



## **Do Current State Standards and Assessments Reflect College Readiness?: A Case Study**

The No Child Left Behind Act requires states to implement assessment programs that measure the progress of their students against state learning standards. For the most part, states have designed and administered their own tests, and these tests have been created to reflect those learning standards that states believe are most necessary for students to master as they progress through the school system.

At the junior high and high school levels, these assessments are often used to help determine whether a student ought to be promoted to the next grade or whether the student has earned a diploma. Students at these levels are typically deciding whether to enroll in some form of postsecondary education, pursue job training, or enter directly into the workforce after high school.

As we showed in our recent report, *Crisis at the Core: Preparing All Students for College and Work*, the demands of the twenty-first century economy increasingly require that even students who proceed directly to work after high school possess college-level skills. It is therefore important for state policymakers that *all* high school graduates in a state be college ready regardless of their specific educational or career plans.

Students nearing the end of their high school careers must be academically prepared to take the next step in their lives. Earning a passing score on an assessment that is used to determine grade promotion or high school graduation is one indicator of this preparedness.

But promotion and graduation do not necessarily equal college and workplace readiness. In *Crisis at the Core* we demonstrate that far too few members of the high school graduating class of 2004 were ready for college-level work in English, mathematics, and science. It is therefore necessary to ask an important question: Do state standards and assessments provide accurate, meaningful information about the college readiness levels of the state's high school students?

To suggest an answer to this question, we examined data from one state in which students in grades 8 and 10 take both a statewide assessment and the corresponding component of ACT's Educational Planning and Assessment System (EPAS)<sup>™</sup>. EPAS consists of three programs:

- EXPLORE<sup>®</sup>, for students in grades 8 and 9, which provides baseline information on the academic preparation of students that can be used to plan high school coursework;
- PLAN, for students in grade 10, which provides a midpoint review of students' progress toward their education and career goals while there is still time to make necessary interventions; and

## College Readiness Standards Are Not Always Equal to State Standards

ACT has conducted comparisons of the College Readiness Standards with the standards developed by 37 states. These comparisons reveal that, *without exception*, the state standards fall short of what is needed for college and workplace readiness. What's more, it is the more rigorous knowledge and skills—the ones considered by colleges to be most crucial to success beyond high school—that are most notably absent from the state standards. Following are examples of such skills from the state under study:

### ENGLISH

- Delete material primarily because it disturbs the flow and development of the paragraph
- Delete obviously synonymous and wordy material in a sentence

### MATHEMATICS

- Evaluate composite functions at integer values
- Exhibit knowledge of unit circle trigonometry
- Apply properties of complex numbers

### SCIENCE

- Identify key issues or assumptions in an argument or viewpoint
- Combine new, simple information (data or text) with given information (data or text)
- Predict how modifying an experiment or study (adding a new trial or changing a variable) will affect results
- Predict the most likely or least likely result based on a given viewpoint

- The ACT Assessment<sup>®</sup> (or “ACT”), for students in grades 11 and 12, which measures students’ academic readiness to make successful transitions to college and work after high school.

## State Standards

One indication that state standards do not measure college readiness is that the learning standards on which the state assessments are based often reflect skill levels that, in general, are lower than those considered by most postsecondary institutions to be crucial to success in first-year college coursework. When ACT’s College Readiness Standards, which are narrative descriptions of what students know and can do based upon their scores on EXPLORE, PLAN, and the ACT, were compared to the standards used in the state under study, the state standards were found to be lacking several crucial college readiness standards (see sidebar). While the data from the state under study cannot, of course, be automatically generalized to all states, we have in fact repeatedly discovered such insufficiencies when comparing ACT’s College Readiness Standards to the standards used in no fewer than 37 states.

## State Assessments

Even though college readiness standards may not be included in a state’s standards, that evidence does not by itself indicate whether the state’s assessments measure college readiness. To address this question, it is necessary to compare the degree to which the state’s assessments and college readiness assessments result in the same decision about student achievement. To do this, we compared whether the scores of eighth-grade and tenth-grade students on the state assessments met or exceeded ACT’s College Readiness Benchmark scores on EXPLORE and PLAN. Ideally, we would want students to be judged the same on both measures.

Scores on the state’s eighth-grade assessments in English, mathematics, and science and its tenth-grade assessments in English and mathematics<sup>1</sup> are reported as falling within one of five score ranges. In order for eighth graders to be promoted to ninth grade, and for tenth graders to be considered on track for high school graduation, they must score in at least the second of the five ranges on each assessment.

EXPLORE, PLAN, and the ACT contain four tests, in English, mathematics, reading, and science. Scores are reported on a scale from 1 to 36.<sup>2</sup> By comparing first-year college course grade data on thousands of students from postsecondary institutions across the United States to these same students’ ACT scores, we determined the minimum scores students need to achieve on the ACT English, Math, and Science Tests to stand a 50 percent chance of receiving a grade of C or higher in the corresponding first-year college course (English Composition, Algebra, or Biology). Based on these scores, which we call ACT’s College Readiness Benchmarks, we calculated equivalent benchmarks for EXPLORE and PLAN. Students who meet or exceed the EXPLORE and PLAN College Readiness Benchmarks are considered to be on track to be ready for college or

<sup>1</sup> Students in the state under study are not assessed in science in the tenth grade.

