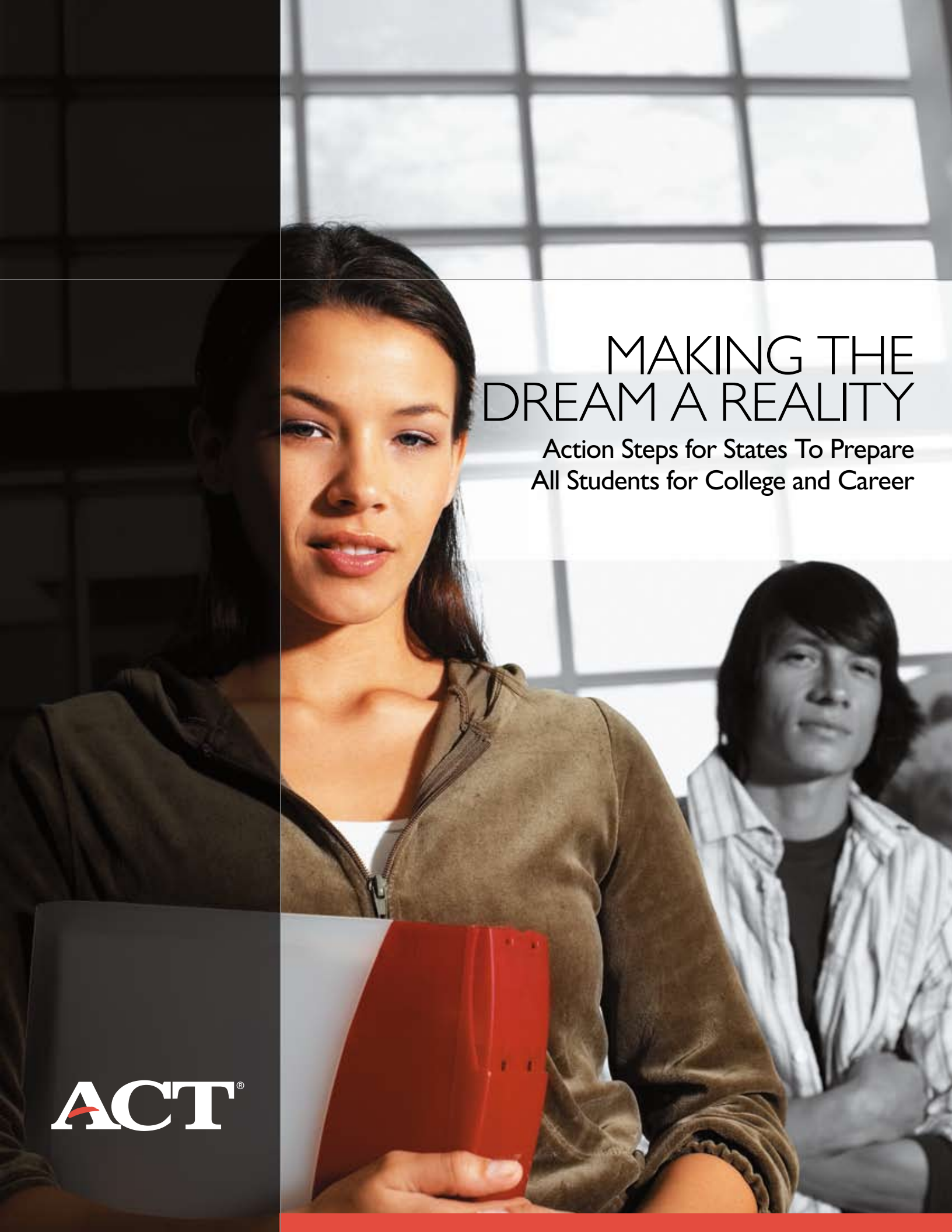


MAKING THE DREAM A REALITY

Action Steps for States To Prepare All Students for College and Career

ACT®

INTRODUCTION
The Invisible Crisis

Every day, 6,000 American high school students drop out of school — bored, frustrated, or so far behind that they've given up. That is the visible crisis in American education, one that has drawn extensive attention from governors, legislators, educators, pundits, and the press.

