



# Arizona's College and Career Ready Standards (AZCCRS)

## Concerns and Responses

1. **Concern:** Arizona's College and Career Ready Standards are national standards.

**Response:** Arizona's College and Career Ready Standards (AZCCRS) were developed through a state-led initiative spearheaded by governors and state school chiefs. The federal government was not involved in the development of the standards.

The driving leadership behind the decision to collaboratively develop new ELA and Mathematics standards K-12, was the National Governor's Association (NGA) and the Council of Chief State School Officers (CCSSO). This discussion began in 2008 as state leaders determined the most efficient method to significantly upgrade ELA and mathematics standards in the midst of budget cuts, limited human capital at local and state levels, and the need to move relatively quickly if US public education was to reestablish itself as a leading world model.

The College and Career Ready Standards Initiative (CCRSS) was led by the NGA Center for Best Practices and the CCSSO. This development work engaged K-12 educators, state department of education experts, ELA and mathematics experts, higher education and respected education researchers. Arizona educators provided feedback, guidance and expertise throughout the development process. In fact, some of Arizona's input was added verbatim to the new standards.

The NGA and CCSSO are NOT "trade associations." The NGA, founded in 1908, is the collective voice of the nation's governors and one of Washington D.C.'s most respected public policy organizations. Its members are the governors of 50 states, three territories, and two commonwealths. NGA provides governors and their senior staff members with services that range from representing states on Capitol Hill and before the Administration on key federal issues to developing and implementing innovative solutions to today's most pressing public policy challenges through the NGA Center for Best Practices (NGA Center.) The NGA Center is the only research and development firm that directly serves the nation's governors.

The CCSSO is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, District of Columbia, the Department of Defense Education Activity and the five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress and the public.

Achieve is NOT the driving force behind the development of the CCRS but engaged in the development work at the request of the leading partners, NGA and CCSSO members. Achieve was founded in 1996 by a team of leading governors and business leaders and is a bipartisan, non-profit organization that helps states raise academic standards, improve assessments, and strengthen accountability to prepare all young people for postsecondary education, work, and citizenship. In 2001 ACHIEVE joined with the Education Trust, Thomas B. Fordham Institute and National Alliance of Business, NGA and CCSSO to launch the American Diploma Project (ADP) to identify the “must-have” knowledge and skills most demanded by higher education and employers. In 2009 at the request of the NGA and CCSSO, ACHIEVE partnered with the National Governors Association and Council of Chief State School Officers on the Common Core State Standards Initiative.

2. **Concern:** Arizona’s College and Career Ready Standards (AZCCRS) are federally mandated.

**Response:** Arizona’s College and Career Ready Standards are not federally mandated. Arizona along with 45 other states, voluntarily adopted the College and Career Ready State Standards in June, 2010.

States have sole right to set the learning standards for their state’s education system. There is nothing in federal law that runs counter to this fact or gives the federal government authority to mandate standards within a state. As with all previous academic standards, the federal government did not review or adopt these standards. Arizona’s State Board of Education adopted the College and Career Ready Standards in June 2010, recognizing that these standards, developed in collaboration with educators and education experts, established clear and consistent goals for learning to prepare students for college and the workforce. At that time the state did not have a Race To The Top grant (RTTT) and so the decision to adopt the College and Career Standards was not driven by a RTTT grant requirement. Arizona’s decision to adopt the common core standards was based on the knowledge that 21<sup>st</sup> century students **must** graduate high school well prepared to transition to post-secondary learning in college, tech school, university or on the job. Arizona’s previous ELA and mathematics standards did not meet these rigorous criteria. The RTTT grant Arizona did receive in Dec. 2012 required the state to ensure it had rigorous standards that effectively prepared students for college and careers. The grant requirements did not specifically stipulate that these standards must be the College and Career Ready Standards - ELA and mathematics. The same is true of Arizona’s ESEA Waiver request: the state must ensure that all students have full and equitable access to rigorous standards that effectively prepare students for college and careers. The waiver requirements do not explicitly demand that these be the College and Career Ready State Standards.

3. **Concern:** Arizona's College and Career Ready Standards shift control of education from local school boards to the federal government.

**Response:** Local school boards retain their same level of authority as they had prior to the adoption of the standards.

As previously stated, states have sole right to set the learning standards for their state's education system. There is nothing in federal law that runs counter to this fact or gives the federal government authority to mandate standards within a state. As with previous standards, the federal government did not review or adopt these standards. Arizona's state law clearly establishes the State Board of Education's responsibility in defining and adopting K-12 academic standards. State law also identifies the responsibility of local school boards to adopt curriculum and instructional materials that are responsive to the local students as stipulated in A.R.S. 15721 and A.R.S. 15-722. The state standards outline WHAT students must know and be able to do, while local curriculum defines HOW the standards will be taught and with what instructional materials.

While some states have laws that give authority over curricular materials in public schools to the state, Arizona has long valued local control to allow communities the discretion of what textbooks, curriculum and other materials to use in their schools. Local school governing boards (district and charter) have the authority to adopt curricula and instructional materials. These materials are required to be adopted in public meetings after a significant public review process, which allows for community involvement and input on what is used in the classroom.

4. **Concern:** Arizona's College and Career Ready Standards relinquish state autonomy to the federal government.

