

Measuring College Readiness Under ESSA: Admissions and Placement Exams

Michael Flory, Chris Sun

October 2017



Unlimited distribution



This document represents the best opinion of CNA at the time of issue.

Distribution

Unlimited distribution.

Other requests for this document shall be referred to inquiries@cna.org.

Photography Credit: Please limit photography credit to 100 characters or fewer.

Approved by:

October 2017

Simone Robers

Simone Robers, Managing Director
CNA, Education
Institute for Public Research

Executive Summary

The Every Student Succeeds Act (ESSA) provides greater flexibility in state accountability systems than did previous federal legislation. In response, many states continue to refine their accountability systems to include college readiness tests, including college admissions and placement exams. This paper summarizes perspectives of K-12 educators, postsecondary educators, and researchers on these measures to inform policymakers as they revise accountability systems under ESSA.

CNA conducted a literature review on college admissions and placement exams, focusing on their uses in high schools and in K-12 accountability systems. The review included a policy scan of state plans under ESSA, as well as research on college admissions and placement exams in accountability settings.

Dozens of college readiness exams have been developed at the national, state, and institution levels. College admissions exams assess aptitude and likelihood of postsecondary success, whereas placement exams assess subject knowledge to determine preparedness for specific college courses. The exams vary considerably in their content, rigor, and ability to predict postsecondary success.

Research suggests that admissions exams show greater rigor and closer alignment with K-12 standards than do placement exams (Achieve, 2007). Several researchers questioned the predictive validity of both exam types, finding that they often led to placement errors in college courses. A combination of high school GPA and exam results was found to be more comprehensive than exam results alone (Belfield & Crosta, 2012; Scott-Clayton, Crosta, & Belfield, 2014; Scott-Clayton & Stacey, 2015).

Some authors argued that such assessments—especially those that are nationally known—can raise awareness of postsecondary options, boost confidence in state accountability systems, and provide students with admissions data that are accepted at many colleges (Miller & Happel, 2011). Others question the suitability of readiness exams as accountability measures given the testing burden and the exams' limited alignment both with state standards and with accountability measurement purposes (Martineau & Marion, 2015; Catchpole, 2016).

Neither policymakers nor researchers agree on whether or how to use college readiness exams to measure state accountability. In 2016, 23 states included at least one such exam (ACT, SAT, ACCUPLACER, or COMPASS) in their accountability systems.

Recommendations for K-12 educators based on the research and policy review include the following:

- Match the exam's purpose to its use.
- Use multiple readiness measures.
- Customize admissions tests when incorporating them into statewide testing systems.
- Modify high school tests to measure college readiness.
- Provide support for districts and schools to assist students who do not meet benchmarks.

Contents

Introduction	1
What we did	2
Limitations	2
Findings	3
The four common college readiness exams	3
Growing use of college readiness assessments in K-12	4
Align an assessment’s purpose and use	5
Admissions exams appear to be more rigorous than placement exams	7
Admissions and placement exams have limited predictive validity.....	7
Course placement errors	7
Predicting other college outcomes.....	8
Exam equivalency.....	9
Are college readiness exams necessary in high schools?.....	10
Recommendations from the literature	11
References	13

List of Tables

Table 1.	Percentage of colleges that used specific exams for course placement, 2012.....	4
Table 2.	Calculated college readiness scores for several admissions and placement exams.....	9

Introduction

The Every Student Succeeds Act (ESSA), signed in December 2015, provides greater local control over accountability and school improvement efforts. It ends the federal requirements for Adequate Yearly Progress and permits each state to design its own accountability system to meet minimum federal requirements, such as ensuring that measures include all students and student subgroups. ESSA requires five indicators for state accountability systems: proficiency on assessments, growth in proficiency in grades below high school, high school graduation rates, progress of English learner students toward English language proficiency, and a state-selected indicator of school quality or student success (Aragon, Griffith, Wixom, Woods, & Workman, 2016). States have developed accountability plans under ESSA but continue to need support making informed decisions as they craft long-term accountability systems. This paper provides additional information about elements of college readiness as part of a comprehensive state accountability system.