<sup>2</sup> Although the score scale is the same, the maximum score value differs by program: EXPLORE (25), PLAN (32), and the ACT (36).

the workplace by the time they finish high school. Table 1 shows the ACT College Readiness Benchmarks for EXPLORE, PLAN, and the ACT.

**Table 1: ACT’s College Readiness Benchmarks**

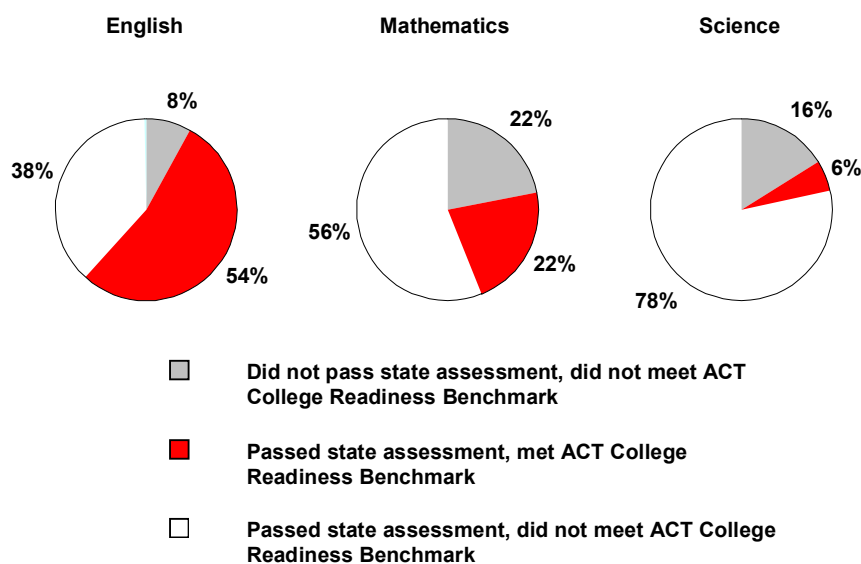
Test	EXPLORE	PLAN	ACT
English	13	15	18
Mathematics	17	19	22
Science	20	21	24

Using data provided by the state’s school system, we matched students’ scores on the state assessments with their scores on EXPLORE and PLAN. We then determined how many of these students scored in at least the second range on the state assessment (i.e., well enough to be promoted or considered on track for graduation) and, of that number, how many met or exceeded the comparable College Readiness Benchmark. The results of these matches are described next.

### Comparison of Achievement on EXPLORE and Eighth-Grade State Assessment

The results of the match between students’ scores on the state assessment and EXPLORE are shown in Figure 1 below.

**Figure 1: Grade 8 Consistency of Decisions between State Assessment and EXPLORE**



#### English

During the year under study, 40,201 eighth graders took the state English assessment and ACT’s EXPLORE. While 92 percent of these students passed the state assessment, only 54 percent both passed the state assessment and met the EXPLORE Benchmark for College English Composition. This means that the state had deemed 38 percent of its students as achieving in English at a level necessary for promotion to ninth grade who were *not* achieving at a level

**Percentages of grade 8 students who passed the state assessment but are not on track to be college ready by the time they graduate high school:**

**English:  
38 percent**

**Mathematics:  
56 percent**

**Science:  
78 percent**

sufficient to suggest they were on track to be ready for college-level English in four years' time.

*Mathematics*

A total of 40,307 eighth graders took the state mathematics assessment and EXPLORE. While 78 percent of these students passed the state assessment, only 22 percent both passed the state assessment and met the EXPLORE Benchmark for College Algebra. This means that the state had deemed 56 percent as achieving in mathematics at a level necessary for promotion to ninth grade who were *not* achieving at a level sufficient to suggest they were on track to be ready for college-level math in four years' time.

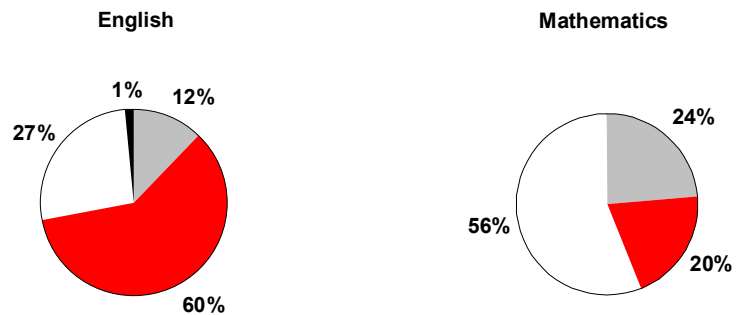
*Science*

A total of 39,968 eighth graders took the state science assessment and EXPLORE. While 84 percent of these students passed the state assessment, only 6 percent both passed the state assessment and met the EXPLORE Benchmark for College Biology. This means that the state had deemed 78 percent as achieving in science at a level necessary for promotion to ninth grade who were *not* achieving at a level sufficient to suggest they were on track to be ready for college-level science in four years' time.

