

**COLLEGE
READINESS**

A First Look at the **Common Core** and **College and Career Readiness**



ACT[®]

A First Look at the Common Core

Forty-one states have adopted the Common Core State Standards. Now, implementing the Standards—to realize their purpose of increasing the college and career readiness of our high school graduates—takes on primary importance. This transition to implementation introduces a number of challenging questions: What is the baseline of student performance on the Common Core State Standards, and what reasonable expectations should we hold for students moving forward? What does student college and career readiness look like today through the lens of the Standards?

ACT is pleased to provide this first look at student performance relative to the Common Core State Standards and college and career readiness. The report establishes a baseline of performance on the Standards by using a sample comprising a quarter-million typical high school students, and then discusses how states, districts, and schools can support the implementation of the Common Core State Standards going forward.

The period between Common Core adoption and Common Core implementation offers an important opportunity to evaluate and reframe education policy and practice at all levels. ACT believes this report provides information that stakeholders can use to understand the current state of college and career readiness of students and to begin implementing programs and policies that best support the Common Core.

Now is the time to provide students with more effective opportunities to prepare for education and workplace success.

A Baseline for College and Career Readiness According to the Common Core State Standards

The Common Core State Standards and College and Career Readiness

The Common Core State Standards Initiative represents one of the most significant reforms to U.S. education in recent history. The efforts of 48 states, two territories, and the District of Columbia have—for the first time—given consensus to educators on the essential knowledge and skills necessary for the college and career readiness of our nation's students. As of October 2010, 41 states have adopted the Common Core State Standards.

ACT is pleased to have played a leading role in the development of the Common Core State Standards. Not only did the initiative draw on ACT's longitudinal research identifying the knowledge and skills essential for success in postsecondary education and workforce training, but ACT's College Readiness Standards™ were also among the resources

ACT has long defined college and career readiness as the acquisition of the knowledge and skills a student needs to enroll and succeed in credit-bearing, first-year courses at a postsecondary institution (such as a two- or four-year college, trade school, or technical school) without the need for remediation. ACT's definition of college and career readiness was adopted by the Common Core State Standards Initiative and provides a unifying goal upon which educators and policymakers now must act.

used in the creation of the Common Core State Standards.

As states begin to implement the Common Core and raise expectations for what students should know and be able to do by the end of high school, it is important to understand the level of college and career readiness of today's students and use all available data to inform decisions related to education policy and practice. Recognizing that no state has fully implemented the Common Core State Standards, ACT identified a way to estimate performance relative to the Common Core. This report summarizes those findings.

Given ACT's leading role in the development of the Common Core State Standards, we classified ACT test items to the standards, clusters, and domains of the Common Core State Standards (e.g., Key Ideas and Details in Reading, Number and Quantity in Mathematics, Conventions of Standard English in Language) to best estimate student performance on the Common Core in advance of state implementation efforts.¹ Our work was driven by three basic questions that have implications for the implementation of the Common Core State Standards:

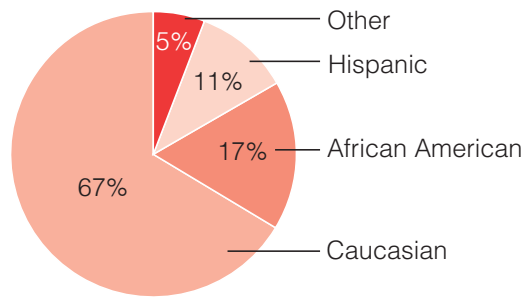
1. Given the lack of available data, what is the best estimate of current student performance on the Common Core State Standards using ACT college and career readiness data?
2. What are students' current strengths and weaknesses on the Common Core State Standards?
3. What steps can district, state, and federal policymakers and education leaders take to help ensure an effective transition to the Common Core State Standards?

A Unique Opportunity

These three essential research questions framed ACT's analysis of the test results of 256,765 11th-grade students in several states who were administered selected forms of the ACT® Plus Writing (i.e., multiple-choice tests in English, Mathematics, Reading, and Science, plus the ACT Writing Test) in spring 2010. The students represented in this report were not self-selected, as traditional ACT examinees are, but rather represent all students who took the ACT as part of their states' annual testing programs. The group spans the full range of abilities and college aspirations, reflects a range of communities and schools, and includes students tested under standard conditions as well as under accommodations. In other words, the sample comprises typical 11th-grade students like those found in high schools all across the United States. (See Figure 1.)