Affecting even greater numbers of students, however, is the invisible crisis — the more than 1 million students each year who remain in school, assuming that they are on target to graduate from high school ready for college and career when indeed they are not. For many, even if they graduate, their diplomas will be largely meaningless. They, not to mention their families, will be shocked to learn that they are not prepared to earn credits in college or to qualify for the high-wage, high-opportunity jobs of the future, their diplomas notwithstanding.

This report addresses the latter crisis. We envision a day when every American student will benefit from:

1. Fewer — but essential — high school standards that are valued by colleges and employers;
2. Common academic expectations recognizing the reality that students need a comparable level of knowledge and skills, whether they're going to college or work;
3. Clear messages about what level of performance is "good enough" to demonstrate college readiness;
4. A rigorous curriculum that guarantees both the right number and the right kinds of courses taught by well-qualified teachers;
5. An early monitoring and intervention system that helps middle schoolers make a successful transition to high school; and
6. A longitudinal data system that helps students stay on target by monitoring their performance from the early years through college.

These six actions, if adopted by states, will create the policy framework that will ensure that any American student who earns a high school diploma truly is prepared for college and career.

Why This Report? Why Now? Why ACT?

As policymakers from coast to coast weigh how best to prepare U.S. students for the real-world demands of college and work, no other organization is better positioned to help them make their case, based on decades of landmark research.

ACT has been measuring the academic achievement of 11th and 12th grade students since 1959, their career aspirations since 1969, and their academic preparation in high school since 1985. We have tracked each of these areas for 10th graders and 8th graders for well over a decade.

Moreover, every few years we survey more than 20,000 high school and college educators to pinpoint the knowledge and skills needed for first-year college coursework.

ACT is the only organization with decades of empirical data showing exactly what happens to high school graduates once they get to college or to work — based on how well they were prepared in middle and high school. Other similar calls to action are based on informed opinions about what level of preparation K–12 students need.

Our six action steps and our entire organizational agenda are based on hard evidence from the millions of students who have taken our ACT® test and WorkKeys® assessment in the past few decades.

With this report, we are pleased to make this knowledge available to a broader audience of policymakers, opinion leaders, and the American public.

Why We Must Act

The stakes could not be higher. The United States faces the challenge of adapting to the demands of a globalized economy. Jobs have become more specialized and more driven by technology, requiring higher levels of education and training than in the past; research shows that about two-thirds of new jobs require some postsecondary education.

There is growing evidence, however, that U.S. educational attainment is failing to keep pace with these new realities. Many countries are catching up to and/or have surpassed the United States. We used to lead the world in high school graduation rates; we are now 16th. The most recent scores from the PISA (Programme for International Student Assessment) show that U.S. 15-year-olds rank 24th of 30 developed countries in mathematics, 17th in science, and 17th in reading. As discussed further in this report, ACT has found that only 25 percent of the 1.3 million American students who took the ACT in 2007 are ready for entry-level college courses in English, mathematics, social science, and natural science. Furthermore, 20 percent are not prepared for college coursework in *any* of the four subject areas.

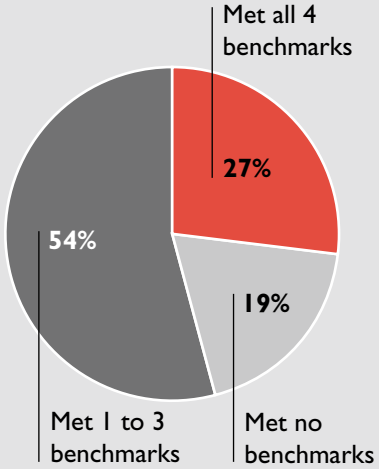
Closing the Dream–Reality Gap

For too many Americans, the distance between their dreams and the real world is vast. Overwhelming majorities of middle and high school students say they intend to enroll in college; they have the right dreams. But large majorities are not prepared to make their dreams come true and, just as sadly, often are oblivious to this reality.