Currently, half of all U.S. students entering college take remedial courses, averaging 2.6 remedial courses per student (Scott-Clayton & Stacey, 2015). To address a lack of student postsecondary readiness, 30 states have designed accountability systems that include at least one measure of college and career readiness, including exams or coursework, but states vary considerably in the specific measures used and in the way performance on these measures is assessed (Martin, Sargrad, & Batel, 2016). Many of these states use college admissions exams, college placement exams, or both in their accountability systems to measure readiness.

- **Admissions exams** are used to determine eligibility for enrollment at postsecondary institutions. These exams include the SAT and the ACT, which aim to measure academic aptitude or predict postsecondary success.
- **Placement exams** are used to determine which courses students are prepared to take in postsecondary institutions. These exams include ACCUPLACER and COMPASS, which aim to diagnose current academic knowledge (Achieve, 2007).

Colleges and universities have long used these exams for admissions decisions, course placement, and awarding of merit-based scholarships. But now these exams are taking on new roles. States use a combination of these exams for high school accountability purposes and to inform high school instructional decisions, though the exams were not designed for these purposes (Achieve, 2007; Southern Regional Education Board [SREB], 2014). Further, colleges and universities are slowly but increasingly moving away from admissions exams as selection criteria, while emphasizing placement exams to assign students to coursework (Belasco, Rosinger, & Hearn, 2015).

As state departments of education revise assessment and accountability systems under ESSA, they would benefit from a better understanding of how K-12 educators, postsecondary educators, and researchers view the use of these instruments. This paper provides some of this information. First, we describe the methods we used and the study limitations. Next, we briefly discuss the common admissions and placement exams in use today across the country and issues to consider in their inclusion in accountability systems. We conclude with recommendations for state departments of education.

What we did

We conducted a literature review to identify information about uses of college admissions and placement exams, especially in high schools and state K-12 accountability systems. This review was comprised of two parts: a policy scan of state ESSA plans and a research review using EbscoHost databases.

The first activity was a document analysis of state accountability plans to examine how states currently identify and measure progress toward college and career readiness, with an emphasis on college readiness assessments. Accountability plans for all states under No Child Left Behind are publicly available at <https://www2.ed.gov/policy/elsec/guid/esea-flexibility/index.html>.

We supplemented this information with ESSA state plan submissions that were available at the time of writing. This process allowed us to identify the common assessments, as well as all alternatives used across the country.

The second activity was a literature review on college admissions and placement exams. This review helped us identify advantages and disadvantages of such exams, as well as potential unintended consequences.

Limitations

This study examines current literature about the uses of college readiness assessments. It does not examine the characteristics of individual exams—such as validity, reliability, or specific psychometric properties—to determine rigor or comparability. Such an analysis is beyond the scope of this study. In addition, this study does not attempt to identify all, or a representative sample of, admissions and placement exams that are in use at K-12 or postsecondary levels.

Findings

Research on uses of admissions and placement exams in high school settings or for high school accountability is limited. Most of the literature that we identified focused on college uses of admissions and placement exams—the historical and intended use. Nevertheless, K-12 educators can draw some lessons from the data.

The four common college readiness exams

At the postsecondary level, there are national admissions exams, national placement exams, state- or system-wide exams, and institution-level exams. Many college readiness exams are used nationally. Exams include the following examples:

- *National admissions exams*: the ACT and the SAT.
- *National placement exams*: COMPASS (by ACT, Inc.) and ACCUPLACER (by the College Board).
- *State- or system-wide placement exams*: Texas Higher Education Assessment, Washington Intermediate Mathematics Placement Test, California State University Early Assessment Program—Direct Writing, Kentucky Online Testing (KYOTE) College Algebra.
- *Institution-level placement exams*: Mathematical Association of America Algebra Placement Test, University of Minnesota Calculus Readiness Test, Youngstown State University Composition Placement Test (Achieve, 2007).