Methodology

Since performance indicators have not yet been established for the Common Core State Standards, this report uses ACT's research-based College Readiness Benchmarks to estimate college- and career-ready performance levels on each of the clusters of Common Core State Standards. For each cluster for which ACT has data (i.e., all but Speaking & Listening and Research), we



Tested Cohort by Race/Ethnicity
N=256,765

Figure 1

report the percentage of students in the 11th-grade sample who met or exceeded the performance level of college- and career-ready students on the test items associated with that Common Core cluster. We report this information for the total group and for Caucasian, African American, and Hispanic students.

So how well are students performing on the content clusters of the Common Core State Standards? Helping to raise awareness of the answer to this question allows educators and policymakers the opportunity to focus efforts on improving student performance on the Common Core and increasing the college and career readiness of **all** students.

Overall Results

The results of this analysis should be used with caution, as they are based on results of students who were administered the ACT as

The ACT College Readiness Benchmarks are the minimum scores required on the ACT subject tests for high school students to have approximately a 75 percent chance of earning a grade of C or better, or approximately a 50 percent chance of earning a grade of B or better, in selected courses commonly taken by first-year college students: English Composition; College Algebra; social sciences courses such as History, Psychology, Sociology, Political Science, or Economics; and Biology.

The Benchmark scores on the ACT tests are 18 in English, 22 in Mathematics, 21 in Reading, and 24 in Science; on the ACT Writing Test, a score of 7 or above indicates readiness for college-level writing assignments.

part of their statewide assessment at a time prior to the adoption of the Common Core State Standards. Given that states were teaching to and assessing different sets of standards, it can be argued that students were not adequately prepared for an assessment of the Common Core State Standards. We agree; however, the analysis is intended not to focus on student performance on current state standards, but to shed light on current student achievement levels relative to the Common Core State Standards. As states adopt the Common Core State Standards and begin aligning instructional practices, resources, and assessments to college and career readiness—as some have been doing for a number of years—the expectation is that all students will be adequately prepared for such an assessment. Until such time, this analysis serves as a starting point for assessing achievement relative to the Common Core in advance of full state implementation efforts.

Figure 2 shows the overall percentage of students in the report sample who met ACT’s College Readiness Benchmarks compared to the percentage of all ACT-tested 2010 high school graduates. In all three areas of the Common Core State Standards—English, Reading, and Math—the percentage of students in the sample is less than what we see in the 2010 ACT-tested group. This is to be expected; as mentioned previously, the report sample includes all students who took the ACT as part of their statewide assessment and

includes students with a range of abilities who tested under normal and accommodated conditions.

Our analysis indicates that across all Common Core domains, strands, and clusters, only one-third to one-half of the 11th-grade students are reaching a college and career readiness level of achievement. Moreover, for each Common Core domain, strand, and cluster, the percentages of Caucasian students who met or exceeded the performance of college- and career-ready students were uniformly higher than the corresponding percentages of African American or Hispanic students.

These results indicate that we must begin immediately to strengthen teaching and learning in all areas of the Common Core, with particular focus on raising college and career readiness rates of African American, Hispanic, and other underserved students.

Detailed Results

The following pages report student performance within each Common Core State Standards category in English Language Arts & Literacy (pp. 4–5) and Mathematics (pp. 6–7), reported for all students and by three racial/ethnic subgroups. Student performance is reported as the percentage of all students in the study who met or exceeded the performance level of college- and career-ready students in each category of that Standard.