And of those who do go to college, too many end up in remedial courses. High remediation rates represent a broken promise to students and their families. They also represent a colossal waste of national resources; the United States spends an estimated $1.4 billion on remedial courses at community colleges alone, according to the Alliance for Excellent Education. As a nation, we are paying twice for the learning that should have occurred in high school. The burden of inadequate education, of course, falls disproportionately on those who most depend on good schools to lift them out of poverty and offer opportunities to share in "the good life" — primarily the poor and minority students whose performance tends to lag behind national averages.

This report is designed to help states close the dream–reality gap — starting now — through six policy changes that our research proves get results.

Even Students Who Take a Core Curriculum Are Not Prepared for College



ACT College Readiness Benchmark attainment of students taking core curriculum, by number of benchmarks attained (2007 high school graduates)

The ACT College Readiness Benchmarks are minimum scores on the ACT English, Mathematics, Reading, and Science Tests that reflect at least a 50 percent chance of achieving a B or higher grade or a 75 percent chance of a C or higher grade in entry-level, credit-bearing college courses.

Source: ACT, 2007, National Data Release

1 ESSENTIAL STANDARDS

States should adopt fewer — but essential — college- and career-readiness standards as their new high school graduation standards.

To ensure that all students are ready for college or career, it is imperative that policymakers be guided by a real-world definition of "readiness." That is, a definition that reflects those standards that have been validated as the most essential for readiness to succeed in college classrooms or on the job.

Today, high school students receive very different messages about which content and skills matter most. In too many cases, high school students who play by the rules graduate and find out only when it is too late that what they learned in high school has not truly prepared them for their freshman courses in college or their first day on the job.

The gap between what high schools are teaching and what postsecondary institutions expect of their entering students is substantial, as indicated by the results of the most recent ACT National Curriculum Survey®. Efforts focused on fewer, *essential* standards are needed to better prepare high school graduates for college and career readiness. ACT's research has identified the essential standards, the ACT College Readiness Standards™, and has validated that when students learn these standards they are more likely to succeed in college.

Closing the gap between postsecondary expectations and high school practice must be a priority of state policymakers. If not, states will continue sending confusing and conflicting signals to students about what they must study in high school to be prepared for their futures.

REALITY CHECK

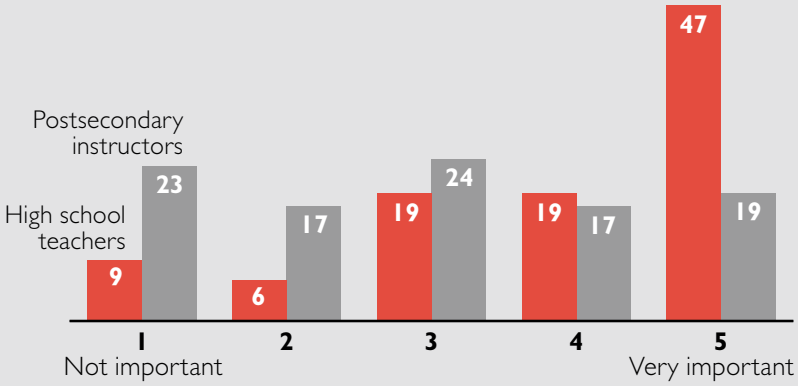
High school and college educators disagree sharply about how well prepared high school graduates are. According to our National Curriculum Survey, although between 67 and 76 percent of high school instructors believe their state standards prepare students for college-level work in a content area (English/writing, reading, mathematics, and science), only approximately one-third of postsecondary instructors agree.

Results from our National Curriculum Survey also show that high school teachers in all content areas tend to rate far more content topics and skills as "important" or "very important" than do their postsecondary or remedial counterparts (see chart, categories 4 and 5). Postsecondary instructors select fewer topics and skills as important prerequisites for success.

This finding is consistent with recent evaluations of state standards, raising concerns that some states require too many standards to be taught and measured, rather than becoming more selective in identifying the most important state standards for students to master. The long lists of content topics and skills defy teachers' efforts to teach them in detail within the confines of a single school year. It may be that the extensive demands of state standards are forcing high school teachers to treat all content topics as important, sacrificing depth for breadth.

