinois	X	G		Rhode Island	X	G	
Indiana	X	G		South Carolina	X	P	A
Iowa	X		A	South Dakota	X		A
Kansas	X		G	Tennessee	X	G	
Kentucky	X	P	A	Texas			
Louisiana	X	G		Utah	X		G
Maine	X		G	Vermont	X		G
Maryland	X	G		Virginia			
Massachusetts	X	G		Washington <sup>#</sup>	X		G
Michigan	X		G	West Virginia	X		G
Minnesota	ELA Only			Wisconsin	X		G
Mississippi	X	P		Wyoming	X		A
Missouri	X		G				

\*PARCC has states that are affiliated as governing states (G) or as participating states (P).

\*SMARTER has states that are affiliated as governing states (G) or as advisory states (A).

<sup>#</sup>For Washington, adoption of the Common Core State Standards is provisional at this time until the state legislature concurs.

## TEACHER PREPARATION AND PROFESSIONAL DEVELOPMENT

Research has shown that **teachers are the most influential in-school factor affecting student achievement.**<sup>1</sup> As in any profession, teachers need quality training to craft and deliver instruction effectively. Teachers in the U.S. are prepared in many different kinds of programs, though preparation falls into two categories. Approximately 80 percent of aspiring teachers are enrolled in “traditional” programs within institutions of higher education, and the rest enter the profession through one of approximately 130 “alternative” routes. A recent study by the National Research Council found little definitive evidence that any particular approach to teacher preparation is more successful than others.<sup>2</sup> However, past research has shown that teachers are better able to apply what they have learned when professional development programs are directly linked to the standards, curricula, and assessments that they are using in the classroom.<sup>3</sup>

Any systemic effort to improve education must address teacher quality, including effective training and professional development. Yet, only 15 states have established minimum admissions requirements for individuals seeking a degree in a teacher preparation program.<sup>4</sup> And despite a dramatic shift in expectations for student learning under the federal *No Child Left Behind Act*, many teachers feel poorly prepared by their training programs<sup>5</sup> and find little value in the professional development they do receive.<sup>6</sup>

K-12 and higher education leaders should consider not only the knowledge and skill base of their teaching force in relationship to the CCSS, but also the extent to which teacher preparation programs and professional development are designed to coordinate with the new Standards. **Because the majority of teacher preparation and professional development programs are housed within schools of education, the state departments of education and higher education agencies – whether governing or coordinating boards – will need to work closely with institutions of higher education to coordinate the alignment of programs with the CCSS.**

In addition, state and accreditation agencies set requirements for teacher preparation programs in traditional and alternative settings. Those requirements need to also be aligned with the CCSS. In late 2010, Indiana announced that it was the first

state to fully align its teacher preparation standards with the CCSS. The newly released standards for teachers and school leaders detail the subject-matter knowledge and skills teachers need to teach effectively in the state’s classrooms and for principals to lead the state’s schools. **Both K-12 and higher education representatives were involved in aligning the standards with the CCSS.**<sup>7</sup>

Teachers will also need intensive, focused professional development on the CCSS and how to align classroom instruction with the new Standards. A number of organizations are currently developing a range of instructional resources based on the standards, including academic learning progressions across grade-levels, model lessons, and criteria for reviewing instructional materials. K-12 and higher education, including teacher education and academic content experts, will need to partner on developing and delivering teacher professional development based on the Standards and the new instructional resources.

The Council of Chief State School Officers’ Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards is one resource K-12 and higher education could consider as they look to align their teacher preparation and professional development programs with the CCSS. The Model Core Teaching Standards were released in 2011 as an update to the Model Standards for Beginning Teacher Assessment and Development that were originally produced in 1992. These new standards, which are aligned with the CCSS, articulate the standards of professional practice for all teachers instead of focusing on just new teachers.<sup>8</sup> Consistency between the CCSS and the Model Teaching Standards ensures that teachers, from the time they begin as students in schools of education to their latter days as experienced instructors and mentors, have not only a coherent set of content standards in mathematics and English Language Arts, but also in how to deliver instruction and assess their students. The Model Teaching Standards also provide an updated framework to schools of education as they seek to align their teacher education programs with the CCSS.

