# A Primer on Common Core-Aligned Assessments

*December 2013*

educationfirst

# What Is This Primer and Who Should Use It?

This deck is designed for **state policymakers** and **advocates** who are transitioning their assessment systems to gauge and support student mastery of the Common Core State Standards.

**Educators** and other stakeholders can also use this resource to enhance their understanding of changing assessment systems and to engage in conversations about how Common Core-aligned tests can best support student learning.

State leaders will need to consider many factors in choosing the right Common Core-aligned assessments. This primer addresses a set of key questions, including the specific differences between assessments, criteria for high quality and how both K-12 and postsecondary systems might use the assessments.

# Table of Contents

# How Does the Common Core Influence Assessments?

educationfirst
experience | quality | results

# Section Overview

### Instructional Shifts

The Common Core's six "instructional shifts" (three each in ELA/literacy and mathematics) together represent a new and deeper set of learning expectations for students and educators.

### Aligned Assessments

To be truly aligned with the Common Core standards, new assessments need to fully reflect these shifts in individual test items and for the assessment system overall, so that educators, students and parents know the extent to which students are meeting the expectations articulated in the standards.

### Assessment Developers

Two consortia of states—PARCC and Smarter Balanced (SBAC)—a private testing company—ACT, Inc. partnered with Pearson—and a handful of individual states are developing new assessments to align to the Common Core.

# Common Core Shifts in ELA/Literacy

| | | |
|---|---|---|
| Shift 1 | **Building knowledge** through **content-rich nonfiction** | Students read a true balance of informational and literary texts—50/50 in grades K-5; less prescriptive, but with greater attention to literary nonfiction and social studies and science content, in grades 6-12. |
| Shift 2 | Reading, writing and speaking grounded in **evidence from text**, both literary and informational | Students engage in rich conversations and write using evidence carefully pulled from a text or multiple texts. Rather than asking students to respond solely based on prior knowledge or personal experience, the standards expect students to answer and support their responses with information, ideas, arguments and details from text. |
| Shift 3 | Regular practice with **complex text** and its **academic language** | Students read complex, grade-appropriate texts and build the vocabulary—words that appear in a variety of content areas—they will need to meet the demands of college and careers by the end of high school. |



Source: Student Achievement Partners, "The Common Core Shifts at a Glance," (2013) http://www.achievethecore.org/page/277/the-common-core-shifts-at-a-glance

# Common Core Shifts in Mathematics

| | | |
|---|---|---|
| Shift 1 | **Focus** strongly where the standards focus | Teachers significantly narrow and deepen the scope of how time and energy is spent in the mathematics classroom. They do so to focus deeply on the major work or each grade so that students create strong foundations in conceptual understanding, procedural skill and fluency and application to problems inside and outside the math classroom. |
| Shift 2 | **Coherence**: think across grades and link to major topics within grades | Principals and teachers carefully connect the learning within and across grades so that students can build new understanding onto foundations built in previous years. Major topics, such as displaying data, become a grade-level focus instead of detracting from the focus as a supporting topic only. |
| Shift 3 | **Rigor**: in major topics pursue with equal intensity:<br>• conceptual understanding<br>• procedural skill and fluency<br>• application | Teachers support students' ability to access concepts from multiple perspectives so that math becomes more than a set of mnemonics or discrete procedures. Students are expected to have speed and accuracy with simple calculations; teachers structure class time and/or homework time for students to memorize, through repetition, core functions. Teachers provide opportunities for students to apply math in context both inside and outside the math classroom. |



Source: New York State Education Department, "Pedagogical Shifts demanded by the Common Core State Standards," (2013)
http://www.engageny.org/sites/default/files/resource/attachments/common-core-shifts.pdf

# How Do the New Assessment Systems Differ?

educationfirst
experience | quality | results

# Section Overview

### Assessment Options

Nearly all states that have adopted the Common Core are members of one or both of the Common Core-aligned assessment consortia (PARCC and SBAC); one state (AL) has adopted ACT Aspire, and others are reportedly considering it; and a few states are developing their own assessments.