High School and College Educators Disagree

Percentage of high school content and skills considered important



Source: ACT, 2007, *ACT National Curriculum Survey, 2005–06*

COMMON EXPECTATIONS

2

States should adopt a rigorous core curriculum for *all* high school graduates, whether they are bound for college or work.

In a world where two-thirds of new jobs will require some kind of education or training after high school, states need to abandon the century-old assumption that some students are "college material" and others are not. True, not every high school graduate will enroll in college, but it makes no difference; these days, all graduates need the same level of knowledge and skills, whether they enroll in a two- or four-year college, are hired for a job that offers a career path at a self-supporting wage, participate in an apprenticeship or related training, or join the military.

Employers have been sending this message for quite a while, but our research offers empirical evidence to support the assertion, based on a close analysis of the following:

- Skills needed for jobs that are sufficient to support a small family, provide the potential for career advancement, and are projected to grow in the future, such as electricians, construction workers, upholsterers, and plumbers; and
- Four years of performance on our assessments.

To ensure that they master the knowledge and skills to succeed after high school, ACT recommends that students take a core curriculum consisting of at least:

- Four years of English;
- Three years of mathematics, including rigorous courses in Algebra I, Geometry, and Algebra II;
- Three years of science, including rigorous courses in Biology, Chemistry, and Physics; and
- Three years of social studies.

REALITY CHECK

The algebra examples to the right, one drawn from our "college-readiness" ACT test, the other from our "career-readiness" WorkKeys test, showcase the similarities between the content and skills needed for college or work.

We found similar commonalities in mathematics (geometry, data representation, and statistical thinking) and reading (main ideas and supporting details; sequential, comparative, and cause-effect relationships; meaning of words; and generalizations and conclusions).

Different Paths, Same Requirements

ACT Mathematics *20–23 Range*	***WorkKeys Applied Mathematics*** *Level 5*
[Evaluate algebraic expressions by substituting integers for unknown quantities; solve routine first-degree equations.]	[Look up and use a single formula; perform single-step conversions within or between systems of measurement.]
The number of bricks, *B*, needed to build a wall of uniform length, *L* feet, and uniform height, *H* feet, can be found by the equation $B = 7LH$. A wall of uniform height that is 20 feet long is constructed using 350 bricks. What is the height, in feet, of the wall? **A.** 1.75 **B.** 2.5 **C.** 17.5 **D.** 50	A refrigeration system at your company uses temperature sensors fixed to read Celsius (°C) values, but the system operators in your control room understand only the Fahrenheit (°F) scale. You have been asked to make a Fahrenheit label for the high temperature alarm, which is set to ring whenever the system temperature rises above -10°C. What Fahrenheit value should you write on the label? **A.** -23°F **B.** -18°F **C.** 14°F **D.** 26°F

Source: ACT, 2006, *Ready for College and Ready for Work: Same or Different?*

3

CLEAR PERFORMANCE STANDARDS

States must define "how good is good enough" for college and career readiness.

It is not enough to have a consistent, rigorous set of essential K–12 *content* standards aligned to college and career expectations. States also must define *performance* standards so that students and their parents and teachers know how well students must perform academically to have a reasonable chance of success at college or on the job. Students need to be given a clear level of performance to meet to transition successfully to the next stage.

Until now, no one has been able to answer the key question: *Based on graduates' actual performance in college or at work, was their high school preparation sufficient?* The good news is that we can now answer that question, based on the historical performance of the millions of students who have taken ACT's assessments over the past few decades.

First, based on our decades of student performance data, we define "college readiness" as students having approximately a 75 percent chance of earning a grade of C or higher or approximately a 50 percent chance of earning a B or higher in selected courses commonly taken in the first year of college in the following subjects:

- English (English Composition);
- Mathematics (College Algebra);
- Social science (History, Psychology, Sociology, Political Science, or Economics); and
- Natural science (Biology).