These assessments vary widely in content. Some cover multiple subjects—the ACT includes math, reading, English, and science sections. Others, such as the University of Minnesota Calculus Readiness Test, target a single subject or subtopic.

The National Assessment of Educational Progress (NAEP) conducted a survey in 2012 to understand which exams colleges use to determine remediation needs and the requisite scores on those exams. (The study did not look at use of exams for college admission.) NAEP estimated that 71 percent of colleges (including both two- and four-year institutions) used at least one assessment to place students in mathematics courses, and 53 percent used a reading exam. The most common exams used for placement were the ACT, the SAT, ACCUPLACER, and COMPASS (Table 1), and the benchmarks required on the exams varied by institution (Fields & Parsad, 2012).

Table 1. Percentage of colleges that used specific exams for course placement, 2012

Mathematics		Reading	
ACT	23%	COMPASS Reading	22%
COMPASS Algebra	20%	ACCUPLACER Reading Comprehension	19%
SAT	17%	ACT	16%
ACCUPLACER Elementary Algebra	16%	SAT	11%
ACCUPLACER College-Level Mathematics	5%	ASSET Reading Skills	9%
COMPASS College Algebra	4%	Other	10%
Other	22%		

Source: Fields & Parsad (2012).

Note: Some colleges use multiple exams; therefore, values do not sum to the total percentage of colleges that use at least one exam described in the text.

Growing use of college readiness assessments in K-12

At the K-12 level, policymakers increasingly are using performance on college admissions and placement exams as indicators in state accountability systems. As of 2016, 23 states used performance on exams such as the ACT, the SAT, ACCUPLACER, or COMPASS as an indicator in their accountability systems (Martin, Sargrad, & Batel, 2016). Such exams help develop a system of multiple measures that can indicate progress toward college readiness (English, Rasmussen, Cushing, & Therriault, 2016). Other states administer readiness exams but do not require them for accountability—such as Tennessee, which requires the ACT for all grade 11 students for diagnostic purposes but not for accountability.

Some studies have looked at impacts of high school-based college readiness testing. In California, the Early Assessment Program includes a voluntary, state-developed college readiness assessment in grade 11. This assessment reduced the need for remedial education in college math and English by 2 to 3 percentage points, with the largest impact for students near the readiness cutoff (Kurlaender, Jackson, Grodsky,

& Howell, 2016). In Maine, the requirement for all grade 11 students to take the SAT raised college-going rates by 2 to 4 percent overall and by 10 percent for students who would not have otherwise taken the SAT (Hurwitz, Smith, Niu, & Howell, 2015).

Align an assessment's purpose and use

An assessment's purpose should align with its use (Morgan & Michaelides, 2005). Even if an exam is internally valid and reliable, educators must use the results in the right way (Scott-Clayton, 2012).

Educators may want to ask:

- What is the assessment's purpose? Is it diagnostic? Predictive of specific outcomes?
- What decisions can be made using the exam results?
- What decisions do educators want to make?
- Who is using the data to make decisions—high school teachers, college counselors, state agencies, students, or someone else?

For example, colleges use the ACCUPLACER placement exam in a variety of ways and do not always use all the data or tools embedded in the assessment system (College Board, 2012). Relevant information includes high school GPA, weights for student backgrounds that schools can adjust, diagnostic assessments, online intervention tools, and modularized placement tests. "How, when, and why ACCUPLACER is used will impact the outcomes achieved" (College Board, 2012).

Using the ACT in achievement contexts: Wyoming

In 2017, the Wyoming State Board of Education adopted or extended a set of college and career readiness assessments as part of its accountability system. All grade 9 and 10 students take ACT's ASPIRE, grade 11 students take the ACT Plus Writing, and grade 11 and 12 students have the option to take the WorkKeys exam (Wyoming State Board of Education, 2017). These decisions were based on state legislative guidance to provide college and career readiness assessments earlier in high school and on similar recommendations from the Assessment Task Force.