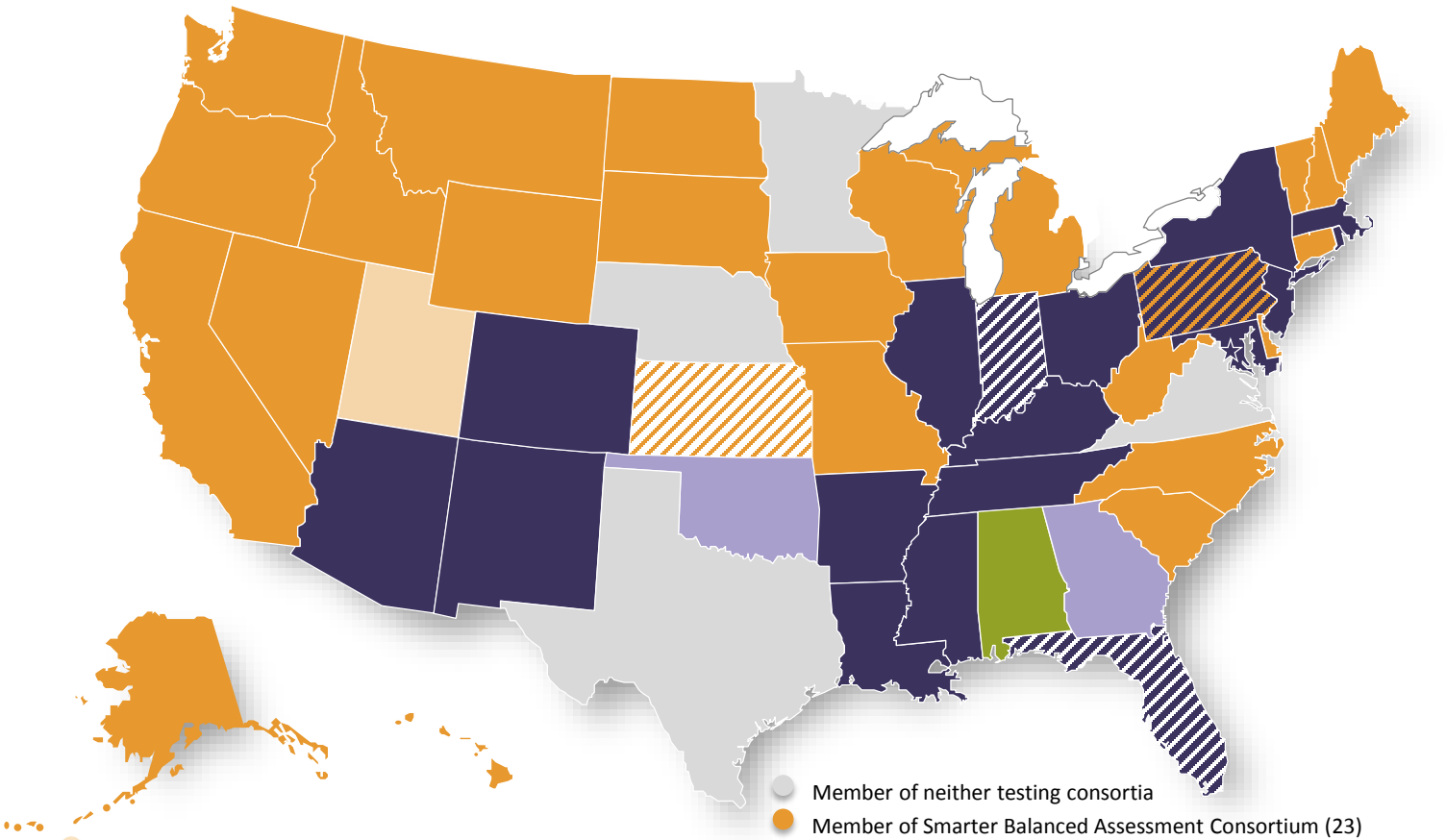
### Assessment Transitions

Most members of PARCC and SBAC are planning to use the consortia tests as their statewide assessment in SY 2014-15. Others are receiving waivers from USED to use the consortia field tests in place of their state tests in spring 2014. In total, 38 states will be field testing either PARCC or SBAC in spring 2014.

### Assessment Comparison

PARCC, SBAC and ACT Aspire assessment systems include similar features, costs, assessment types, grade levels, subjects and timelines, but important details vary.

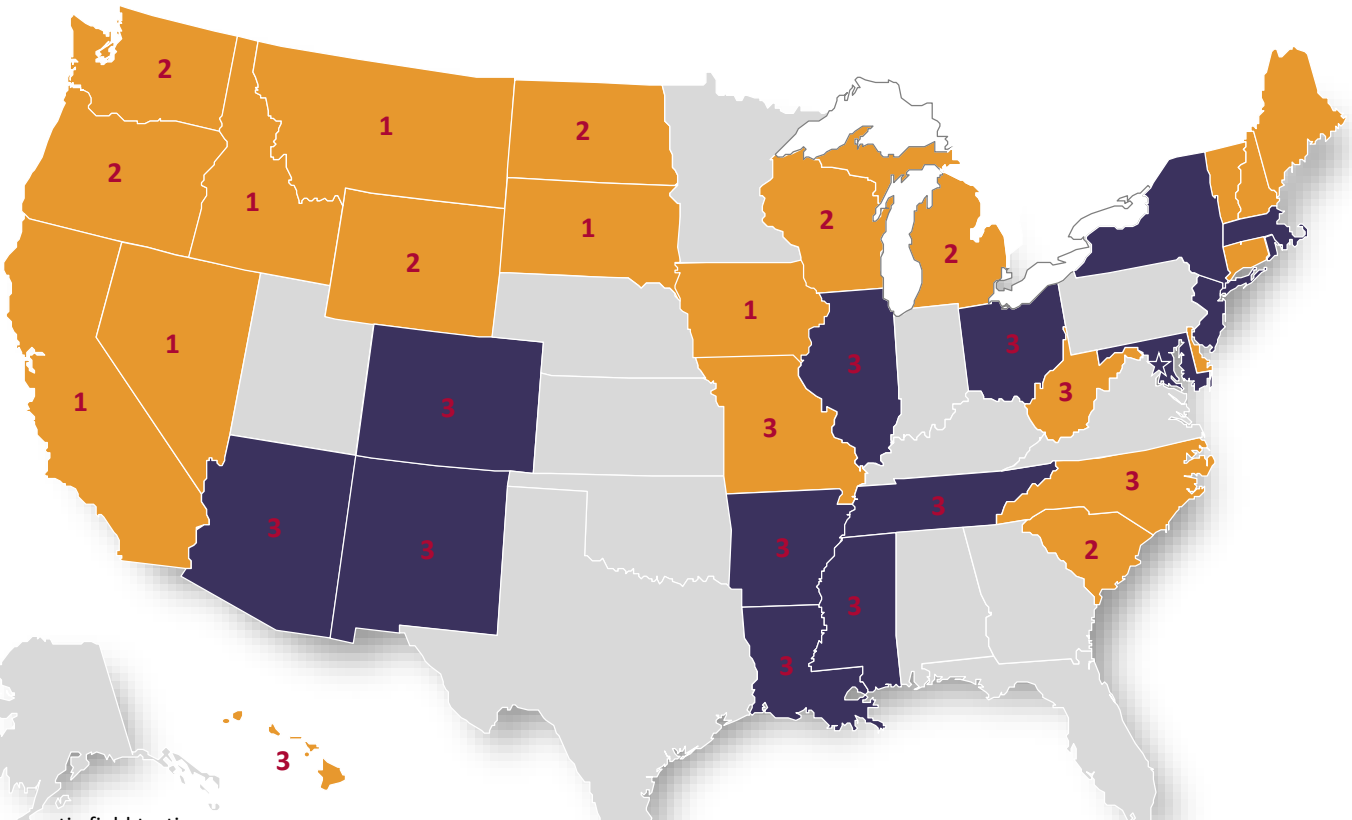
# Common Core-Aligned Assessments in States