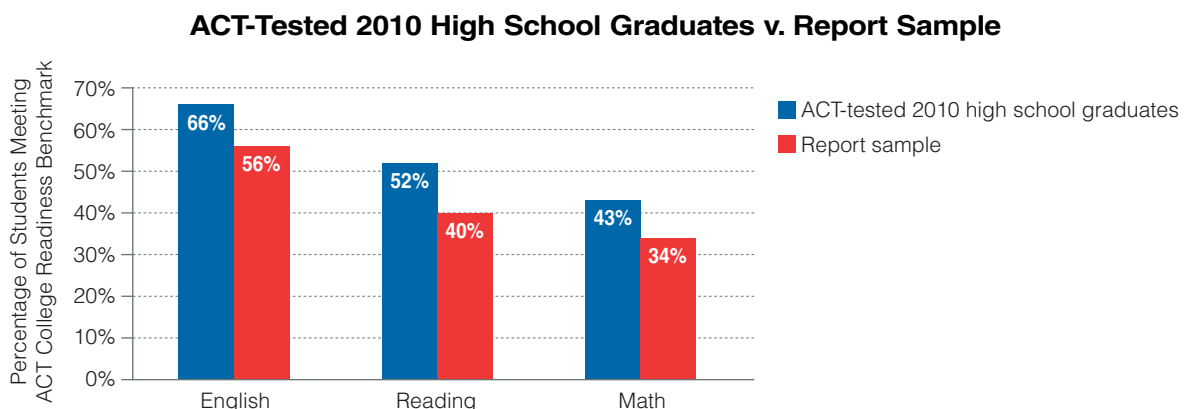
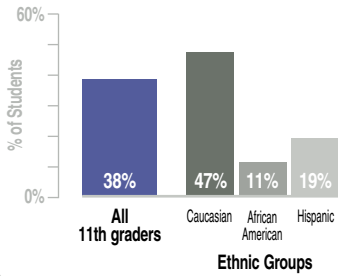