**Comparison of Achievement on PLAN and Tenth-Grade State Assessment**

The results of the match between students' scores on the state assessment and PLAN are shown in Figure 2 below.

**Figure 2: Grade 10 Consistency of Decisions between State Assessment and PLAN**



- Did not pass state assessment, did not meet ACT College Readiness Benchmark
- Passed state assessment, met ACT College Readiness Benchmark
- Passed state assessment, did not meet ACT College Readiness Benchmark
- Did not pass state assessment, met ACT College Readiness Benchmark

## English

That same year, 33,557 tenth graders took the state English assessment and ACT's PLAN. While 87 percent of these students passed the state assessment, only 60 percent both passed the state assessment and met the PLAN Benchmark for College English Composition. This means that the state had deemed 27 percent of its students as achieving in English at a level necessary for high school graduation who were *not* achieving at a level sufficient to suggest they were on track to be ready for college-level English in two years' time.

## Mathematics

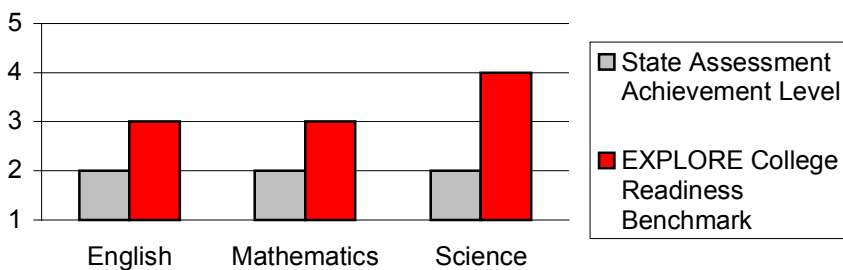
A total of 33,695 tenth graders took the state mathematics assessment and PLAN. While 76 percent of these students passed the state assessment, only 20 percent both passed the state assessment and met the PLAN Benchmark for College Algebra. This means that the state had deemed 56 percent as achieving in mathematics at a level necessary for high school graduation who were *not* achieving at a level sufficient to suggest they were on track to be ready for college-level math in two years' time.

## Summary of Comparison of State Assessments and College Readiness Assessments

Startlingly, these data suggest that too many students are earning passing scores on state assessments but are not on track to being ready for college-level work in at least one academic area. In the state studied, these percentages were significant: *at least* 78 percent of eighth graders and 56 percent of tenth graders.

Another way to examine the data is to translate the EXPLORE and PLAN college readiness benchmarks to the five-range system used to report students' scores on the state assessments. While the state assessments require students to score at least within the second of the five score ranges ("Approaching Basic"), meeting the EXPLORE benchmarks would require eighth-grade students to score at least within the third range ("Basic") in English and mathematics and at least within the fourth range ("Mastery") in science, as shown in Figure 3. Meeting the PLAN benchmarks would require tenth-grade students to score at least within the third range (Basic) in English and at least within the fourth range (Mastery) in mathematics, as shown in Figure 4.

**Figure 3: Achievement Levels of Eighth-Grade State Assessment and EXPLORE Benchmarks**



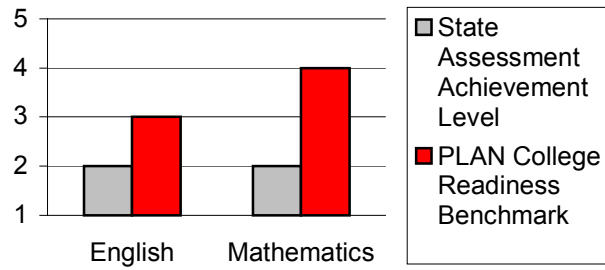
**Percentages of grade 10 students who passed the state assessment but are not on track to be college ready by the time they graduate:**

**English:  
27 percent**

**Mathematics:  
56 percent**

*If the state assessments alone were used, no fewer than 50,212 eighth- and tenth-grade students would likely “fall between the cracks.” That is, they would get a ticket out of high school, but would enter college or work unprepared to succeed.*

**Figure 4: Achievement Levels of Tenth-Grade State Assessment and PLAN Benchmarks**



If the state assessments alone were used, no fewer than 50,212 eighth- and tenth-grade students (likely considerably more when tested areas beside eighth-grade science and tenth-grade math—the highest areas where students failed to meet the benchmarks—are considered) would likely “fall between the cracks.” That is, they would be given a ticket out of high school, but would enter college or work unprepared to succeed. Fortunately, these students’ EXPLORE and PLAN scores will enable the state to intervene early enough to make great strides at improving their readiness before it is too late.

## **Conclusion**

The results of this study show that in at least one case there is evidence that state standards and state assessments alone do not accurately reflect the college readiness levels of the students in the state. (Our study of the standards used in 36 other states suggests that this problem may not be limited only to the state under study.) Our study demonstrates that using EXPLORE/PLAN in conjunction with a state assessment increases the likelihood that the state’s students will be ready for college and work by the time they finish high school.