Sources: PARCC, "Partnership for Assessment of Readiness for College and Careers," (2013), http://www.parcconline.org; Smarter Balanced Assessment Consortium, "Smarter Balanced Assessment Consortium," (2013), http://www.smarterbalanced.org; ACT, "ACT Aspire," (2013), http://www.discoveractaspire.org/pages/home; State Education Agency websites

# State Participation in Consortia Field Testing – Spring 2014




ME – **2**
NH – **3**
VT – **3**
MA – **3**
RI – **3**
CT – **2**
NY – **3**
NJ – **3**
DE – **3**
MD – **3**
DC – **3**

- Not participating in consortia field testing
  - KS and KY are developing their own tests
  - FL, IN and PA are planning to withdraw from the consortia and have not yet made decisions on their tests for 2014-15
  - AK is a SBAC Advisory State but will not be field testing
  - AL, GA, MN, NE, OK, TX, UT and VA are not members of consortia

- Smarter Balanced field testing (22)
- PARCC field testing (15, including D.C.)
- **1** Replacing current state tests with consortia field tests (6) (only select schools in NV)
- **2** Allowing districts or schools to volunteer for consortia field tests in addition to current tests (10)
- **3** Administering both current state tests and consortia field tests to randomly selected districts/schools (22)



Sources: PARCC, "Partnership for Assessment of Readiness for College and Careers," (2013), http://www.parcconline.org; Smarter Balanced Assessment Consortium, "Smarter Balanced Assessment Consortium," (2013), http://www.smarterbalanced.org; ACT, "ACT Aspire," (2013), http://www.discoveractaspire.org/pages/home; State Education Agency websites

# Assessment Types

| Type | Definition/Use | Examples |
|---|---|---|
| Diagnostic | Generally given prior to beginning a new lesson, unit of study or learning activity, or at the beginning of some unit of time (e.g. semester or school year) to evaluate students' prior knowledge and misconceptions. Diagnostic assessments can be formative or interim assessments. | unit pre-tests, beginning of year assessments, PARCC diagnostics |
| Summative | Generally given one time at the end of some unit of time (e.g. semester or school year) to evaluate students' performance against a defined set of content standards. Often used as part of a state accountability system and to inform program or policy decisions at both the classroom and beyond the classroom level, such as the school or district level. | Stanford 9, MCAS, AP, SAT, ACT, PARCC and Smarter Balanced end-of-year tests and performance tasks |
| Formative | Also known as classroom-based assessments, process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes. In true formative assessment, teachers create and score the assessment. | checks for understanding, questioning, quizzes, performance tasks, labs, PARCC K-2 formative, ACT Aspire classroom-based |
| Interim | Assessments that fall between formative and summative assessment. They evaluate students' knowledge and skills relative to a specific set of academic goals, typically within a limited time frame, and are designed to inform program or policy decisions at both the classroom and beyond the classroom level, such as the school or district level. | end-of-semester exams, MAP, district-wide benchmark assessments, PARCC Mid-Year and Speaking/Listening, SBAC Interim |

Standardized testing is not a specific type of test, but instead refers to any assessment given under standard/consistent administration conditions. Diagnostic, interim and summative assessments can be standardized.



Sources: Education First analysis; the Aspen Institute, *The Role of Interim Assessments in a Comprehensive Assessment System* (2007) accessed October 25, 2013, http://www.achieve.org/files/TheRoleofInterimAssessments.pdf;

# Overview of PARCC Assessment System

BEGINNING OF SCHOOL YEAR

**PARTNERSHIP RESOURCE CENTER:** Digital library of released items; formative assessments; model content frameworks; instructional and formative tools and resources; student and educator tutorials and practice tests; scoring training modules; professional development materials; and an interactive report generation system.

END OF SCHOOL YEAR

## English Language Arts/Literacy and Mathematics, Grades 3-8 and High School Assessments

**FLEXIBLE TIMING**

Component 1
(Optional)
**Diagnostic Assessment**

- Non-summative
- Designed to be an indicator of student knowledge and skills so that instruction, supports and professional development can be tailored to meet students' needs

**FLEXIBLE TIMING**

Component 2
(Optional)
**Mid-Year Assessment**

- Non-summative*
- Performance-based tasks with emphasis on hard-to-measure standards

** After study, states may choose to include MYA as a summative component.*

**FLEXIBLE TIMING**

Component 5
(Required)
**Speaking and Listening**

- Non-summative
- ELA/Literacy only
- Locally scored

**AFTER 75% OF SCHOOL YEAR**

Component 3
(Required)
**Performance-Based**

- Summative
- ELA—writing
- Math—multi-step and real-world problems

**AFTER 90% OF SCHOOL YEAR**

Component 4
(Required)
**End-of Year/Course**

- Summative
- ELA—reading comprehension
- Math—conceptual understanding

Costs not yet available

K-2 Formative
(Optional)

- Non-summative
- Aligned to CCSS and vertically aligned to PARCC assessment system

$29.50 per student cost includes ELA/Literacy and Math performance-based and end-of-year/course assessments

Pencil-and-paper versions available for first year for $3-4 more per student

High school summative assessments are grade-based for ELA/Literacy (i.e., 9th, 10th, 11th grades). For math, states choose to offer course-based (i.e., Algebra I, Geometry, Algebra II) or integrated (i.e., Math I, Math II, Math III) assessments.

educationfirst

Sources: Center for K-12 Assessment & Performance Management at ETS, "Coming Together to Raise Achievement" (2012) http://www.k12center.org/rsc/pdf/20847_consortiaguide_sept2012.pdf; PARCC, "Assessment System," (2013) http://www.parcconline.org/assessment-system