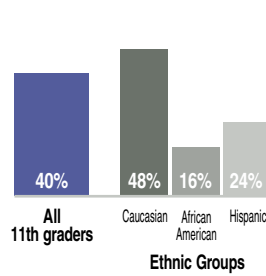
Figure 2

Common Core English Language Arts (ELA) & Literacy

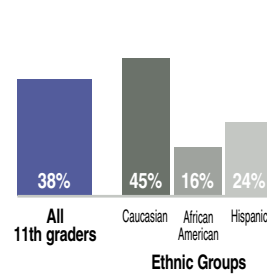
Reading



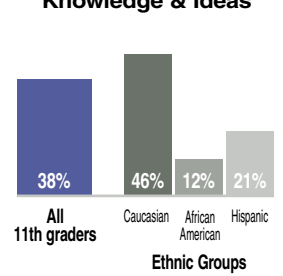
Key Ideas & Details



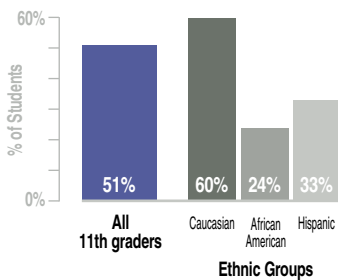
Craft & Structure



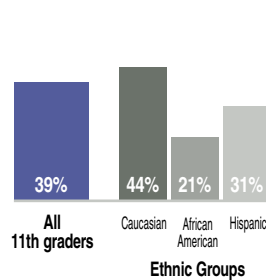
Integration of Knowledge & Ideas



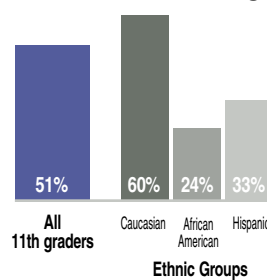
Writing



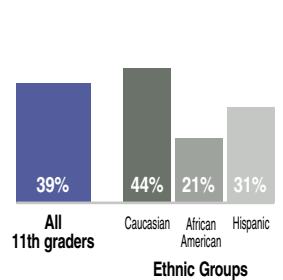
Text Types & Purposes



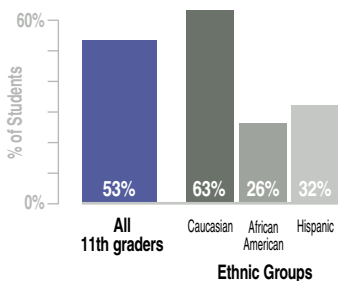
Production & Distribution of Writing



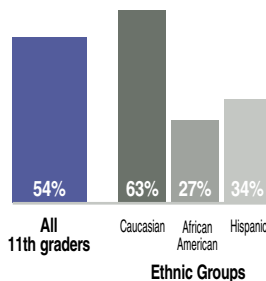
Range of Writing



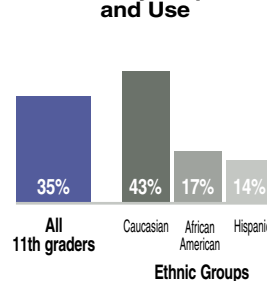
Language



Conventions of Standard English

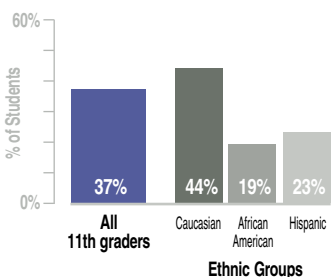


Knowledge of Language & Vocabulary Acquisition and Use

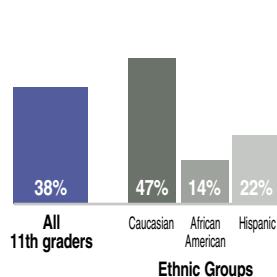


Common Core Literacy Scores

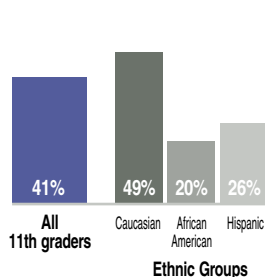
Literature



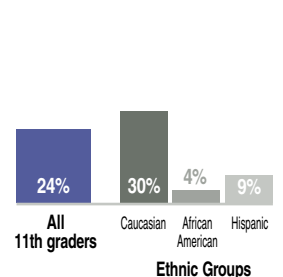
Informational Text



Literacy in Social Studies

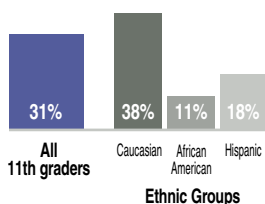


Literacy in Science



A First Look at Common Core ELA & Literacy

Range of Reading & Level of Text Complexity

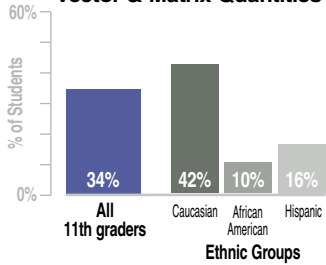


- **Too few students are able to understand complex text.** Relative to the Common Core, only 31% of students are performing at a college- and career-ready level with respect to successfully understanding complex text. The Common Core State Standards define a “staircase” of increasing text complexity designed to move all students to college- and career-ready levels of reading by no later than the end of high school. **To help prepare all students for the challenges of reading at the college and career readiness level, states should ensure that students are reading progressively more complex texts as they advance through the grades.**
- **Increased focus is needed on some key aspects of language.** Two areas of emphasis in the Common Core State Standards for Language are (1) students’ knowledge of language varieties and ability to use language skillfully and (2) students’ ability to acquire and use a rich vocabulary. Relative to the Common Core, only 35% of students are performing at college- and career-ready levels with respect to these skills. To help all students develop a sufficient command of these language skills, states should ensure that students gain sufficient understanding of how language varies by context; how to use language effectively for different audiences, purposes, and tasks; and how to gain and use a vocabulary adequate for college and careers.
 - Students should master the grade-specific standards for Common Core Language Standard 3, which, beginning formally in grade 2 and building throughout the grades, **focuses on such areas as recognizing differences between formal and informal English and between spoken and written English, using language precisely and concisely, and maintaining consistency in style and tone.**
 - Students would also benefit from greater and more systematic attention to vocabulary development. This can include direct vocabulary instruction and a steadily increasing emphasis on helping students acquire vocabulary through reading. Particularly important is that students gain what the Standards refer to as general academic vocabulary: words and phrases that are often encountered in written texts in a variety of subjects but that are rarely heard in spoken language.
- **Content-area reading needs strengthening.** Students struggle when reading texts in content areas, especially in science, where only 24% of students are able to work with science materials at a level that would make them college and career ready. To help all students achieve sufficient literacy skills in history/social studies and in science and technical subjects, as well as in English language arts, states must **ensure that teachers in these subject areas use their unique content knowledge to foster students’ ability to read, write, and communicate in the various disciplines.**
 - Specifically, **English language arts teachers in middle and upper grades should incorporate a particular type of informational text—literary nonfiction—into the traditional curriculum of stories, dramas, and poems.**
 - Teachers in other subject areas should use their own subject-area expertise to help students learn to read, write, and communicate effectively in their specific field.
 - The Common Core State Standards in reading are explicitly modeled on the idea of shared responsibility for students’ literacy development. States and districts should therefore prepare middle and high school content-area teachers for this role by providing professional development opportunities that build the reading instruction capacity of content-area specialists.