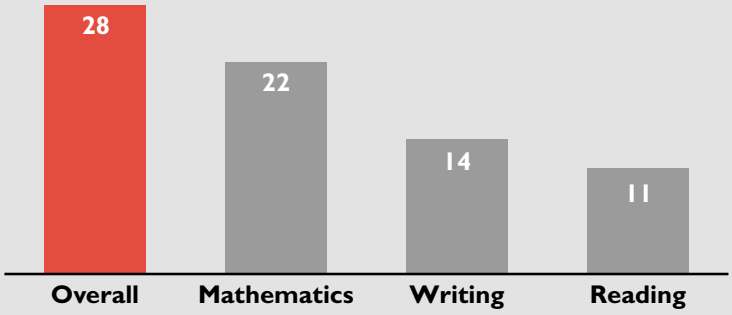
REALITY CHECK

Only one-quarter of students meet our College Readiness Benchmarks in *all* four subjects (English, mathematics, social science, and natural science), and nearly one-fifth meet *none* of the benchmarks.

Moreover, 28 percent of all incoming college freshmen are enrolled in at least one remedial course, according to federal data. For both sets of indicators, the achievement of African American, Hispanic, and low-income students is much lower than these averages.

Nearly 3 in 10 Need Remediation

Percentage of college freshmen enrolled in remedial coursework in fall 2000, by type of remedial course



Source: U.S. Department of Education, National Center for Education Statistics, 2004, *The Condition of Education 2004*

Using that definition and our extensive empirical evidence consisting of course grades earned by more than 90,000 students in a nationally representative sample of two- and four-year postsecondary institutions, we know exactly how well high school students must perform on the ACT test, given annually to more than 1.3 million high school juniors and seniors.

College Readiness Benchmark Scores

ACT test	College course	ACT score
English	English Composition	18
Mathematics	College Algebra	22
Reading	Introductory Social Science	21
Science	Biology	24

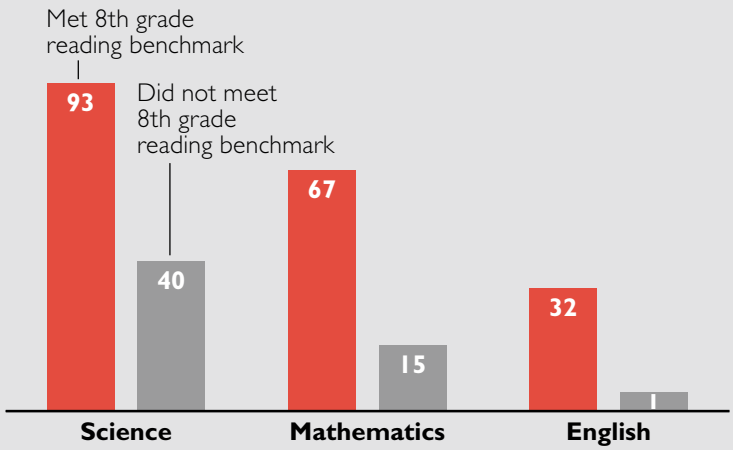
Students earning these scores or higher have a high likelihood of being ready to enter these courses and earn college credits. We also have developed benchmark scores for our 8th and 10th grade tests so that students and their parents and teachers have earlier indicators of whether students are on target for college readiness (see action step 5), as well as benchmarks for upper-level college courses such as Advanced Composition, Trigonometry, Precalculus, Calculus, and Chemistry.

REALITY CHECK

Based on 2006 data from 8th graders, we have found that students who are on target to be ready to read at the college level are much more likely to be on target to be ready for college-level English, mathematics, and science courses as well. As the chart shows, 93 percent, 67 percent, and 32 percent of 8th grade students who were on target to be ready for college-level reading also were on target to be ready for college-level science, mathematics, and English, respectively.

Reading Skills Lead to Success in All Subjects

Percentage of 8th graders on target for college-level courses



Source: ACT, 2006, *Assessing the College Readiness in Reading of Eighth- and Ninth-Grade Students Using ACT's EXPLORE®*

4 RIGOROUS HIGH SCHOOL COURSES

States should strengthen the rigor of their courses.