Wyoming had planned to use the ACT as the grade 11 achievement indicator in the state's accountability system beginning with the 2017/18 school year (Wyoming Department of Education, 2016). However, in early 2017, the U.S. Department of Education informed the state that it would need to provide substantial evidence to support this use of the assessment for achievement (Gewertz, 2017). According to the submitted ESSA plan, the state is still planning to use this achievement measure (Wyoming Department of Education, 2017).

Wyoming policymakers discussed the appropriate use of college readiness exams in the accountability system extensively. **The Wyoming Assessment Task Force recommended using the ACT or SAT only as a postsecondary readiness indicator, rather than as an achievement indicator in the state accountability system.** The reasons for this recommendation included the lack of validity of these assessments as an achievement measure, the lack of alignment between the assessments and Wyoming's content standards, and the lack of instructionally actionable information for educators from ACT score reports. The task force also recommended that these assessments be implemented in a comprehensive accountability system using multiple measures (Martineau & Marion, 2015; Catchpole, 2016).

Such issues should be weighed by other states as well as they consider similar actions for their accountability systems.

Admissions exams appear to be more rigorous than placement exams

Achieve analyzed individual items from college admissions and placement exams to compare them with each other and with college and career readiness benchmarks created by the American Diploma Project (ADP). The exams included the ACT, the SAT, statewide tests, and institution-specific tests (Achieve, 2007).

Achieve (2007) found that expectations for college curriculum were consistent among college faculty across states and institutions:

- Math: knowledge and skills from a four-year mathematics sequence including Algebra I and II, Geometry, data analysis, statistics, mathematical reasoning, and problem solving.
- English: skills to communicate effectively to different audiences and analyze various types of texts.

However, the study concluded that admissions and placement exams vary considerably in their content and rigor and that they do not fully measure the knowledge and skills that are included in the ADP benchmarks. Admissions exams were more demanding than placement exams and better balanced in the types of questions asked. This study is now a decade old, however, so the results may be outdated.

Admissions and placement exams have limited predictive validity

Research suggests that admissions and placement exams have limited ability to predict student success in college. However, authors caution that many factors contribute to this finding, such as exam validity limitations, nonacademic factors not captured by the exams, and the way administrators use exam data (Fulton, 2012).

Course placement errors

Research from the Community College Research Center (CCRC) examines overplacement and underplacement for the COMPASS and ACCUPLACER placement exams from the ACT and the College Board, respectively.¹ Overplacement occurs

¹ In 2015, ACT Inc., informed by research on the predictive value of the COMPASS, decided to phase out the assessment as a product line (Fain, 2015).

when students who are not predicted to succeed in college-level courses are placed into those courses anyway, and underplacement occurs when students who could succeed in college-level courses are placed into remedial courses.

According to several studies, both COMPASS and ACCUPLACER lead to significant misplacement in courses, and GPA is a better predictor of success. Underplacements into remediation were more common than overplacements. Underplacement rates varied by study and community college location, with underplacement in an urban community college as high as 33 percent (Scott-Clayton & Stacey, 2015).

The CCRC also calculates a “severe error rate,” which combines students predicted to earn a B or better in a college-level course (that is, to be highly successful) but who are placed into remediation with students placed into a college-level course but predicted to fail there, based on regression analyses (Scott-Clayton, 2012). The severe error rates for placement were between 27 and 33 percent in English and between 21 and 28 percent for math, using either COMPASS or ACCUPLACER (Belfield & Crosta, 2012). Adding GPA, or using only GPA, to make placement decisions reduced both overplacement and underplacement by up to 30 percent (Belfield & Crosta, 2012; Scott-Clayton, Crosta, & Belfield, 2014). In fact, a pilot at Long Beach City College that used GPA or other high school information for placements saw the percentage of students who passed college-level English triple (Scott-Clayton & Stacey, 2015).