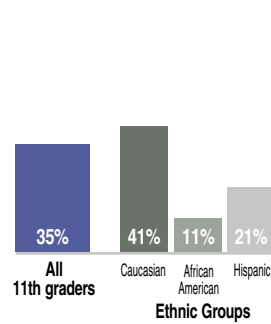
Common Core Mathematics

Number & Quantity

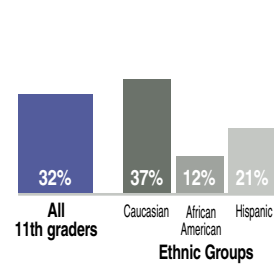
Real Number System; Quantities; The Complex Number System; Vector & Matrix Quantities



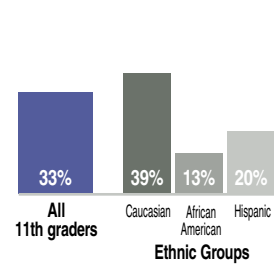
Algebra



Seeing Structure in Expressions

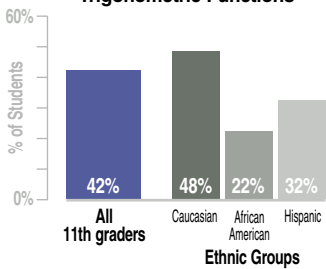


Creating Equations

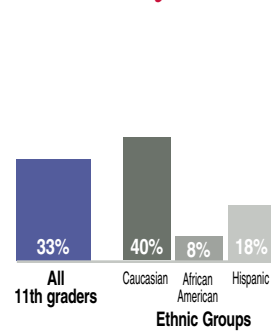


Functions

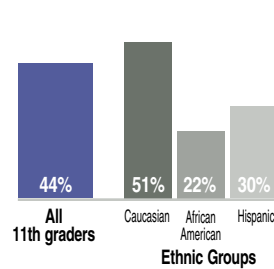
Interpreting Functions; Building Functions; Linear, Quadratic, & Exponential Models; Trigonometric Functions



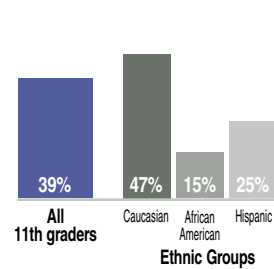
Geometry



Congruence

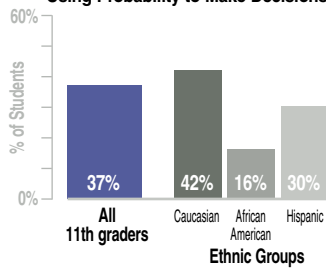


Similarity, Right Triangles & Trigonometry; Circles



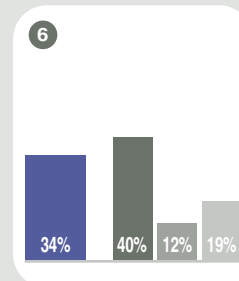
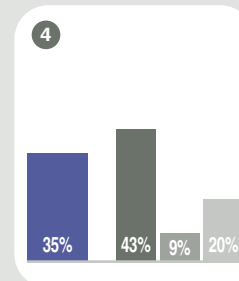
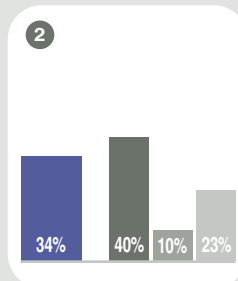
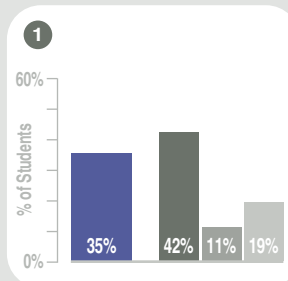
Statistics & Probability

Interpreting Categorical & Quantitative Data; Making Inferences & Justifying Conclusions; Conditional Probability & the Rules of Probability; Using Probability to Make Decisions



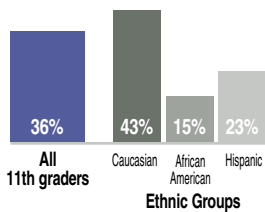
Mathematical Practices

- 1 Make sense of problems and persevere in solving them
- 2 Reason abstractly and quantitatively
- 3 Construct viable arguments and critique the reasoning of others
- 4 Model with mathematics
- 5 Use appropriate tools strategically
- 6 Attend to precision
- 7 Look for and make use of structure
- 8 Look for and express regularity in repeated reasoning

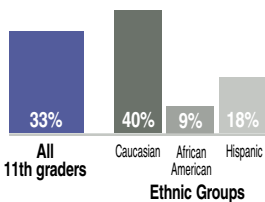


A First Look at Common Core Mathematics

Arithmetic with Polynomials & Rational Functions; Reasoning with Equations & Inequalities