# Overview of SBAC Assessment System

BEGINNING OF SCHOOL YEAR

**DIGITAL LIBRARY of formative tools, processes and exemplars; released items and tasks; model curriculum units; educator training; professional development tools and resources; scorer training modules; and teacher collaboration tools.**

END OF SCHOOL YEAR

English Language Arts/Literacy and Mathematics, Grades 3-8 and 11

**SCOPE, SEQUENCE, NUMBER AND TIMING LOCALLY DETERMINED**

(Optional)

**Interim Assessments**

- Non-summative
- Computer-adaptive assessment and performance tasks designed to provide educators with actionable information about students throughout the year

**Can be offered multiple times**

Interim assessments available for grades 3-12

**LAST 12 WEEKS OF SCHOOL YEAR**

(Required)

**Performance Tasks**

computer-based (not adaptive)

- Summative
- ELA/Literacy and Math real-world activities

$22.50 per student cost includes ELA/Literacy and Math summative assessments (performance tasks and end-of-year computer-adaptive).

$27.30 per student cost includes the interim and formative assessments in addition to the summative assessments.

**LAST 12 WEEKS OF SCHOOL YEAR**

(Required)

**End-of Year**

computer-adaptive

- Summative
- ELA—reading comprehension
- Math—conceptual understanding

High school summative assessments will be administered at the end of grade 11 only, and will measure standards through grade 11 for ELA/Literacy and through Algebra I, Geometry and Algebra II for math.

educationfirst

Sources: Center for K-12 Assessment & Performance Management at ETS, "Coming Together to Raise Achievement" (2012) http://www.k12center.org/rsc/pdf/20847_consortiaguide_sept2012.pdf; Smarter Balanced Assessment Consortium, "Smarter Balanced Assessments," (2013) http://www.smarterbalanced.org/smarter-balanced-assessments/

# Overview of ACT Aspire Assessment System

ACT Aspire is a new assessment system being developed to measure college- and career-readiness. Reported features include:

- Vertically articulated, standards-based system of summative, interim, and classroom-based assessments
- Summative available in spring 2014; interim and classroom-based assessments launching in fall 2014
- Subject areas: English, math, reading, science, and writing for grades 3-8 and early high school (grades 9-10)
  - → *Note that the ACT college admissions test will be aligned to the Aspire system, but must be selected and purchased in addition to Aspire.*
- Score reporting categories based on ACT College Readiness Standards and aligned to Common Core State Standards
- Student growth reports available once student has completed two or more tests in one subject
- Multiple question types—constructed response, selected response, and technology enhanced
- Online delivery of assessments with a paper-and-pencil option
- Per-student cost is $21 for one subject, plus $1 for each additional subject
  - → Paper/pencil version available for $27 for one subject, plus $1 for each additional subject
  - → The ACT college admissions test per-student cost (including writing) is $52.50



Source: ACT, Inc., "ACT Aspire Assessment System Highlights," (2013) http://www.discoveractaspire.org/pages/home; ACT, Inc., "Current ACT Fees and Services," (2013) http://www.actstudent.org/regist/actfees.html; ACT, Inc., "Exceptional College and Career Preparation," (Nov. 2013) http://www.gomasa.org/news/act-aspire-resources-available

# Comparison of PARCC, Smarter Balanced and ACT Aspire

| | Context | PARCC | Smarter Balanced | ACT Aspire |
|---|---|---|---|---|
| **Summative Assessments** | Tests aligned across grades provide more accurate evidence of student growth over time. | Each grade 3-11 | Each grade 3-8 and 11 | Each grade 3-8 and 9/10<br>Does not include the ACT college admissions test |
| **Subjects** | Common Core standards measure ELA/literacy and math, with an emphasis on writing at each grade level. | ELA/literacy and math | ELA/literacy and math | English, reading, writing, math, science |
| **Per-Student Costs** | Nationally, the current average per-student cost for state ELA/literacy and mathematics assessments is about $27. | $29.50 summative only<br>Unknown for non-summative | $22.50 summative only<br>$27.30 including interim and formative | $21.00 for one subject<br>$1.00 additional per subject<br>Unknown for non-summative |
| **Estimated Testing Time** | Students require additional time to fully engage with complex texts, writing tasks and real-world, in-depth math tasks required by standards | 8-9 ½ total hours for summative assessments in both subjects | 7-8 ½ total hours for summative assessments in both subjects | 3-3 ¼ total hours for summative assessments in English, reading, writing and math; 55 min. for science |



Sources: PARCC, "Partnership for Assessment of Readiness for College and Careers," (2013), http://www.parcconline.org; Smarter Balanced Assessment Consortium, "Smarter Balanced Assessment Consortium," (2013), http://www.smarterbalanced.org; ACT, "ACT Aspire," (2013), http://www.discoveractaspire.org/pages/home

# Comparison of PARCC, Smarter Balanced and ACT Aspire, *continued*

| | Context | PARCC | Smarter Balanced | ACT Aspire |
|---|---|---|---|---|
| **Use of Performance Tasks** | In addition to written and constructed responses, performance tasks require students to interact with a variety of real-world stimuli, such as web-based research, and integrate high-level skills and knowledge across standards. | Summative Performance-Based ELA/literacy and math assessments in each grade 3-11 | Summative Performance Tasks ELA/literacy and math assessments in each grade 3-8 and 11 | Unknown at this time |
| **Optional, Non-Summative Assessments** | Formative and interim assessment tools are helpful for adapting instruction to better meet students' needs. | Grades K-2 formative, Grades 3-11 Speaking & Listening, diagnostic and mid-year | Grades 3-12 interim and formative | Grades 3-12 classroom-based and interim |
| **External Evaluation or Validation** | Transparent development and reviews allow educators, parents, students and policymakers to understand details of tests. | Test specifications analyzed by Technical Advisory Committee of national experts | Test specifications analyzed by Technical Advisory Committee of national experts | Unknown at this time |
| **Educator Involvement** | Collaboration with educators, who work closest with students, strengthens both the design of the tests and their engagement during implementation. | Educators create and review test items and provide feedback on instructional resources; Educator Leader Cadres engage colleagues in implementation | Educators create and review test items; State Leadership Teams and Networks of Educators are working to develop a digital library of formative tools and professional learning resources | Unknown at this time |