**Response:** Arizona's State Board of Education adopted the standards voluntarily in June 2010. The Board chose to adopt the standards in order to raise the bar for Arizona students and further ensure that they are better prepared for college and career. States had, and will always have, the authority to select and voluntarily adopt any standards they so choose.

As a state, Arizona was not mandated or coerced into adopting the standards by the federal government. Let us be clear: The US Department of Education has encouraged states to adopt standards that were college and career ready as a part of Race to the Top grant program and to receive an ESEA waiver. However, they did not require or mandate any set of standards to adopt, including the College and Career Ready Standards. Funding and waiver decisions did not depend on the adoption of the standards.

5. **Concern:** Arizona's College and Career Ready Standards will impede the work of charter schools.

**Response:** Charter schools in Arizona generally support the AZCCRS because they can keep their unique missions.

Arizona's public non-profit charter schools are held responsible by state statutes to implement Arizona's K-12 Academic state standards. Arizona's public non-profit charters are not exempt from state law regarding the implementation of state academic standards. Arizona's public non-profit charter schools are required to administer AIMS and student scores help to identify the letter grade of effectiveness for each school and LEA. Student's attending Arizona's public non-profit charter schools are required to pass the high school AIMS reading, writing and math for graduation.

6. **Concern:** Arizona is locked into the College and Career Ready Standards and cannot make changes to the standards.

**Response:** Arizona is committed to staying the course and supporting the implementation of Arizona's College and Career Ready Standards. However, the State Board of Education can make changes to academic standards at any time. Good standards shouldn't change too often, but over time should evolve based on what is learned from research, from educators in the field and from student assessments.

Arizona's College and Career Ready Standards (AZCCRS) belong to Arizona, have been adopted by the Arizona State Board of Education and as such can and will be updated on a timeline that works for Arizona. Arizona's K-12 public education system is standards based and historically, content standards are updated and revised every five to seven years to ensure a close alignment to evidence based best practices along with expectations of the community and workforce.

While any given set of adopted standards are being implemented, it is critically important that the teaching and learning of these standards is supported by an aligned assessment system. Summative outcome data from end-of-year or end-of-course assessments provides important information to parents, students, educators and the community about the level of learning students have mastered. It is fair and reasonable to assess students on what they have been taught. Therefore while the aligned assessments for AZCCRS has yet to be determined, it is important that Arizona's College and Career Ready Standards (as adopted) stay intact.

Arizona has the authority to update, revise, change the AZCCRS at any given point in time but it is essential that the assessment system being utilized is fully aligned to the standards being implemented to ensure the data students generate is meaningful, relevant and useful. Arizona uses summative student data from its state assessments to: determine A-F accountability grades for schools and LEAs, determine the retention of 3<sup>rd</sup> graders, and complete educator

evaluations. These are high stakes decisions that must rely on student achievement data that is directly aligned to the standards being implemented in the classrooms.

7. **Concern:** There was little opportunity for public comment from parents and teachers in the development of the standards.

**Response:** The standards were discussed in public meetings hosted by the State Board of Education on January 25, 2010; February 22, 2010; March 22, 2010; April 26, 2010; May 24, 2010; and June 8, 2010. Each meeting provided an opportunity for public input or comment to the standards. During a College and Career Ready Standards Symposium, hosted by Senate President, Andy Biggs on October 30, 2013, Superintendent Huppenthal called this effort “the most opportunity for public comment and engagement on a standards adoption that he has seen to date.”

In addition, the Arizona Department of Education received hundreds of individual pieces of feedback and input on the standards from Arizona educators, content experts (including higher education representatives), and the public, that in turn was forwarded to the standards writers to include as the standards were created.

Finally, individual schools and districts also provided copious amounts of feedback in Arizona. Schools/districts provided feedback on their own through open meetings with teachers and parents and with content experts in higher education positions. Specialized feedback was given by schools/districts through grade level groups, district leadership groups, instructional/math/ELA coaches, and other facilitated groups.

8. **Concern:** The standards are copyrighted and cannot be changed.

**Response:** The Arizona College and Career Ready Standards are Arizona’s standards. The State Board of Education voluntarily adopted them and can make changes to the standards at any time. Arizona has in fact already modified the standards, given that we were one of 6 states that added content to the standards to ensure they were reflective of the needs of Arizona teachers, parents and students when they were adopted in June 2010.

<http://www.corestandards.org/public-license>

9. **Concern:** Arizona’s College and Career Ready Standards won’t prepare students for college and career.

**Response:** Arizona’s College and Career Ready Standards reflect the real-world expectations of what is necessary for students to succeed in higher education and the workforce, including critical-thinking, problem solving and effective communication skills. To this end, AZCCRS were developed using evidence that includes scholarly research; survey 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, among other data. Together with highly trained well-supported teachers, AZCCRS will better prepare Arizona students for college and career.