Expressing Geometric Properties with Equations; Geometric Measurement & Dimension; Modeling with Geometry



■ **Increased focus is needed on the foundations of mathematics.** The low performance by students on Number & Quantity (34%) in the Common Core is of particular concern because these skills are the foundation for success in the other Common Core mathematics conceptual categories (e.g., Algebra, Functions, Modeling, Geometry, and Statistics & Probability). Students need to make *meaning* of numbers, operations, and arithmetic expressions, and to use their understanding to solve problems, reason about mathematics, and explain their thinking. **To increase math performance, states need to ensure K–8 curriculum and instruction require rigorous understanding of the concepts in Number & Quantity from the earliest grades.**

- In the early grades, students will benefit from problem solving in novel contexts and hands-on experiences with increasingly sophisticated quantities and their measurement.
- In middle school and high school, teachers should lead students to see connections between Number & Quantity and other Common Core mathematics conceptual categories, particularly Algebra.

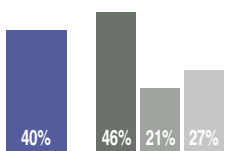
■ **Math interventions are needed for students who are falling behind at the earliest grades.** Across the board, Hispanic and African American students performed well below their Caucasian counterparts in all Common Core math domains. **States must ensure that teachers and students have the resources necessary to identify struggling math students as early as possible (K–4) so that proper interventions are made.** Providing teachers and students with adequate opportunities to collect achievement data that function diagnostically—data collected frequently and from both formative and summative assessments—is crucial to supporting students’ learning progressions and for optimal growth to occur.

■ **Greater understanding of mathematical processes and practices is needed.**

For each of the Common Core Mathematical Practices standards, only about one-third of students reached the college- and career-ready level. States and districts must ensure that conceptual understanding is emphasized for all students in mathematics. More specifically, students at all grade levels need to be:

- working and solving challenging nonroutine problems;
- explaining methods and justifying conclusions;
- predicting and conjecturing about things like unknown numbers, measurements, quantitative relations, the behavior of functions, how well a model fits reality, the effectiveness of different solution methods, and the way probabilistic events occur; and
- looking for patterns and structure in places like diagrams, equations, number systems, proofs, problems, tables, graphs, and real-world objects.

3 5 7 8



Where Do We Go from Here?

Clearly there is room for increased student achievement relative to the Standards—and to college and career readiness—across all Common Core domains, strands, and clusters; so where do we start? What instructional strategies and diagnostic tools are necessary for districts, schools, and classroom teachers to articulate the Standards to students, identify students in need of improvement, and target instructional interventions? What policy changes are required at the state and federal levels to enable those changes? These are the complex questions that educators and policymakers at all levels of our education system need to answer before implementing the Common Core.

Recommendations for Instructional Strategies and Interventions

The findings in this report indicate that much work must be done to prepare all students for the rigors of postsecondary education and workforce training programs by the time they graduate high school. But improving the preparation of students for life beyond high school is larger than simply focusing on results at the high school level—this is a systems issue that must be addressed by all levels (P–16) of our education systems. Improving college and career readiness is crucial to the development of a diverse and talented labor force that can maintain and increase U.S. economic competitiveness throughout the world. It is our collective responsibility—educators and policymakers alike—to ensure that each and every student is prepared and on target for success from the earliest grades through high school graduation and beyond.

ACT recommends that state and local education practitioners and policymakers

begin now to align current curricula with the Common Core State Standards. This process should result in the development of high-quality lessons and instructional units aligned to the Standards. Beyond that initial step, we must also make every effort to help educators effectively incorporate these Standards into daily instruction and practice, to ensure that the quality, consistency, and rigor of the curriculum are aligned with those Standards.

ACT recommends that states provide training and resources to districts and classroom teachers to create rigorous instructional units and curricular tools for moving students to higher levels of performance as required by the Common Core State Standards. Teachers need to have access to model lessons and instructional units aligned to the Standards. Teachers need to have access to formative assessment item pools that provide useful feedback about student progress toward meeting the Standards. Teachers also need to be able to use the results of such formative assessments to guide instructional interventions for students who are not yet college and career ready. Perhaps most critical of all—teachers and school leaders need a solid foundation of professional development to support their effective and efficient use of these new resources.