Sources: PARCC, "Partnership for Assessment of Readiness for College and Careers," (2013), http://www.parcconline.org; Smarter Balanced Assessment Consortium, "Smarter Balanced Assessment Consortium," (2013), http://www.smarterbalanced.org; ACT, "ACT Aspire," (2013), http://www.discoveractaspire.org/pages/home

# New Assessment Costs

| | PARCC | Smarter Balanced | ACT Aspire |
|---|---|---|---|
| Estimated Per-Student Cost (current avg. $27) | $29.50 summative only | $22.50 summative only<br>$27.30 including interim and formative | $21.00 for one subject<br>$1.00 additional per subject |
| Effect of membership changes on cost | Increase by 63 cents if Florida withdraws | $25 summative if KS, MO, MI, PA, SC and WI withdraw | Unknown; Aspire does not have a state membership structure like PARCC and SBAC |
| | $32.08 if only 15 field test states adopt test | $30 summative if half of members withdraw | |

### What Cost Includes

- For any assessment system, the majority of the cost is due to scoring, especially human scoring of essays.
- Costs that remain roughly the same regardless of the number of students taking the assessment include online delivery, production, distribution and reporting.
- Costs that are spread across any number of member states include content development, labor support and travel.
  - → Developing more complex and higher-quality items, such as performance tasks, also increases costs

### Different Cost Structures for PARCC and SBAC

- PARCC states will use a single vendor for producing, delivering, scoring and reporting the assessments.
- SBAC states will assume more of the services not built in to the consortium's decentralized structure.
  - → States will procure and pay other vendors for test delivery, scoring and reporting
- Therefore, SBAC's cost estimates may be more variable depending on how individual states select their services



Sources: Matthew M. Chingos, *Standardized Testing and the Common Core Standards: You Get What You Pay For?* (2013), http://www.brookings.edu/research/reports/2013/10/30-standardized-testing-and-the-common-core-chingos; Chingos, *Strength in Numbers: State Spending on K-12 Assessment Systems* (2012), http://www.brookings.edu/research/reports/2012/11/29-cost-of-ed-assessment-chingos

# What is a High-Quality Assessment?

educationfirst
experience | quality | results

# Section Overview

### High-Quality Criteria

New assessments should measure the Common Core instructional shifts and meet other criteria, such as assessing higher-level thinking skills and transparency.

### Different Sets of Criteria

Beyond aligning to the shifts, there are different perspectives on assessment quality criteria. Four authors/organizations recently published their criteria, with several common considerations.

### Greater Cognitive Demand

An analysis of PARCC and SBAC content specifications against one set of criteria suggests that these new tests could increase the level of cognitive demand over current state tests by many orders of magnitude.

# High-Quality Assessment Criteria

## Council of Chief State School Officers (October 1, 2013)

1. **Align to College- and Career-Readiness (CCR) standards**, by

| In ELA/Literacy | In Mathematics |
|---|---|
| A. Assessing student reading and writing achievement in both ELA and literacy: | H. Focusing strongly on the content most needed for success in later mathematics |
| B. Focusing on complexity of texts | I. Assessing a balance of concepts, procedures and applications |
| C. Requiring students to read closely and use evidence from texts | J. Connecting practices to content |
| D. Requiring a range of cognitive demand | K. Requiring a range of cognitive demand |
| E. Emphasizing writing that demonstrates proficiency in the use of language, including vocabulary and conventions | |
| F. Assessing research and inquiry | |
| G. Assessing speaking and listening | |

2. **Yield valuable reports on student progress** by (A) focusing on progress to readiness and (B) providing timely data that informs instruction

3. **Adhere to best practices in test administration** by maintaining necessary standardization and ensuring test security

4. **Provide accessibility to all students** by (A) following the principles of universal design and (B) offering appropriate accommodations and modifications



Source: Council of Chief State School Officers, "States' Commitment to High-Quality Assessments Aligned to College- and Career-Readiness" (October 1, 2013), http://blogs.edweek.org/edweek/curriculum/CCSSO%20Assessment%20Quality%20Principles%2010-1-13%20FINAL.pdf

# High-Quality Assessment Criteria, *continued*

| Matthew Chingos, Brookings Institution (October 30, 2013) |
| --- |
| 1. Tests should include the kinds of **tasks that we want students to learn in school**. |
| 2. Tests should cover the **full range of content** included in the standards, probe the **depths of student thinking** and levels of knowledge expected by the relevant standards, and accurately measure the performance of all students. |
| 3. As assessments that purport to measure college and career readiness are put in place, policymakers should demand evidence that they are indeed **predictive of success in college and careers.** |
| 4. States need to be concerned not just with the quality of the tests themselves but also with the reporting system used to provide feedback to students, teachers, and schools. **Feedback should be as timely and informative as possible** so that, for example, teachers can identify the strengths and weaknesses of their students and incorporate that information into instruction. |



Source: Matthew Chingos, *Standardized Testing and the Common Core Standards: You Get What You Pay For?* (2013), http://www.brookings.edu/research/reports/2013/10/30-standardized-testing-and-the-common-core-chingos

# High-Quality Assessment Criteria, *continued*

## Linda Darling-Hammond, et al. (June 19, 2013)

1. **Assessment of Higher-Order Cognitive Skills** that allow students to transfer their learning to new situations and problems.

2. **High-Fidelity Assessment of Critical Abilities** as they will be used in the real world, rather than through artificial proxies. This calls for performances that directly evaluate such skills as oral, written, and multimedia communication; collaboration; research; experimentation; and the use of new technologies.

3. **Assessments that are Internationally Benchmarked**: Assessments should be evaluated against those of the leading education countries, in terms of the kinds of tasks they present as well as the level of performance they expect.