The NGA and the CCSSO convened a 29 member Validation Committee composed of leaders in the education standards community. The Validation Committee:

- Reviewed the process to develop K-12 college and career ready standards
- Examined the standards for:
  - Evidence of the knowledge and skills students need to be college and career ready
  - A proper level of clarity and specificity
  - Evidence that the standards are comparable with other leading countries expectations
  - A grounding in available evidence and research
- Provided the work groups with valuable input on the draft standards
- Determined that the standards development principles were adhered to

**The Validation Committee, after reviewing the processes employed to develop the standards ultimately found them to be:**

- Reflective of the core knowledge and skills students need to be college and career ready
- Appropriate in terms of their level of clarity and specificity
- Comparable to the expectations of other leading nations
- Informed by available research and evidence
- The result of processes that reflect best practices for standards development
- A solid starting point for adoption of cross-state common core standards
- A sound basis for eventual development of standards-based assessments

**The Validation Committee was comprised of 29 members of which 24 members, an overwhelming majority, signed and certified that the College and Career Ready Standards in ELA and mathematics were consistent with the criteria established for the review (see above).** Along with their findings, the Validation Committee stated, “These certified research and evidenced based standards- aligned with college and career expectations – respect unique state contexts and the authority of each state to

govern its public education system.” Members of the VC that support the implementation of the Common Core Standards include:

- David Conley – Professor and Director of the Center for Educational Policy Research, Educational Methodology, Policy and Leadership at the University of Oregon
- Brian Gong – Executive Director of the National Center for the Improvement of Educational Assessment
- Arthur Applebee – Distinguished Professor of Education and Director of the Center on English Learning and achievement at the State University of New York
- Linda Darling-Hammond – Professor of Education and Co-Director of the School Redesign Network at Stanford University’s School of Education
- Stanley Rabinowitz – Director, Assessment and Standards Development Services at WestEd in San Francisco
- William Schmidt – University Distinguished Professor and Co-Director of Michigan State University’s Education Policy Center
- Catherine Snow – Professor of Education, Harvard Graduate School of Education
- Dorothy Strickland – Distinguished Research Fellow at the National Institute for Early Education Research and Proctor Chair in Education at Rutgers University
- All 6 educators on the VC including Sarah Baird – Teacher in the Kyrene School District – AZ

Additional information on the Validation Committee can be found at:

[http://www.corestandards.org/assets/CommonCoreReport\\_6.10.pdf](http://www.corestandards.org/assets/CommonCoreReport_6.10.pdf)

10. **Concern:** Members of the standards’ validation committees did not have sufficient expertise in content areas.

**Response:** The validation committee was comprised of well-respected content experts in English and mathematics, representing K-12 and higher education. Below is a list of these experts, including a teacher from Arizona:

- Sarah Baird—Mathematics Specialist/Teacher K-5, Teacher of the Year for Arizona 2009, Kyrene Elementary School District, Tempe, Ariz.
- Arthur Applebee—Distinguished Professor of Education and Director of the Center on English Learning & Achievement at the University at Albany—State University of New York
- Kristin Buckstad Hamilton—Nationally Board Certified Teacher, Battlefield Senior High School, National Education Association
- Alfinio Flores—Hollowell Professor of Mathematics Education in the Department of Mathematical Sciences and School of Education at the University of Delaware’s College of Education & Public Policy. Alfinio was a Professor for Mathematics Education at ASU prior to his Delaware position.
- Feng-Jui Hsieh—Associate Professor in the Mathematics Department at the National Taiwan Normal University

- MaryAnn Jordan—Teacher, New York City Dept. of Education, American Federation of Teachers
- Jeremy Kilpatrick—Regents Professor of Mathematics Education at the University of Georgia
- R. James Milgram—Emeritus Professor at Stanford University’s Department of Mathematics
- Dr. Sandra Stotsky—Endowed Chair in Teacher Quality at the University of Arkansas’s Department of Education Reform and Chair of the Sadlier Mathematics Advisory Board
- Kenji Hakuta – Lee L. Jacks Professor of Education at Stanford University’s School of Education and co-chair of Understanding Language, an initiative that focuses attention on the role of language in subject-area learning.
- David Pearson – Professor and Dean of the Graduate School of Education at the University of California – Berkeley; current faculty member in the programs in Language and Literacy and Human Development.
- Dorothy Strickland – Distinguished Research Fellow at the National Institute for Early Education Research and the Samuel DeWitt Proctor Chair in Education at Rutgers University; former classroom teacher, reading consultant and learning disabilities specialist and past president of both the International Reading Association and its Reading Hall of Fame.
- Lauren Resnick, Distinguished University Professor, Psychology and Cognitive Science, Learning Sciences and Education Policy, University of Pittsburgh, is an internationally known scholar in the cognitive science of learning and instruction whose research involves the learning and teaching of literacy, math, and science
- William Schmidt, University Distinguished Professor, Michigan State University, Co-Director of the Promoting Rigorous Outcomes in Math and Science Education Project. He has provided recommendations for internationally competitive K-12 math standards for Minnesota and participated in the Third International Mathematics and Science Study
- Catherine Snow, Henry Lee Shattuck Professor of Education, Harvard Graduate School of Education, An international expert on literacy instruction, Snow has chaired several major committees on literacy, has studied low-income students, and has written about bilingualism and its relation to language-policy issues
- Christopher Steinhauser, Superintendent of Schools, Long Beach Unified School District, possesses extensive knowledge about California’s ELA standards and their implementation across a very large school district. During his previous tenure as deputy superintendent, students in all major racial and ethnic groups throughout the district made unprecedented gains on rigorous state tests

11. **Concern:** The level of rigor in the standards is too low and will not help students get into competitive colleges.

**Response:** The standards are intended to define learning goals for all students. They define college readiness as ready to enter and succeed in entry-level credit bearing courses in broad access institutions (typically College Algebra or Statistics). Preparing all students for this is the floor set by the standards, not the ceiling.