Predicting other college outcomes

Studies have also examined how admissions and placement exams predict other college outcomes, such as GPA, specific course grades, and dropout rates. The results are mixed.

College GPA. For the ACT, one study found that only the math and English components predict college GPA in freshman and sophomore years (Bettinger, Evans, & Pope, 2013). The ACT reading and science components were not predictive of success (individually, in combination with math and English, or through the composite score). The study, conducted at four-year public universities in Ohio using data from 1999, was confirmed in 2006 using private college data and a smaller cohort. The results held for student subgroups as well. The study concludes by stating that a composite math-English ACT score has better predictive power than the ACT composite score of all four subtests.

COMPASS and ACCUPLACER were weakly associated with college GPA, though the association was not present when including high school GPA (Belfield & Crosta, 2012; Hodara & Cox, 2016). Even a study by ACT Inc., which produces COMPASS, agreed that using high school GPA in combination with COMPASS is better than either on their own (Westrick, 2014).

Course completion. COMPASS math was found to be a better predictor than COMPASS English for passing a college-level course (Scott-Clayton, 2012). Also, COMPASS more accurately predicts earning a B in a college course than earning a C. That is, it is easier to predict who will do very well in a course than it is to predict who will be borderline or may fail (Scott-Clayton, 2012).

Credits earned. ACCUPLACER results were associated with college credits earned, even after controlling for high school GPA. Specifically, students with the highest quartile of ACCUPLACER scores earned 9 credits more than students in the lowest quartile after three to five semesters (Belfield & Crosta, 2012).

Dropout rate. As above for college GPA, one study found that the math and English components of the ACT predict dropout rate in the first and third years. However, the reading and science components did not accurately predict dropout (Bettinger, Evans, & Pope, 2013).

Exam equivalency

One consideration is exam equivalency. Ellis (n.d.) calculated the following college readiness scores in West Virginia for the ACT, the SAT, ACCUPLACER, COMPASS, ASSET by ACT, and the Test for Adult Basic Education (TABE) (Table 2). Other states or colleges may use their own values, so this table is a guide to begin discussion rather than an authoritative conclusion.

Table 2. Calculated college readiness scores for several admissions and placement exams

	ACT	SAT	ACCUPLACER	COMPASS	ASSET	TABE
English	18	370	92	71 (Writing)	44	12.8–12.9
Math	19	460	103 (Arithmetic) 97 (Elem. Alg.)	58–61 (Pre-Alg.)	44–45 (Numerical)	12.7–12.9
Reading	20	~410	96	85	44	12.5–12.9

Source: Ellis (n.d.)

Are college readiness exams necessary in high schools?

Some educators and researchers question the necessity of using college admissions or placement exams in high school accountability systems at all. Common arguments against using college readiness exams include the following:

- They do not measure state academic standards.
- Norm-referenced exams, such as admissions or placement exams, do not show student improvement over time.
- Domain-sampled tests do not show mastery of content.
- High stakes put too much pressure on students
- There are potential testing biases based on race, ethnicity, and socioeconomic status (Buchmann et al., 2011; Miller & Happel, 2011).

Those suggesting that the exams are not necessary also point out that more than 50 selective liberal arts colleges no longer require an admissions exam, with 800 postsecondary institutions nationwide adopting test-optional admissions policies (Belasco, Rosinger, & Hearn, 2015). These colleges question whether admissions or placement exams provide additional actionable data beyond GPA (see above) and hope to increase diversity by eliminating potential testing biases against race or socioeconomic status (SES). The research supporting an impact on student diversity is mixed, however. After controlling for many factors, the number of applications at test-optional colleges rose, along with reported test scores (perhaps because students with low exam scores did not report them), but the diversity of enrolled students did not increase. In fact, test-optional policies may institutionalize enrollment disparities by increasing admissions committees' reliance on characteristics that are slanted toward white, high-SES students and schools (such as Advanced Placement access or extracurricular activities) (Belasco, Rosinger, & Hearn, 2015).