4. **Use of Items that are Instructionally Sensitive and Educationally Valuable**: Tests should be designed so that the underlying concepts can be taught and learned, rather than depending mostly on test-taking skills or reflecting students' out-of-school experiences. To support instruction, they should also offer good models for teaching and learning and insights into how students think as well as what they know.

5. **Assessments that are Valid, Reliable and Fair** should accurately evaluate students' abilities, appropriately assess the knowledge and skills they intend to measure, be free from bias, and be designed to reduce unnecessary obstacles to performance that could undermine validity. They should also have positive consequences for the quality of instruction and the opportunities available for student learning.



Source: Linda Darling-Hammond, et al., *Criteria for High-Quality Assessment* (2013), https://edpolicy.stanford.edu/sites/default/files/publications/criteria-higher-quality-assessment_2.pdf

# High-Quality Assessment Criteria, *continued*

## Student Achievement Partners (June 19, 2013)

| ELA/Literacy | Mathematics |
|---|---|
| 1. Reading texts have the **appropriate level of complexity** for the grade | 1. The large majority of points in each grade K–8 are devoted to the **major work of the grade**, and the majority of points in each High School course are devoted to **widely applicable prerequisites** |
| 2. ELA/literacy assessments reflect the distribution of **text types** and genres required by the standards | 2. No item assesses topics directly or indirectly before they are **introduced in the Common Core State Standards-Math (CCSSM)** |
| 3. The **quality of texts** and other stimuli is high—they are worth reading closely and exhibit exceptional craft and thought and/or provide useful information | 3. Each grade/course's assessments reflect the balances in the Standards and help students meet the Standards' **rigorous expectations** by helping students develop **conceptual understanding, procedural skill and fluency, and application** |
| 4. Test questions **are text-dependent and text-specific**: they require students to read closely, find the answers within the text(s) and use textual evidence to support their responses | 4. Each grade/course's assessments include items that **meaningfully connect the Standards for Mathematical Content and Standards for Mathematical Practice**. |
| 5. Test questions reflect the **rigor and cognitive complexity** demanded by the standards; they assess the depth and breadth of the standards at each grade level. | 5. Test items **elicit direct, observable evidence of the degree to which a student can independently demonstrate the targeted standard(s)**, adhering to the full intent of the CCSSM |
| 6. The majority of writing prompts, at all grade levels, are **text-dependent** and reflect the writing genres named in the standards | |
| 7. Items assessing speaking and listening reflect **true communication skills** required for college and career readiness | |
| 8. Items assessing conventions and writing strategies **reflect actual practice** to the extent possible | |



Source: Student Achievement Partners, *Assessment Evaluation Tool* (2013), http://achievethecore.org/dashboard/410/search/3/1/0/1/2/3/4/5/6/7/8/9/10/11/12/page/606/assessment-evaluation-tool-aet

# Assessing Higher-Level Thinking Skills

The Depth-of-Knowledge Levels web is one widely used method for illustrating the various types of knowledge and skills that teaching and learning encompasses.

The level of thinking becomes more demanding as one moves to the higher levels and tackles more complex tasks such as synthesizing multiple pieces of information or proving an idea based on evidence in a text.

Students especially need level three and four skills to succeed in college and careers. The Common Core standards reflect these skills more strongly than most state tests.




Source: N.L. Webb, *Depth-of-Knowledge Levels for Four Content Areas* (2002) http://facstaff.wcer.wisc.edu/normw/All%20content%20areas%20%20DOK%20levels%2032802.doc; Linda Darling-Hammond, et al., *Criteria for High-Quality Assessment* (2013) https://edpolicy.stanford.edu/sites/default/files/publications/criteria-higher-quality-assessment_2.pdf

# Do Current Tests Measure Higher Order Thinking Skills?

- **Current state tests typically do not measure the higher levels of thinking** even when the state standards include them. Instead, most test items assess students' ability to recall and implementation of procedures more often than analyze, critique or develop a logical argument.

| Percentage of Items on 17 State Tests at Each Depth-of-Knowledge Level | | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Level 4 |
| Reading | 32% | 46% | 21% | 1% |
| Writing | 52% | 27% | 13% | 8% |
| Mathematics | 58% | 40% | 2% | 0% |

- One recent analysis suggests that if assessments are to reflect and encourage transferable skills, **at least two-thirds of items should tap conceptual knowledge and abilities** (depth-of-knowledge levels 2, 3, or 4).

  → **At least one-third of the total items in mathematics—and at least half of the total in ELA/literacy—should tap the higher-level cognitive skills,** such as the abilities to assess, compare, evaluate, hypothesize and investigate (level 3), as well as the abilities to analyze, synthesize, design and create (level 4).



Source: Linda Darling-Hammond, et al., *Criteria for High-Quality Assessment* (2013) https://edpolicy.stanford.edu/sites/default/files/publications/criteria-higher-quality-assessment_2.pdf; Kun Yuan & Vi-Nhuan Le, *Estimating the Percentage of Students Who Were Tested on Cognitively Demanding Items Through the State Achievement Tests* (2012), http://www.rand.org/pubs/working_papers/WR967.html

# Will New Tests Measure Higher Order Thinking Skills?

- The plans for the new PARCC and Smarter Balanced assessments suggest these tests could greatly increase the level of cognitive demand.

| Smarter Balanced | PARCC | ACT Aspire |
|---|---|---|
| 68% of the targets in ELA/literacy and 70% of those in mathematics intend to assess levels 3-4 skills | A more qualitative analysis of the item specifications for PARCC found levels of intended cognitive demand comparable to SBAC | No analysis has been done; depth-of-knowledge levels are unknown at this time |

- Note that more complete analyses will need to be conducted once the final assessments for each system are available.