The standards reflect the literacy skills students must have to do the work in credit-bearing courses in broad access colleges – standards that more than a quarter of those who enroll in college today cannot meet. Preparing students to read complex texts and to draw evidence



from the text to make coherent, evidence-based arguments are skills in short supply for students entering many selective colleges.

Students need to be flexible in their thinking and problem solving skills, such that after high school students can choose academics or a career without worry of remedial/developmental courses as a necessity. The rigor present in ACCRS-Mathematics is a balance between conceptual understanding, procedural skill and fluency, as well as application. This provides learning experiences that produce flexible thinkers and problem solvers ready for college or career choices that any student may make.

The Fordham Institute conducted an evaluation of Arizona's College and Career Ready Standards against its prior standards. They found that the College and Career Ready Standards were stronger than and an improvement over Arizona's previous standards in English and math.

Additionally, the standards were created using best practices from high performing states and nations. The quality of their content was confirmed by a national validation committee that included content experts, K-12 and higher education representatives. The committee found the standards are:

- Reflective of the core knowledge and skills in ELA and mathematics that students need to be college- and career-ready;
- Appropriate in terms of their level of clarity and specificity;
- Comparable to the expectations of other leading nations;
- Informed by available research or evidence;
- The result of processes that reflect best practices for standards development;
- A solid starting point for adoption of cross-state common core standards; and
- A sound basis for eventual development of standards-based assessments.

12. **Concern:** The Common Core Standards are not internationally benchmarked

**Response:** The Standards draw from the best existing standards in the country and are benchmarked to the top performing nations around the world, ensuring that our students are well prepared to compete with their peers abroad for the jobs of the future.

The College and Career Ready Standards Validation Committee was tasked to review evidence that the standards are comparable with other leading countries expectations and did certify that this is indeed the case. Why is this important? The 21<sup>st</sup> century workplace is increasingly requiring a better educated, better trained workforce that is competitive not only locally but also globally. To date, the United States has fallen behind other leading nations in student achievement on international assessments in reading and mathematics.

In 2008, the National Governor's Association (NGA) and the Council of Chief State School Officers (CCSSO) released a report entitled, Benchmarking for Success: Ensuring U.S. Students

Receive a World-Class Education. In that report the American Productivity and Quality Center explains that benchmarking is, quite simply, comparing the quality of a specific process, in this case, state education systems to another process (education system) considered to be an industry standard or best practice. The process of benchmarking is common in business and is now a critical tool for state governments working to develop world-class education systems. International benchmarking helps state policymakers identify the qualities and characteristics of top performing education systems that best prepare students for success beyond high school. The process will also help the American school system compare its achievement over time with other high performing countries. The areas addressed in educational benchmarking include standards, accountability, educator workforce and assessment.

The benchmarking of standards identified four key characteristics common to the standards in high performing countries:

- Focus – narrower and deeper course of study
- Rigor – challenging and complex
- Coherence – logical progressions of learning from grade to grade, linking major topics within grade levels.
- Fluency – proficient and automatic

The benchmarking of assessments included a study of the international results on PISA (Program for International Student Assessment), TIMMS (Trends in International Math and Science Study) and PIRLS (Progress in International Reading Literacy). Expectations for students on these assessments include:

- Real world application of skills
- Analyzing, reasoning, communicating effectively
- Interpreting and solving complex problems
- Reading for literary experience (50%)
- Reading for information (50%)
- Interpreting and integrating ideas, information and textual elements
- Examining and evaluating

On all three assessments, the United States ranked significantly lower than the other leading nations. In the 2011 TIMMS results from 57 countries the United States ranked 15<sup>th</sup> in 4<sup>th</sup> grade math and 24<sup>th</sup> in 8<sup>th</sup> grade math. In the most recent PISA results of 15 year olds from 65 countries, the United States ranked 17<sup>th</sup> in reading literacy, 32<sup>nd</sup> in math literacy and 24<sup>th</sup> in science literacy. In the 2011 PIRLS results for 4<sup>th</sup> graders from 53 countries, the United States ranked 13<sup>th</sup> in achievement performance. Clearly, the educational standards American students are expected to master must be improved, with the clear intention of providing focused, coherent and rigorous academic standards that compare to other high performing countries. We have every confidence that students in Arizona will meet the challenge, be

competitive with their international peers and be well positioned for success in the 21<sup>st</sup> century workplace.

In October 2010, the American Institutes for Research released a report entitled, International Benchmarking: State Education Performance Standards. The report used international benchmarking to examine the expectations gap across states in terms of what students are expected to learn. Academic performance standards in each state identify what students must master in order to be considered proficient in English language arts and mathematics. These results are used to report progress to parents, state and federal departments and the public on the level of success in each school and LEA. In examining the expectations across states, the proficiency standards in each state were compared with the international benchmarks in the TIMSS and PIRLS international assessments. The overall finding in this study is that the differences in the rigor of the performance standards used across states are enormous. The report recommends that the standards setting process be shaped by empirical data not just internal state content considerations. The Benchmark Method (Phillips, 2011) acknowledges that the standards setting process needs to be guided by the real world expectations in the 21<sup>st</sup> century to ensure our students are globally competitive for the workforce they will enter. While content considerations are necessary, they are not sufficient. Benchmarking needs to drive decisions about the level of rigor necessary to determine mastery, again to ensure our students are competitive across high performing states and countries.