ACT research on the practices of high-performing schools indicates that there are core practices that can help educators overcome the challenges our education systems face in increasing student achievement, while also allowing states to remain true to the high expectations found in the Common Core State Standards. Based on this research, we strongly encourage

education leaders to consider the following practices:

■ **Create a school culture of high expectations.** The Standards can identify rigorous learning outcomes, but the real work of meeting those expectations rests in the day-to-day efforts in our classrooms. That work can only succeed if everyone agrees on the goal. ACT research suggests that the inconsistent and sometimes alarmingly low expectations held by our nation's educators regarding what students can achieve academically pose a serious challenge to meeting Common Core's goal of having all students college and career ready no later than the end of high school. Our research shows that high-performing schools—including schools that serve a large percentage of low-income students—focus relentlessly on setting high expectations, develop challenging academic objectives systemically, and embody those expectations in all facets of their core work. The learning progressions embedded in the Common Core State Standards can promote those efforts in all schools by providing a framework that teachers can use to develop grade-appropriate instruction that helps advance all students to college and career readiness.

■ **Use data to create individualized responses to students' needs.** The Standards implementation process affords an opportunity to substantially rethink how we approach student monitoring, goal setting, and support programs at the local level. Accelerating the college and career readiness of our students will require that we create new approaches for using student data to empower educators to personalize student learning goals, classroom instruction, and intervention

strategies. The past decade has spurred a dramatic increase in the types of student data available, but the next decade will require a dramatic improvement in how we use this data to strengthen instruction, interventions, and decision making.

■ **Foster an atmosphere of support and collaboration among teachers.** Focus efforts to increase the quality and intensity of instruction through sustained professional development initiatives and professional learning communities. At the heart of the Standards is the need for high-quality, responsive, and engaging instruction. Necessary efforts to align and improve curricula must be accompanied by a sustained effort to systematically improve the quality of instruction. ACT's research shows that the incorporation of a challenging curriculum can have a significantly positive impact on students' college and career readiness, but these gains are even greater when school leaders couple a rigorous curriculum with a comprehensive professional development and support program.

Recommendations for Policymakers

In addition to offering instructional recommendations for states and districts, this report also suggests that there are broad implications for policymakers as our nation ramps up for the implementation of the Common Core State Standards. The estimated performance of students relative to the Standards raises the question: What steps can policymakers at the federal, state, and district levels take to help create the conditions in which educators can succeed in accelerating the college and career readiness of our nation's students?

The period between *Common Core adoption* and *Common Core implementation* affords an important opportunity to evaluate and reframe education policy at all levels to provide greater support for educators. During this transitional period, policymakers should invest their efforts in three broad areas.

First, policymakers should thoughtfully consider and discuss the complex implications of the shift from existing state standards to the Common Core State Standards, as this shift has implications not only for expectations and education practice, but also for state accountability models. Second, policymakers should use this opportunity to leverage research to better define goals on how much academic growth—at the student and school levels—is reasonable to expect. Third, policymakers should thoroughly consider how to more effectively align education funding programs to meet these ambitious goals, particularly with respect to instructional and curricular practices.

The national dialogue on the Common Core State Standards Initiative has moved quickly from the creation and adoption processes to how to best assess the Standards. This report, however, suggests that the success of this initiative will be largely vested in an area conspicuously absent from the dialogue: the effective implementation of the Standards within schools and classrooms. Ensuring that educators have the resources and support necessary to fully and coherently integrate these Standards into daily practice is a critical prerequisite to making college and career readiness a reality for all students.

As they prepare for implementation of the Common Core State Standards, ACT recommends that policymakers at all levels consider the following:

- **Recognize that adoption of “fewer, clearer, higher” standards is a significant shift in expectations.** While each state’s transition from its current education standards to the Common Core State Standards will be different, our preliminary research suggests that these transitions are not likely to be a matter of incremental change. Rather, such transitions fundamentally reframe what we expect students and school systems to accomplish. Policymakers—and educators—at all levels must be aware of this shift and prepare now for the changes that will need to occur over the next several years of implementation.
- **The shift in expectations has very real implications for education monitoring and accountability systems.** If states, districts, and schools adhere to the Common Core State Standards Initiative’s definition of college and career readiness as the primary metric for defining school success, current monitoring and accountability systems may not fully acknowledge the gap between where students are now and where we expect them to be. If left unaddressed, evaluating school performance based on arbitrary proficiency rates and timelines may undercut incentives for schools to embrace the challenge of preparing all students for college and career. Rather than encouraging states and districts to adopt weakened definitions of college and career readiness, policymakers should improve current accountability systems so that schools embrace challenging yet realistic goals rooted in how well students demonstrate academic growth toward learning meaningful college and career readiness standards.