Source: John Herman & Robert Linn, *On the Road to Assessing Deeper Learning: The Status of Smarter Balanced and PARCC Assessment Consortia (CRESST Report 823)* (2013), http://www.cse.ucla.edu/products/reports/R823.pdf

# How Do Assessment Items Compare: Current State Tests, ACT Aspire, PARCC, SBAC?

educationfirst
experience | quality | results

# Section Overview

### Test Item Comparisons

Sample assessment tasks from current state tests, ACT Aspire, PARCC and SBAC show the differences in rigor and content on Common Core-aligned assessments from most current state tests.

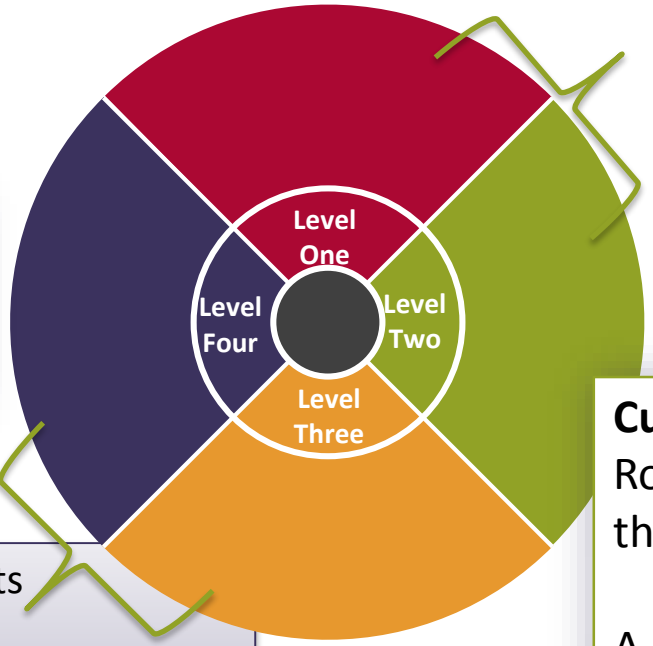
### ELA and Math Examples

Examples focus on middle school mathematics and high school English Language Arts.

### Assessing Rigor

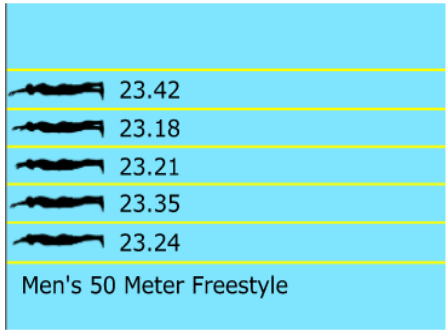
The depth-of-knowledge levels can be used to assess the rigor of each test item. We've provided an example on the next slide.

# Using Depth-of-Knowledge Levels to Compare Test Items




Use a concept
Repeat
Calculate
Compare

**Smarter Balanced Test Item:**
Five swimmers compete in the 50-meter race. The finish time for each swimmer is shown in the video.




Apply concepts
Revise
Develop a logical argument
Compare

**Current state test item:**
Round the number 873 to the nearest hundred.

A. 800
B. 870
C. 900
D. 860

Explain how the results of the race would change if the race used a clock that rounded to the nearest tenth.



Source: Smarter Balanced Assessment Consortium, "Sample Items," (2013), http://sampleitems.smarterbalanced.org/itempreview/sbac/index.htm; Indiana Department of Education, "ISTEP+ Mathematics Item Sampler," (2011) http://www.doe.in.gov/sites/default/files/assessment/math-grades6-8-item-sampler.pdf

# Middle School Math Assessment Task – Current State Test

A sixth grade class is going on a field trip to see a play.

For the 27 students to go on the field trip, the van rentals will cost $545, gas will cost $130, and admission to the play will cost $945.

Each student has been paying $4 every week to pay for the trip. The class has already collected $864 for the trip.

How many MORE weeks does each student have to pay $4 per week to have enough money to pay for the entire trip?

Show All Work



Source: Indiana Department of Education, "ISTEP+ Mathematics Item Sampler," (2011) http://www.doe.in.gov/sites/default/files/assessment/math-grades6-8-item-sampler.pdf

# Middle School Math Assessment Task – ACT Aspire

The principal of a school must buy 19 desks for a new classroom. Each desk costs $61. A student calculates the total cost of the desks using the thought process below:

> 20 desks at $60 each would cost $1,200.
>
> So 19 desks at $60 each would cost $1,200 – $60.
>
> Because the price of 1 desk is $61 and NOT $60, I must add $1.
>
> So the total cost is $1,200 – $60 + $1.

- Identify any mistakes in the student's thought process.

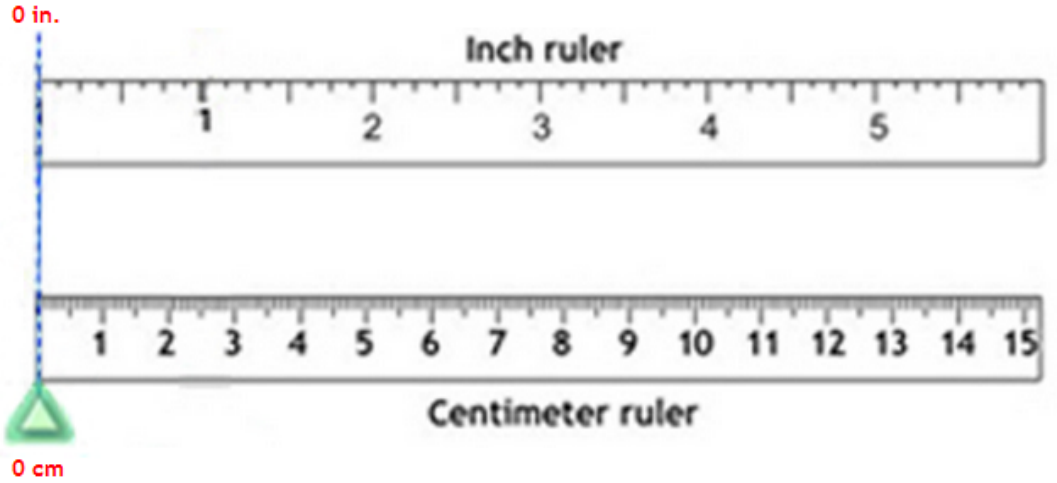
- Write an expression that represents the total cost of the 19 desks, and explain why it is correct.