Some argue for including admissions exams in accountability systems. They suggest that the benefits of using admissions exams in K-12 education include the following:

- Confidence in the system based on use of well-known exams with strong connections to education.
- Increased awareness among students about the importance of going to college.
- Increased awareness among students and educators about college readiness to inform instructional decisions before applying to or enrolling in college.
- Wider acceptance by colleges of national exams than of local exams.
- Potential college opportunities for students who otherwise may not have applied (Miller & Happel, 2011).

Recommendations from the literature

The research provides several recommendations for K-12 educators in both planning and implementing college readiness exams as part of accountability systems:

- **Match the exam’s purpose to its use.** No exam is valid for all uses. Review the available validity evidence to compare with the intended use and interpretation of scores (Miller & Happel, 2011). Assessment and curriculum need to be linked across high school, exam, and college (Hodara, Smith Jagers, & Mechur Karp, 2012). If the exam results inform high school college readiness interventions, be sure the exam is relevant to the subsequent course (for example, introductory algebra, intermediate algebra, or basic statistics) (Scott-Clayton, 2012).
- **Use multiple measures.** No single measure is likely to capture the multiple dimensions of college readiness to inform high school interventions or policies. Rather, a range of variables is important to assess postsecondary preparation (College Board, 2012; Westrick, 2014). The Community College Research Center recommends that high school GPA predicts college success more accurately than do exams (Belfield & Crosta, 2012; Scott-Clayton, 2012; Scott-Clayton & Stacey, 2015). Similarly, according to Achieve, “Placement tests should not be used as a substitute for building more comprehensive measures of college and work readiness into the state high school accountability system. The majority of the college placement tests reviewed by Achieve are narrowly focused on a subset of knowledge and skills” (Achieve, 2007). Given these critiques, policymakers should consider using a combination of accountability measures when assessing college and career readiness.

Recommendations for implementing these assessments as part of an accountability system include the following:

- **Customize admissions tests when incorporating them into statewide testing systems.** There are gaps in what any assessment will measure. According to Achieve, neither the ACT nor the SAT includes the full range of concepts and skills reflected in the ADP benchmarks (2007). While this research is dated, states may need to consider supplementing admissions tests with additional questions or exams to capture the full range of academic standards as high school standards evolve.
- **Modify high school tests to measure college readiness.** As an alternative to recommendation #3, high schools may wish to use existing high school exams to measure college readiness rather than incorporate college admissions or placement exams. In this case, adding targeted questions that align with

college curricula may streamline testing systems so that fewer exams are necessary (Achieve, 2007; Kurlaender et al., 2016).

- **Provide support for districts and schools to assist students who do not meet benchmarks.** Using college admissions or placement exams in a state accountability system should inform numerous discussions about college readiness. However, the information gained from these exams is only the first step in improving students' college readiness. Districts, schools, and students also need supports such as college remediation courses or transition curricula in the K-12 setting to improve preparedness (Barnett, Fay, Bork, & Weiss, 2013; Hodara, Smith Jagers, & Mechur Karp, 2012).