Dr. William Schmidt, Distinguished Professor and co-director of the Education Policy Center at Michigan State University recently released his study entitled, Common Core State Standards Math: the Relationship Between High Standards, Systemic Implementation and Student Achievement. Dr. Schmidt's research reviewed all 50 states' previous math standards and compared them to the focus and coherence of the College and Career Ready Standards. His findings included statistical comparisons that found most states had math standards that were significantly less focused and coherent than the College and Career Ready Standards. On average, states required 3-6 additional topics in the elementary grades beyond what is in the College and Career Ready Standards. This overload of expectations has often been referred to as standards that are "a mile wide and an inch deep." In his research, he identified the key characteristics in the mathematics standards of high performing counties; focus, coherence and rigor. A statistical analysis of the College and Career Ready Standards for mathematics found a 90% overlap between the CCRSS and the rigorous standards in the highest performing countries.

Schmidt's research also analyzed the link between states with standards similar to the College and Career Ready Standards, cut scores on their state mathematics assessments and states' NAEP scores. The preliminary results showed that states with standards very similar to the College and Career Ready Standards, combined with higher cut scores also had higher NAEP results. In his analysis Arizona's 2008 mathematics standards had approximately a 66% match to the AZCCRS. According to the most current results from the National Assessment of Educational Progress (NAEP) Mathematics 2011, Arizona Grade 4 public school students' average scale score was 235 which was lower than average scale scores in 35 states/jurisdictions, higher than four

states/jurisdictions and not significantly different from 12 states/jurisdictions. Arizona Grade 8 public school students' average scale score was 279 which was lower than 32 states/jurisdictions, higher than eight states/jurisdictions and not significantly different from 11 states/jurisdictions. The data from his study suggests that if the rigorous AZCCRS in mathematics are implemented, with aligned rigorous assessments, student achievement can improve significantly. It is critically important that the education community is supported in systematically implementing the AZCCRS so that all of Arizona's children will have the opportunity to learn challenging math content.

Additional information on the reports linking international benchmarking to the Common Core Standards can be found at:

<http://www.achieve.org/files/BenchmarkingforSuccess.pdf>

[http://www.air.org/files/AIR\\_Int\\_Benchmarking\\_State\\_Ed\\_\\_Perf\\_Standards.pdf](http://www.air.org/files/AIR_Int_Benchmarking_State_Ed__Perf_Standards.pdf)

Dr. William Schmidt, *Common Core State Standards Math: The Relationship Between High Standards, Systemic Implementation and Student Achievement* (Lansing, MI: Michigan State University, 2012).

13. **Concern:** We have no idea if these standards will work or not.

**Response:** The standards were developed using evidence that includes scholarly research; surveys on what skills are required of students entering college and workforce training programs; and assessment data identifying college and career-ready performance.

Most importantly, the standards were created using best practices of what works in improving students' college and career readiness from top performing states and countries. The standards writers drew from what works in these states and countries to ensure that the best content would be included in the standards.

The standards have also been put into practice in Arizona classrooms for three school years using a staggered implementation model that began with Kindergarten in 2011, then expanded to other targeted grades last year and to all grades this year. This has given teachers and schools the opportunity to pilot their teaching methods and materials and to modify them as needed as the standards expanded to other grades.

14. **Concern:** Arizona's old standards are better than the Common Core State Standards.

**Response:** Arizona's College and Career Ready Standards (AZCCRS) have been well-received and are regarded by most commentators – across the political spectrum- as an improvement on the state standards they replace. For example, in a recent analysis, the Fordham Institute found that the Common Core Standards are an improvement over Arizona's past standards.

The Thomas B. Fordham Institute is one of the country's leading non-profit educational institutions that provide quality research, analysis, and commentary, with the goal of advancing educational excellence for every child. The Institute recently released the results of a study that compared previous state standards to the College and Career Ready Standards (CCRS). Overall, the College and Career Ready Standards were determined to be clearer and more rigorous than most states previous standards and received an impressive A- rating. In 37 states the English Language Arts CCRS provided stronger, more focused standards and in 33 states, the mathematics CCRS were more rigorous, cohesive and focused. In 33 of these states the CCRS in both ELA and mathematics were stronger. Arizona is among these 33 states.

In this report the Fordham Institute provided a closer analysis of Arizona's previous ELA and mathematics standards to the CCRS. In general they found Arizona's 2003 and 2004 ELA standards to be well written, specific and thorough although some areas needed improvement. The CCRS more thoroughly addresses listening and speaking skills and includes samples of student writing to clarify grade-level expectations. The CCRS also includes a list specifying the quality and complexity of text material necessary for more rigorous student reading. In the final analysis it was determined that these enhancements would significantly improve Arizona's ELA standards. Overall grade for the 2003 and 2004 ELA standards: B

In general, the report found the 2008 Arizona mathematics standards to be strong although a significant weakness was identified in the coverage of arithmetic, which is neither prioritized nor appropriately culminated. It was also noted that while the standards were generally clear, the explanatory material was not always specific enough to provide clarification. The final conclusions of the analysis determined that the CCRS are superior to Arizona's 2008 math standards. Overall grade for the previous standards: B

More information on this analysis can be found at:

[www.edexcellence.net/publications/the-state-of-state-of-standards](http://www.edexcellence.net/publications/the-state-of-state-of-standards)

15. **Concern:** Arizona's College and Career Ready Standards are a curriculum that tells teachers what to teach.