Having appropriate and aligned standards, coupled with a core curriculum, will adequately prepare high school students *only* if the courses are truly challenging. That is, taking the right *kinds* of courses matters just as much as, if not more than, taking the right *number* of courses. Otherwise, students will be lulled into thinking that they are prepared when, in fact, they are not; they will have taken all the "right" courses in high school but still will have to take remedial, non–credit-bearing courses as college freshmen.

The good news is that our research shows that rigor pays off. ACT has analyzed nearly 400 schools across the country that, despite the obstacles, are offering rigorous core courses and teaching them well; as a result, their students are outpacing the national averages in college and career readiness. For instance, students from top-performing schools who took a rigorous Algebra II course over and above Algebra I and Geometry or a rigorous Chemistry course over and above Biology outgained all ACT-tested students who took the same courses in their high schools by 17 and 16 percentage points, respectively. Plus, these students had greater success in college: Both college enrollment and retention were higher for students in these schools.

A separate ACT study, co-authored with The Education Trust, found several common components in schools having great success with significant minority and low-income populations: high-level, college-oriented content; well-qualified teachers; flexible instructional styles; and strong tutorial support. These schools are proving every day that much greater success is possible — even with students who typically trail their peers — as long as students are effectively exposed to rigorous courses.

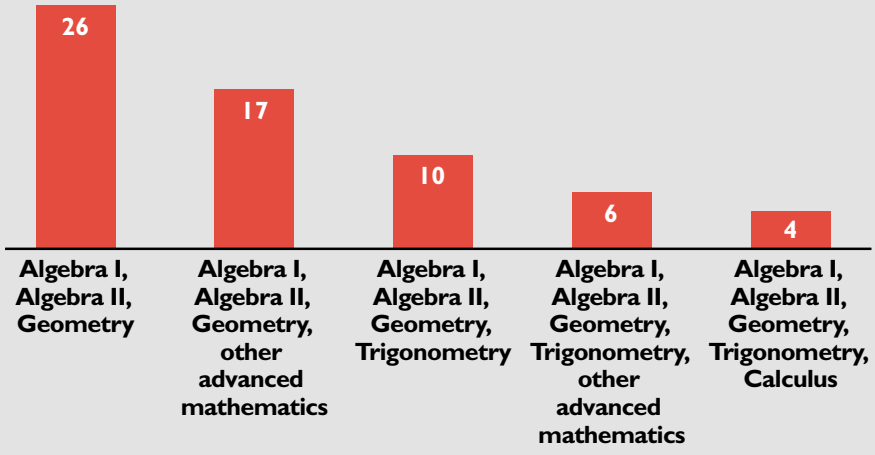
REALITY CHECK

Because too few graduates are attaining a strong foundation of college- and career-ready skills in high school, many of them are having to take remedial courses in college, resulting in estimated nationwide expenditures of $1.4 billion for tuition and other costs at community colleges alone. The chart shows, by mathematics course sequence, the percentages of ACT-tested high school graduates in three states from 1993 through 2004 who took remedial mathematics courses during their first year of college.

Note that 26 percent of the graduates who took or planned to take Algebra I, Algebra II, and Geometry in high school took remedial mathematics courses in college, but as many as 17 percent who had taken an additional higher-level mathematics course beyond these three *also needed remediation.* That some graduates still need to take remedial mathematics in college after completing *four years* of high school mathematics is compelling evidence that in too many high schools, mathematics courses are not nearly rigorous enough to prepare students for college.

Even Four Years of High School Mathematics Is Not Always Adequate

Percentage of students taking remedial mathematics courses in college, by high school math course sequence



Source: ACT, 2007, *Rigor at Risk: Reaffirming Quality in the High School Core Curriculum*

EARLY MONITORING AND INTERVENTION

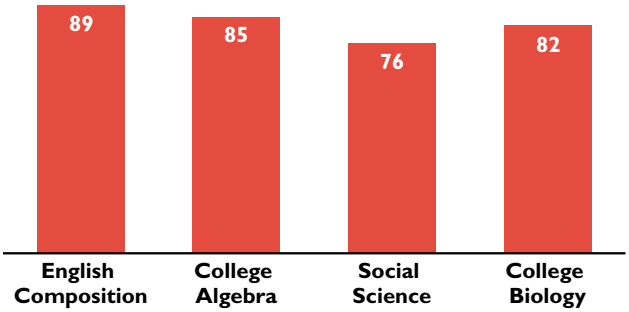
States should begin monitoring early to make sure younger students are on target to be ready for college and career.