References

- Achieve. (2007). *Aligned expectations? A closer look at college admissions and placement tests*. Washington, DC: Achieve, Inc.
- Aragon, S., Griffith, M., Wixom, M. A., Woods, J., & Workman, E. (2016). *ESSA: Quick guides on top issues*. Denver, CO: Education Commission of the States. Retrieved from <http://www.ecs.org/essa-quick-guides-on-top-issues/>.
- Barnett, E.A., Fay, M., Bork, R., & Weiss, M. (2013). *Reshaping the College Transition: States that Offer Early College Readiness Assessments and Transition Curricula*. New York, NY: Columbia University, Teachers College, Community College Research Center. Retrieved May 2, 2017, from <http://ccrc.tc.columbia.edu/media/k2/attachments/reshaping-the-college-transition-state-scan.pdf>.
- Belasco, A. S., Rosinger, K. O., & Hearn, J. C. (2015). The test-optional movement at America's selective liberal arts colleges: A boon for equity or something else? *Educational Evaluation and Policy Analysis*, 37(2), 163-183.
- Belfield, C. R., & Crosta, P. M. (2012). *Predicting success in college: The importance of placement tests and high school transcripts*. CCRC Working Paper No. 42. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Bettinger, E. P., Evans, B. J., & Pope, D. G. (2013). Improving college performance and retention the easy way: Unpacking the ACT exam. *American Economic Journal: Economic Policy*, 5(2), 26-52.
- Buchmann, C., Condrón, D. J., & Roscigno, V. J. (2010). Shadow education, American style: Test preparation, the SAT and college enrollment. *Social Forces*, 89(2), 435-461.
- Catchpole, J. (2016). *Accountability considerations when using a college-readiness assessment as part of a school accountability system: A technical and policy brief from the Advisory Committee to the Select Committee on Statewide Education Accountability*. Retrieved May 2, 2017, from <http://legisweb.state.wy.us/InterimCommittee/2016/SEA-11152016AppendixC.pdf>.
- College Board. (2012). *ACCUPLACER*. New York, NY: College Board. Retrieved April 25, 2017, from <http://media.collegeboard.com/digitalServices/pdf/miscellaneous/ACCU-Response-to-CCRC.pdf>.

- Ellis, S. F. (n.d.). *Correlation between various placement instruments for reading, language/writing, mathematics, and elementary algebra*. Mount Gay, WV. Southern West Virginia Community & Technical College. Retrieved April 25, 2017, from <https://wvde.state.wv.us/abe/documents/CorrelationBetweenVariousPlacementInstruments.pdf>.
- English, D., Rasmussen, J., Cushing, E., & Therriault, S. (2016). *Leveraging the Every Student Succeeds Act to support state visions for college and career readiness*. Retrieved from Columbia University, Community College Research Center website: http://www.ccrscenter.org/sites/default/files/AskCCRS_LeveragingESSA.pdf.
- Fain, P. (2015). Finding a new compass. *Inside Higher Education*. June 15. Retrieved May 17, 2017, from <https://www.insidehighered.com/news/2015/06/18/act-drops-popular-compass-placement-test-acknowledging-its-predictive-limits>
- Fields, R., & Parsad, B. (2012). *Tests and cut scores used for student placement in postsecondary education: Fall 2011*. Washington, DC: National Assessment Governing Board.
- Fulton, M. (2012). *Using state policies to ensure effective assessment and placement in remedial education*. Denver, CO: Education Commission of the States.
- Gewertz, C. (2017). U.S. Ed. Dept. defers approval of ACT for accountability in Wyoming, Wisconsin. *EdWeek*, January 20, 2017. Retrieved May 11, 2017, from http://blogs.edweek.org/edweek/high_school_and_beyond/2017/01/us_ed_dept_defers_approval_of_act_for_accountability_in_wyoming_wisconsin.html.
- Hodara, M., & Cox, M. (2016). *Developmental education and college readiness at the University of Alaska* (REL 2016-123). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest.
- Hodara, M., Smith Jagers, S., & Mechur Karp, M. (2012). *Improving developmental education assessment and placement: Lessons from community colleges across the country*. CCRC Working Paper No. 51. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Hurwitz, M., Smith, J., Niu, S., & Howell, J. (2015) The Maine question: How is 4-year college enrollment affected by mandatory college entrance exams? *Educational Evaluation and Policy Analysis*, 37(1), 138-159. doi: 10.3102/0162373714521866
- Kurlaender, M., Jackson, J., Grodsky, E., & Howell, J. (2016). *Ready or not? California's Early Assessment Program and the transition to college*. Paper session presented at the meeting of American Educational Research Association, Washington, DC.