## CONCLUSION

History has shown that different sectors of education, working on their own, can do little to impact the overall success of students. Pointing fingers is easy; joining hands and collaborating is a far greater challenge. For this reason, and many others that have been highlighted in this brief, the CCSS movement offers a key turning point – an opportunity for *all* levels of education to work together to create a seamless pipeline of student success for *all* students.

The CCSS also have the potential to inspire a conversation between K-12 and higher education that will impact and transform teaching and learning at all levels. Faculty, administrators, and all those involved in higher education are critical partners in CCSS implementation. With that, higher education must also be prepared to meet 21st century classroom challenges. Gone are the days of lecturing to disengaged students who rely on textbooks alone. The “digital natives” who are in our classrooms – from preschool to college – need to be prepared for a world that is globally competitive and ever-changing as new technologies emerge

As we move forward, we must continue to recognize that we are all part of the same PK-20+ pathway focused on providing an opportunity for all students – in any location and at any level – to be successful.

- <sup>1</sup> For example, Sanders and Rivers used value-added methods to examine the cumulative effects of teacher quality on academic achievement. Sanders, W., & Rivers, J. (1996). *Cumulative and Residual Effects of Teachers on Future Student Academic Achievement*. University of Tennessee Value-Added Research and Assessment Center. <http://www.mccsc.edu/~curriculum/cumulative%20and%20residual%20effects%20of%20teachers.pdf>
- <sup>2</sup> National Research Council. (2010). *Preparing Teachers: Building Evidence for Sound Policy*. Committee on the Study of Teacher Preparation Programs in the United States. Division of Behavioral and Social Sciences and Education. The National Academies Press. Available at [http://www.nap.edu/catalog.php?record\\_id=12882](http://www.nap.edu/catalog.php?record_id=12882)
- <sup>3</sup> Holland, H. (2005). “Teaching Teachers: Professional Development To Improve Student Achievement.” *Research Points, Summer 2005*. American Educational Research Association. Available at [http://www.aera.net/uploadedFiles/Journals\\_and\\_Publications/Research\\_Points/RPSummer05.pdf](http://www.aera.net/uploadedFiles/Journals_and_Publications/Research_Points/RPSummer05.pdf)
- <sup>4</sup> National Governors Association. (2009). *Building a High-Quality Education Workforce: A Governor’s Guide to Human Capital Development*. <http://www.nga.org/Files/pdf/0905BUILDINGEDUWORKFORCE.PDF>
- <sup>5</sup> Arthur Levine. (2006). *Educating School Teachers*. [http://www.edschools.org/pdf/Educating\\_Teachers\\_Report.pdf](http://www.edschools.org/pdf/Educating_Teachers_Report.pdf)
- <sup>6</sup> Linda Darling-Hammond, et al. (2009). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad*. National Staff Development Council. <http://www.nsdc.org/news/NSDCstudy2009.pdf>
- <sup>7</sup> Indiana Department of Education, “Indiana Approves New Teacher Standards: First to Align with the Common Core,” December 27, 2010. Available at [http://www.doe.in.gov/news/2010/12-December/common\\_core\\_standards.html](http://www.doe.in.gov/news/2010/12-December/common_core_standards.html).
- <sup>8</sup> Council of Chief State School Officers. (2010). *Interstate Teacher Assessment and Support Consortium Model Core Teaching Standards: A Resources for State Dialogue*. Available at [http://www.ccsso.org/Resources/Publications/Model\\_Core\\_Teaching\\_Standards.html](http://www.ccsso.org/Resources/Publications/Model_Core_Teaching_Standards.html).