**Response:** Arizona's College and Career Ready Standards (AZCCRS) are not a curriculum. Rather, they are a set of learning goals that outline what students should know and be able to do in each grade in English language arts and mathematics. Decisions about how to teach the standards (e.g. curriculum, tools, materials, and textbooks) are left to local decision-makers who know their students best.

Academic standards establish **what** students must master in a particular content area, in a specific grade level or span and determine the level of rigor that students must achieve across

grade levels. The AZCCRS in both ELA and mathematics are articulated by grade level, grade span in high school mathematics and essentially outline what students must learn by the end of each grade level or grade span. The AZCCRS do not provide any information or direction regarding instruction, beyond listing what students must learn by the end of each grade level in English language arts and mathematics. Decisions regarding content within the standards are commonly set at the state level. It is important that academic standards, including the AZCCRS, are set at the state level to ensure fair and equal access for all students in the state, to rigorous, coherent academic standards that will prepare students to be college and workplace ready.

Curriculum is essentially the organized preparation and plan of **how** the academic state standards will be taught and in Arizona decisions regarding curriculum are the purview of local school boards and local education agencies. Curriculum is a carefully constructed program or blueprint of learning that builds a plan for effective teaching and learning from the expectations set in the academic standards. A comprehensive curriculum must be approved and adopted at the local level as stated in A.R.S. 15-721 and 15-722 and includes:

- a complete scope and sequence that defines the breadth and depth of the content that will be studied
- a pacing guide that maps the intended content across the time identified for learning
- guidance on effective instructional strategies that support learning
- identification of approved and adopted instructional materials and resources
- an assessment plan that clearly articulates how student learning will be measured and the expectations for student performance that will demonstrate mastery of the content

It's important to note that while textbooks and instructional support materials are a key component of an LEAs adopted curriculum these resources alone do not constitute a comprehensive curriculum. Educational companies can produce instructional materials that enhance, guide and support teaching and learning but these products as stand alones do not constitute a curriculum. The responsibility and authority to develop a local curriculum resides with the local education agency and the local school board.

It is essential that classroom level teaching and learning is planned and guided at the local level to ensure that all students' learning needs are met, that all students are fully engaged with relevant, meaningful material and that local systems remain flexible in responding to the diversity of the families and students that they serve while ensuring high student achievement in the state's academic standards.

16. **Concern:** AZCCRS does not provide play time in kindergarten.

**Response:** AZCCRS are designed to build critical thinking skills and effective communication skills across all content areas K-12. Arizona's Early Learning Standards align with the AZCCRS in terms of developing "learning to learn" skills. Implementation of AZCCRS includes the integration of

real world application in solving problems, project based learning and cross content connections. Students who are actively engaged in their own learning and are truly preparing to be ready for college and career grow their curiosity, initiative, persistence, creativity, problem solving and confidence by engaging in dialogue with their peers, investigating, experimenting and applying the knowledge and skills they are learning. In kindergarten classrooms these characteristics are developed and encouraged by integrating interactive, meaningful, purposeful learning centers that reflect the standards and curriculum goals for kindergarten. Kindergarten students, more mature than preschoolers, but not yet 1<sup>st</sup> graders, need plenty of hands-on, engaging and relevant learning opportunities to practice and master the academic goals of their grade. Playful activities can and should be present in kindergarten classrooms when young learners are given the opportunity to engage with a wide range of learning centers designed to engage the curious kindergarten mind.

17. **Concern:** Arizona's College and Career Ready Standards do not have enough emphasis on fiction and literature.

**Response:** While there is a shift towards including informational text in the standards, literature is included. AZCCRS require certain critical content for all students, including; classics, myths, 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, AZCCRS require that students systematically acquire knowledge in literature and other disciplines through reading, writing, speaking and listening.

The AZCCRS in Reading Literature and Reading Informational text demand that students undertake close, attentive reading that is at the heart of understanding and enjoying complex works of literature. The students need to develop the particular ability to READ CLOSELY as is indicated by the AZCCRS. This has, ALWAYS been and remains the English teacher's job. **The background and historical importance of the literary cannon the local school district chooses to implement through their curriculum will be taught along with the standards that allow students to read and understand these works for themselves.**

AZCCRS do NOT require English teachers in grades 6-12 to teach informational text 50% of the time. This percentage refers to the K-5 classroom where teachers should be using complex text *to build content knowledge*. As an example, in addition to reading narrative fiction about an historical event in 4<sup>th</sup> grade, the teacher should also be including non-fiction/informational text about the same event so that students build their content-area knowledge. The exact words from the standards are, **"Building knowledge through content rich non-fiction plays an essential role in literacy and in the Standards. In K-5, fulfilling the standards requires a 50-50%balance between informational and literary reading."**

While English teachers in 6-12 are required to address the skills necessary to read non-fiction text closely, **the main focus of reading in secondary English classrooms will remain literature based.** The addition of the literacy standards for the content-areas, specifically social studies, science, mathematics and technical courses, can cause confusion about what will be read in English classrooms. Again, by focusing on standards that require students to read closely and deeply, MORE literature is likely to be covered in ELA classrooms.

The adoption of the curriculum and the materials to be used for teaching the district curriculum in grades K-5 and grades 6-12 remains in the control of the local school board.