- Martin, C., Sargrad, S., & Batel, S. (2016). *Making the grade: A 50-state analysis of school accountability systems*. Washington, DC: Center for American Progress. Retrieved from <https://cdn.americanprogress.org/wp-content/uploads/2016/05/17094420/AccountabilityLandscape-report2.pdf>.
- Martineau, J., & Marion, S. (2015). *Wyoming's statewide assessment system: Recommendations from the Assessment Task Force*. The National Center for the Improvement of Educational Assessment, Inc. on behalf of the Wyoming Assessment Task Force for the Wyoming State Board of Education. Retrieved May 2, 2017, from <https://1ddlxtt2jowkvs672myo6z14-wpengine.netdna-ssl.com/wp-content/uploads/2016/09/Final-WY-ATF-Report-12-07-2015.pdf>.
- Miller, S., & Happel, J. (2011). A role for college admissions tests in state assessment programs. In J. A. Bovaird, K. F. Geisinger, and C. W. Buckendahl (Eds.), *High-Stakes Testing in Education: Science and Practice in K-12 Settings* (pp. 101-116), Washington, DC: American Psychological Association.
- Morgan, D. L., & Michaelides, M. P. (2005). *Setting cut scores for college placement*. New York, NY: College Board.
- Scott-Clayton, J. (2012). *Do high-stakes placement exams predict college success?* New York, NY: Columbia University, Teachers College, Community College Research Center.
- Scott-Clayton, J., Crosta, P. M., & Belfield, C. R. (2014). Improving the targeting of treatment: Evidence from college remediation. *Educational Evaluation and Policy Analysis*, 36(3), 371-393.
- Scott-Clayton, J., & Stacey, G. W. (2015). *Improving the accuracy of remedial placement*. New York, NY: Columbia University, Teachers College, Community College Research Center.
- Southern Regional Education Board. (2014). *The ACT and SAT: No longer just college admission tests. Policy brief*. Atlanta, GA: Southern Regional Education Board
- Westrick, P. A., & Allen, J. (2014). *Validity evidence for ACT COMPASS tests*. Iowa City, IA: ACT, Inc.
- Wyoming Department of Education (2017). *Consolidated state plan for the Every Student Succeeds Act*. Retrieved October 10, 2017, from <http://edu.wyoming.gov/downloads/accountability/ESSAFinal.pdf>.
- Wyoming State Board of Education. (2017). *State Board of Education approves new statewide assessment vendor, tests to launch in classrooms in spring 2018*. Retrieved May 2, 2017, from <https://edu.wyoming.gov/board/2017/02/16/state->

[board-of-education-approves-new-statewide-assessment-vendor-tests-to-launch-in-classrooms-spring-2018/](#).

Wyoming State Department of Education. (2016). *Changes to Wyoming's assessment and accountability systems*. Memorandum Number 2016-061. Retrieved May 11, 2017, from <http://1ddlxtt2jowkvs672myo6z14-wpengine.netdna-ssl.com/wp-content/uploads/2016/04/2016-061.pdf>.



CNA

This report was written by CNA's Education (EDU) division.

CNA Education helps policymakers and practitioners improve the quality of public education by providing critical decision-making support. Our approach combines the scientific rigor of a research institution with a firsthand understanding of education issues and their real-world implications. We solve problems with objective scientific methods, evidence-based analysis, on-scene field experience, and absolute data integrity.

Through this unique approach, we assist a diverse range of stakeholders – from state and federal policymakers to higher education institutions to foundations and associations to districts and schools. Our team's extensive experience with applied research, experimental trials, program evaluation, and technical assistance allows us to provide our clients with clear, credible analysis and actionable solutions.





CNA is a not-for-profit research organization that serves the public interest by providing in-depth analysis and result-oriented solutions to help government leaders choose the best course of action in setting policy and managing operations.

*Nobody gets closer—
to the people, to the data, to the problem.*