5

States cannot afford to wait until high school to learn if their students are on target for college and career readiness. We know from our empirical data that younger students who take challenging curricula are much better prepared to graduate high school ready for college.

Early Preparation Pays Off

Percentage of students meeting 8th and 10th grade benchmarks who are ready for college by high school graduation, by college course



Source: ACT, 2006, *EPAS: A System that Works*

Moreover, based on the performance of more than 540,000 8th graders in 2007, just a minimal and achievable increase in student performance would yield 13- and 16-point increases in the percentage of high school graduates who are ready for college mathematics and college reading, respectively. If students are to have a chance at college readiness, their progress must be monitored closely so that deficiencies in foundational skills can be identified and begun to be remedied early, in the upper elementary grades and at the start of middle school.

In addition, age-appropriate career assessment, exploration, and planning activities encourage students to consider and focus on personally relevant career options as early as middle school. New research from ACT, based on surveys of alumni from more than 300 colleges and universities, shows that such early career information can not only improve success in college, but also increase the salaries that graduates will earn after college. Not surprisingly, students who are better prepared and are pursuing careers that best match their interests are more likely to earn higher long-term salaries.

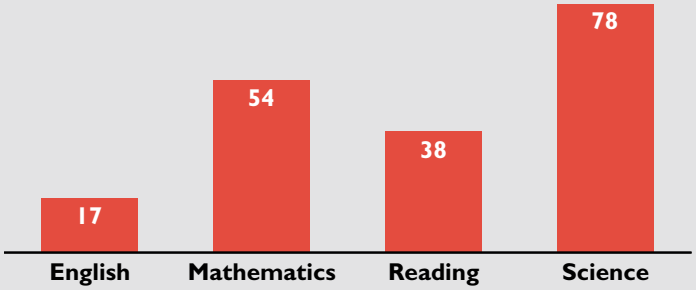
REALITY CHECK

Many students enter high school so far behind that they have a very difficult time catching up. Only one student in 10 is on target in middle school to be ready for college-level work after high school.

In addition, our research shows that high school teachers spend up to one-third of their time reteaching material that entering 9th graders should have learned already.

Few 8th Graders Are on Track

Percentage of 8th grade students not meeting 8th grade College Readiness Benchmarks, based on ACT-tested students from the high school graduating classes of 2002–05 who also had taken ACT's EXPLORE® and PLAN® exams



Source: ACT, 2007, *Rigor at Risk: Reaffirming Quality in the High School Core Curriculum*

6

DATA-DRIVEN DECISIONS

States need to establish longitudinal P–16 data systems.

If states are serious about ensuring that more of their students are prepared for college and work in the 21st century, they must closely monitor student performance at every stage of the learning pipeline, from preschool through the elementary, middle, and high school grades, and all the way through college.

Our own longitudinal data for more than 1 million students in 50 states who have taken one or more of ACT's college-readiness tests — EXPLORE (8th–9th grades), PLAN (10th grade), and the ACT (11th–12th grades) — in the past few decades illustrate the power of monitoring growth in student performance over time. For instance, more students are on target for college-level courses in 8th (62 percent) and 10th grades (63 percent) than are actually ready by the time they graduate from high school (56 percent).

Use of a longitudinal data system enables educators to identify students who are in need of academic interventions at an early stage, thus giving teachers and students more time to strengthen these skills before graduation. Using a longitudinal assessment system also permits schools to evaluate the value added by each core course in helping students to become ready for college and career. In addition, such systems allow colleges in a state to offer feedback reports to high schools that examine how well prepared each high school's graduates are for college. These reports can be used to strengthen high school curricula.