■ **Federal programs need to have a greater focus on college and career readiness.**

The reauthorization of the Elementary and Secondary Education Act (ESEA) provides a remarkable opportunity to align federal programs and resources around the goal of college and career readiness. Given the challenges educators will face, ESEA should empower local policymakers and educators to better direct their focus and resources, particularly in strengthening professional development, curricula, and instructional practices to maximize their capacity to incorporate higher expectations into day-to-day practices.

■ **Ensuring sufficient public understanding of the Common Core State Standards is critically important.**

Based on our preliminary findings, state and district policymakers may need to prepare their stakeholders and communities for a shift in how they understand the notion of student “proficiency.” Because states currently set and define their own proficiency levels, for many states the definition of college and career readiness expressed in the Common Core State Standards Initiative may represent a significant change in how they define proficiency and how they subsequently report to the public on student and school performance. An analogous scenario is the disconnect between the reported percentage of students “proficient” on state assessments and the percentage of students “proficient” on the National Assessment of Educational Progress within the same state. During the transitional period leading up to the implementation of the Common Core State Standards, state and district leaders should engage school and community

stakeholders to ensure there is broad and sufficient understanding of what college and career readiness means, why “fewer, clearer, higher” standards are essential, and how these challenging expectations will affect reporting requirements in the short term.

■ **Increasing the percentage of students who are college and career ready is challenging, but possible.**

Despite the challenges that these new Standards introduce, it is quite realistic for states, districts, and schools to spur meaningful improvement. For example, in two states where every high school graduate (not just self-selected, college-bound students) takes the ACT, we see significant progress. In Colorado, the percentage of students who are college and career ready in *all* of the core subjects (English, math, reading, and science) has increased by 5 percentage points since 2002, while in Illinois the increase was 4 percentage points. At the local level, we see variation in the pace at which districts improve the percentage of students who are college and career ready in all core subjects, affirming that change is possible. Regardless of the rate of change thus far, from this point forward it is essential that our collective research, policy, and reform efforts focus on how to best accelerate improvement in student readiness relative to challenging and meaningful standards.

■ **To accelerate improvement, states and districts should make concerted efforts now to ensure full and meaningful implementation of the Common Core State Standards.**

In addition to incorporating the approaches of our nation’s highest-performing school districts,

states and districts should undertake three additional strategies:

1. Conduct research with their best available data to evaluate where students are currently performing relative to the Common Core State Standards. Estimating where a school's relative strengths and weaknesses lie will allow educators and policymakers to allocate current resources most appropriately.
2. Invest significant efforts in mapping the transition from current state standards to the Common Core State Standards. This interpretive process—perhaps in collaboration with state institutions of higher education and the business community—can create a rational and aligned blueprint for strengthening instructional frameworks, curricula, and professional development models, while deepening the understanding of local stakeholders.
3. Develop challenging yet realistic performance goals based on individual student growth. With this approach, we can evaluate school performance more holistically and rationally against higher, more challenging standards.

Conclusion

The results of this study tell us that, as seen through the lens of the Common Core State Standards, far too many of today's students will likely graduate from high school not ready for college-level work or career training programs without needing some type of remediation in English language arts and mathematics. State, district, and school education leaders now have a clear starting point for implementing the Common Core by targeting those areas of the Standards where student performance is weakest and ensuring that K–12 educators are adequately prepared with instructional strategies, interventions, and training to best support students in becoming college and career ready.

ACT believes that a comprehensive approach to Common Core implementation that incorporates changes in practice and policy is essential for turning the promise of the Common Core State Standards—college and career readiness for **all** high school graduates—into a reality for our students, schools, districts, states, and the nation. Now is the time to begin.

Note

¹Items on each ACT Plus Writing test form were coded to the relevant domain, strand, or cluster in the Common Core State Standards. Individual item responses were used to calculate the percentage of items answered correctly. Because the items on each form are unique and one form may differ slightly from another with respect to the number of items in each Common Core State Standards category and in the difficulty of those items, the percent-correct scores for each form were scaled to a common metric to allow combining scores across forms and facilitate future monitoring of trends across time.



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