18. **Concern:** Arizona’s College and Career Ready Standards in mathematics do not address algebra until high school.

**Response:** There is a great deal of algebra in the 8<sup>th</sup> grade AZCCRS and a strong focus on the prerequisites for algebra in the elementary grades. The focus and coherence of the standards for algebra begin in the earliest grades through algebraic thinking. The progression of algebra standards culminates in a formal algebra course once the 8<sup>th</sup> grade mathematics standards are completed.

This coursework does not necessarily have to take place in high school. A “compacted” approach to middle school math could include 3 years in 2 through combining 7<sup>th</sup> grade, 8<sup>th</sup> grade and Algebra 1. If a student is ready to move on to algebra in 8<sup>th</sup> grade or even earlier, the decision will be made collaboratively with the student’s parents, teacher and school district as has always been the practice at the local level.

See Mathematics Appendix A pages 3-4.

[http://www.corestandards.org/assets/CCSSI\\_Mathematics\\_Appendix\\_A.pdf](http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf)

It is important to know that the standards represent the expectations a student should meet at certain points in their educational journey. The standards represent the floor, not the ceiling and schools can provide the opportunity, along with parents, to ensure that students who are ready to achieve beyond the content at their grade level, who wish to pursue careers in STEM fields, and who will need higher levels of math in high school will have the opportunity to do so.

Foundational standards for success in algebraic concepts begin in 7<sup>th</sup> grade. Below is a crosswalk of the algebraic concepts covered in grade 7 in the AZCCRS-Mathematics compared with the 2008 Arizona Mathematics Standards from grade 8. A comparison is also made to the Singapore Secondary Standards Level O-Secondary 1, which is comparable to seventh grade. These crosswalks provide examples of how AZCCRS-Mathematics addresses Algebra in 7<sup>th</sup> grade.



2008 AZ Math Standards Grade 8 crosswalk	AZCCRS-Mathematics Grade 7	Singapore Secondary (US Grades 7-10)
<p><b>M08-S3C3-03</b> Analyze situations, <b>simplify</b>, and solve problems involving <b>linear equations</b> and inequalities using the properties of the real number system. (not factoring and expansion)</p> <p><b>M08-S3C3-01</b> Write or identify algebraic expressions, equations, or inequalities that represent a situation.</p>	<p><b>7.EE.1.</b> Apply properties of operations as strategies to add, subtract, <b>factor</b>, and expand <b>linear expressions</b> with rational coefficients.</p>	<p><b>Algebraic manipulation</b></p> <ul style="list-style-type: none"> <li>• addition and subtraction of <b>linear algebraic expressions</b></li> <li>• <b>simplification</b> of linear algebraic expressions</li> </ul>
<p><b>M08-S3C3-03</b> Analyze situations, <b>simplify</b>, and <b>solve</b> problems involving linear equations and <b>inequalities</b> using the properties of the real number system.</p>	<p><b>7.EE.4.</b> Use variables to represent quantities in a real-world or mathematical problem, and <b>construct simple equations and inequalities</b> to <b>solve</b> problems by reasoning about the quantities.</p> <p>a. <b>Solve</b> word problems leading to equations of the form <math>px+q=r</math> and <math>p(x+q)=r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. <b>Solve</b> equations of these forms <b>fluently</b>. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach.</p> <p>b. <b>Solve word problems leading to inequalities</b> of the form <math>px+q&gt;r</math> or <math>px+q&lt;r</math>, where <math>p</math>, <math>q</math>, and <math>r</math> are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.</p>	<p><b>Solutions of equations and inequalities</b></p> <ul style="list-style-type: none"> <li>• <b>solving simple inequality</b> (e.g. <math>3x \leq 5</math>)</li> <li>• formulating a linear equation in one unknown to solve problems</li> <li>• solving simple fractional equations that can be reduced to linear equations</li> </ul>

2008 AZ Math Standards Grade 8 crosswalk	AZCCRS-Mathematics Grade 7	Singapore Secondary (US Grades 7-10)
<p><b>M08-S3C2-05</b> Demonstrate that proportional relationships are <b>linear</b> using <b>equations, graphs, or tables</b>.</p>	<p><b>7.RP.2.</b> Recognize and represent proportional relationships between quantities.</p> <p>a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a <b>coordinate plane</b> and observing whether the graph is a straight line through the origin.</p> <p>b. Identify the constant of proportionality (unit rate) in tables, <b>graphs, equations</b>, diagrams, and verbal descriptions of proportional relationships.</p>	<p><b>Functions and graphs</b></p> <p>Include:</p> <ul style="list-style-type: none"> <li>• <b>cartesian coordinates</b> in two dimensions</li> <li>• <b>graph</b> of a set of ordered pairs</li> <li>• <b>linear relationships between two variables</b> (linear functions)</li> <li>• the gradient of a linear graph as the <b>ratio of the vertical change</b> to the horizontal change (positive and negative gradients)</li> </ul>

	<p>c. Represent proportional relationships by equations.</p> <p>Explain what a <b>point <math>(x, y)</math></b> on the graph of a proportional relationship means in terms of the situation, with special attention to the points <math>(0, 0)</math> and <math>(1, r)</math> where <math>r</math> is the unit rate.</p>	
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19. **Concern:** There was no input or involvement from higher education in the standards development process.