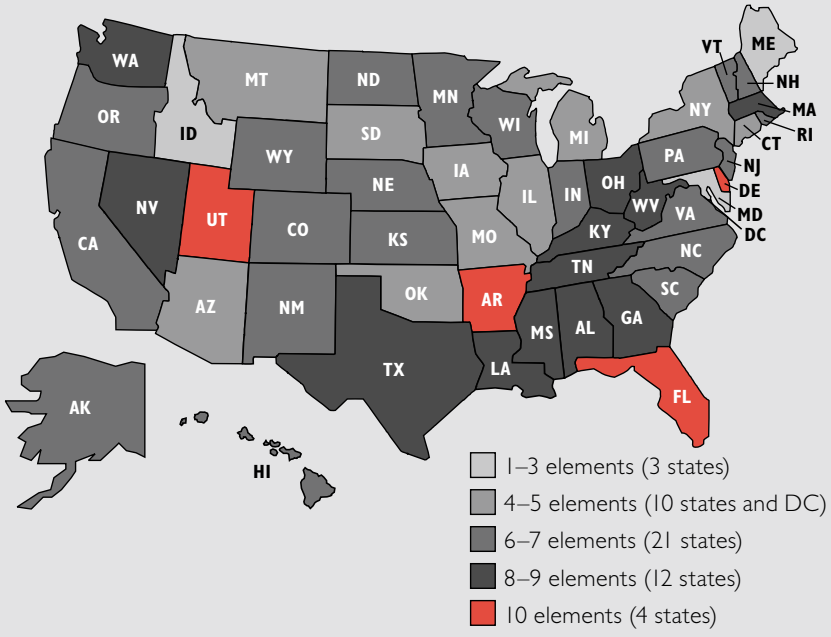
REALITY CHECK

We strongly support the Data Quality Campaign (DQC), a national effort to improve the collection, availability, and use of high-quality education data to improve student achievement. The DQC is encouraging states to establish systems that allow them to answer questions such as these:

- Are middle school students academically prepared for high school?
- Are high school graduates prepared for college or challenging jobs?
- What percentage of high school graduates must take remedial courses in college?
- Are students employed after high school? In skilled or unskilled jobs?
- At all levels, are students taking the right courses?
- How does preparation vary by poverty, geography, race, gender, and similar factors?

Only four states have all 10 of the DQC's essential elements of longitudinal data systems, allowing the states to answer these and other policy questions. Until states invest in building the data infrastructure to follow individual students over time, the ability to inform these conversations about policy and practice is limited.

Only Four States Have All the Data Elements



Essential elements each state currently has based on responses to the 2007 National Center for Educational Accountability survey of states about their current data collection systems

Source: Data Quality Campaign, 2007, *Results of 2007 NCEA Survey of State P–12 Data Collection Issues Related to Longitudinal Analysis* (www.DataQualityCampaign.org/survey_results/index.cfm)

CONCLUSION
A Huge Opportunity for Policymakers to Lead

States have a huge opportunity to ensure that many more of their students are prepared for college and for challenging and rewarding careers in an increasingly globally competitive economy. Students and their families know that a high-quality high school education opens doors to opportunities and future prosperity. And increasingly, they are calling on policymakers to deliver.

Armed with five decades of unparalleled research that has monitored and analyzed the progress of millions of students from middle school into college, ACT is in a unique position to assist policymakers in adopting and carrying out a policy agenda centered on six priorities:

1. A focus on the essential standards — the ones that are the most important for future success in college;
2. A common expectation for all high school students to take a rigorous core curriculum, whether graduates are going to college or directly into the workforce;
3. Clear performance expectations so that students, parents, and teachers receive consistent messages about "how good is good enough";
4. Rigorous high school courses, to make it more likely that incoming college freshmen actually are prepared for credit-bearing classes;
5. Early monitoring and intervention with middle school students to help keep them on target; and
6. A seamless longitudinal system of information that can help monitor student progress every step of the way, from preschool through college.

These priorities make sense. And based on ACT's extensive research on actual student performance over the years, there is no longer any doubt about what works empirically to raise student achievement. We welcome the opportunity to assist the rapidly growing number of states that are focusing on many of these priorities and, in the process, making sure that students' dreams for their futures become the reality of success.

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