**Response:** More than 100 content experts and educators from across the nation, including higher education representatives, were integral participants in the development of the standards, as a part of the work teams and feedback groups for the standards. Additionally, hundreds of state team participants from 48 states participated in the standards development process with membership extending from educators to content experts to policy leaders to higher education and business representatives; as well as the thousands of people who participated in the public feedback process.

From an Arizona perspective, Dr. William McCallum, the University Distinguished Professor of Mathematics and Head of the Department of Mathematics at the University of Arizona, was one of the lead writers of AZCCRS. Dr. McCallum was integral in both representing higher education and the state of Arizona directly as the standards were being created.

In addition to national content teams, Arizona convened state content teams that also included higher education representatives. These Arizona teams provided important feedback to the national team and many of the Arizona suggested changes were incorporated into final documents.

20. **Concern:** There is too much focus on writing in Arizona’s College and Career Ready Standards. More focus is needed on reading.

**Response:** It is without question that both writing and reading are essential to student success. AZCCRS include both reading and writing, establishing rigorous learning goals not only for close reading of complex text but also for articulate written responses that includes the purposeful use of evidence and sound argument. Students must master these literacy skills across all academic disciplines, including science, social studies and technical subjects. The standards do not minimize reading. In fact, there is almost double the amount of standards for reading as there are for writing.

At all grade levels, reading and writing standards are present. There is a separate set of standards for both reading informational text and reading literature at every grade level, in addition to foundational reading standards in grades K-5. Writing standards are present in every

grade level as well, with foundational writing skills included as part of the Language strand at early grades. There are also both reading and writing standards specifically designed for teachers of content areas outside of English Language Arts at the 6-12 grade levels. Arizona's College and Career Ready Standards recognize the relationship between reading and writing and balance standards appropriately to meet demands.

21. **Concern:** AZCCRS in mathematics does not allow for calculus to be taught in high school.

**Response:** The AZCCRS provides a rigorous course of study for high school students that do not preclude calculus. There are three important criteria to note though:

- The AZCCRS are written for high school mathematics educators who understand mathematics deeply. It's important that educators clearly understand what students need to know and be able to do in any given mathematics course, rather than fitting the AZCCRS into existing courses and tracks that may have fit the previous standards.
- Full implementation means that AZCCRS mathematics is taught with appropriate depth and breadth to ensure fidelity.
- The 4<sup>th</sup> mathematics credit required for graduation is intended to include significant mathematics content which would reflect high school level mathematics content.

When these criteria are in place the following traditional track of mathematics courses is certainly possible and reasonable especially for students who have an aptitude and interest in mathematics:

- 9<sup>th</sup> grade – Algebra I
- 10<sup>th</sup> grade – Geometry
- 11<sup>th</sup> grade – Algebra II (includes Algebra and Trigonometry)
- 12<sup>th</sup> grade - Calculus

When it's possible to align to a middle school program an example of a traditional track for math courses could be:

- 8<sup>th</sup> grade – Algebra I
- 9<sup>th</sup> grade – Geometry
- 10<sup>th</sup> grade – Algebra II
- 11<sup>th</sup> grade – Calculus or pre-Calculus
- 12<sup>th</sup> grade – Calculus, Statistics, business/accounting, dual credit courses

22. **Concern:** The new test will be twice the cost of AIMS.

**Response:** Given that Arizona has revised its academic standards, the state assessments for ELA and mathematics will need to be updated. Essentially, Arizona needs to replace the AIMS test, which is now outdated. In the 2014-2015 school year, Arizona will begin rolling out new assessments that are aligned to the new standards. The new assessments will be used to gauge how well students are mastering the standards and, ultimately, how ready they are to succeed in college and career.

The decision regarding the choice of a new state assessment system will be made through the state procurement process. The Arizona State Board of Education will release a Request for Proposal (RFP) process in the spring of 2014 and will select an assessment through a competitive RFP process in mid-2014.

An assessment will be selected that is cost-effective, aligned with Arizona's College and Career Ready Standards, and that best suits our students' needs. The assessment will provide valid, understandable and widely accepted indication of readiness for college and/or advanced career training without need for remediation. The new assessments will be more complex and higher quality because they will assess students' critical thinking and analytical skills. They will likely be computer-based and will rely on both technology and a human component to score the assessments. This accounts for an increase in cost. The estimated costs for the new assessment is in line with what many states already pay for their current assessments. It's also an effective return on our investment. The cost of the assessment is a small investment for the state to ensure that students are effectively learning what they are being taught.

23. **Concern:** The standards and new test will lead to unnecessary data collection by the federal government.

**Response:** The federal government is prohibited by law from collecting any personally identifiable data (e.g., name, place and date of birth, SSN, or any other information that could be used to distinguish an individual's identity) about individual students. This means that the federal government does not collect data about individual students or have access to data about individual students that states collect. There is no additional data that will be collected by a new assessment.

The data that will be collected as Arizona implements the College and Career Ready Standards and the new assessment is the same data as what is currently being collected with the AIMS assessment.

24. **Concern:** Schools that object to the standards can opt out of the standards.

**Response:** The Arizona State Board of Education has the authority to adopt standards, while local governing boards have the authority to adopt curricula and instructional materials. All Arizona public school governing boards in district and charter schools are required by law to implement the academic standards and aligned assessments, once each is adopted by the SBE. ACCRS were adopted by the SBE in 2010. A new assessment will be adopted in 2014.