Source: ACT, Inc., "ACT Aspire Exemplar Test Items - Mathematics," (2013)
http://www.discoveractaspire.org/media/95X55KS5Z433/docs/en_US/31fdc139f828b6114b88e7e7d8172cc60acdf9f2/3QQ3Z646CDG7/ACT_Aspire_Math_exemplar.pdf

# Middle School Math Assessment Task - PARCC

**Drag the slider to explore the relationship between the number of inches and the number of centimeters.**




Select all of the statements that accurately represent the relationship between the number of inches and the number of centimeters.

- ☐ The ratio of centimeters to inches is 1 to 2.54.
- ☐ The ratio of centimeters to inches is 2.54 to 1.
- ☐ $i = 2.54c$, where $i$ represents the number of inches and $c$ represents the number of centimeters
- ☐ $c = 2.54i$, where $i$ represents the number of inches and $c$ represents the number of centimeters
- ☐ For every centimeter, there are 2.54 inches.
- ☐ For every inch, there are 2.54 centimeters.

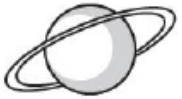


Source: PARCC Assessment Consortia, "Sample Items," (2013) http://www.parcconline.org/samples/mathematics/grade-6-slider-ruler

# Middle School Math Assessment Task - SBAC

Here are some facts about the field trips.

- The teacher and parent helpers do not pay an entrance fee.
- There are 30 students in the class.
- Only 1 bus is needed.
- The bus charge is for the entire busload of students (not for each student).
- Each student will pay the same amount.
- The school fund will pay the first $200 of the trip.

| |  Aquarium |  Science Museum |  Zoo |
|---|---|---|---|
| **Distance from School (one way)** | 30 miles | 10 miles | 34 miles |
| **Bus Charge** | $6 per mile | $6 per mile | $6 per mile |
| **Entrance fee** | $6 per person | $10 per person | $2.50 per person |

How much will each student pay to go on each trip? Show your work or explain how you found your answer.



Source: Smarter Balanced Assessment Consortium, "Grade 6 Performance Task," (2013) http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/09/performance-tasks/fieldtrip.pdf

# High School ELA/Writing Task – Current State Test

Americans, including teenagers, have become increasingly busy. Many high school students have difficulty managing their time. Consider how high school students can balance busy schedules with healthy lifestyles.

**Write a persuasive essay about how you would encourage incoming freshmen to manage their time and maintain a healthy lifestyle. Support your proposal with convincing, concrete solutions to this problem.**

Your writing will be scored on the following aspects:

- Ideas and content: Does your writing accomplish the assigned task?
- Organization: Does your writing contain an introduction, a body, and a conclusion?
- Style: Do the language and vocabulary in your writing help to convey a clear message and to create interest?
- Voice: Are the tone and language appropriate for your intended audience?
- Language Conventions: Have you used correct sentence structure, grammar, and punctuation?



Source: Indiana Department of Education, "ISTEP+ English 10 Released Items," (2013) http://www.doe.in.gov/sites/default/files/assessment/s13-eca-eng-10-scoring-notes.pdf

# High School ELA/Writing Task – ACT Aspire

It is wise to weigh our options carefully before making decisions, but waiting too long to decide can lead to missed opportunities.

Write an essay in which you explain both the value and the challenge of carefully considering our options before deciding. Be sure to support your analysis with reasons and examples.



Source: ACT, Inc., "ACT Aspire Exemplar Test Items - Writing," (2013)
http://www.discoveractaspire.org/media/95X55KS5Z433/docs/en_US/08ccac27e75845672b8c9c847c9ea7355861a2cf/39DYM501325I/ACT_Aspire_Writing_Exemplar.pdf

# High School ELA/Writing Task - PARCC

Use what you have learned from reading “Daedalus and Icarus" by Ovid and “To a Friend Whose Work Has Come to Triumph“ by Anne Sexton to write an essay that provides an analysis of how Sexton transforms Daedalus and Icarus.

- As a starting point, you may want to consider what is emphasized, absent, or different in the two texts, but feel free to develop your own focus for analysis.

- Develop your essay by providing textual evidence from both texts. Be sure to follow the conventions of standard English.



Source: PARCC Assessment Consortia, “Sample Items,” (2013)
http://www.parcconline.org/samples/english-language-artsliteracy/grade-10-prose-constructed-response%E2%80%94sample-1-literary-analysis

# High School ELA/Writing Task - SBAC

You are chief-of-staff for your local congresswoman in the U.S. House of Representatives. She has called you into her office to outline an urgent project.

"I have received advance notice," she says as you sit down, "that a power company is proposing to build a nuclear plant in the southeastern corner of our state. The plan will be announced to the public tomorrow morning, and citizens and journalists will want to know what my position is on this controversial issue. To be honest, I am not sure how I feel about it. We currently don't have any nuclear power plants in this state, so I haven't taken time to consider the issue deeply."

"I need you," she continues, "to conduct a brief survey of the pros and cons of nuclear power. Summarize what you have learned and report back to me this afternoon."

Back in your office, you enter "nuclear power pros and cons" into a Google search engine, and it returns what looks like a promising mix of articles, videos, and data charts. You must review and evaluate these sources and summarize their arguments—both pro and con—before reporting back to the congresswoman.

You have been provided with and are encouraged to use a note-taking guide that will help you gather and process your findings.

**Write an argumentative report that recommends the position that your congresswoman should take on the plan to build a nuclear power plant in your state**. Support your claim with evidence from the Internet sources you have read and viewed. You do not need to use all the sources, only the ones that most effectively and credibly support your position and your consideration of the opposing point of view.



Source: Smarter Balanced Assessment Consortium, "Grade 11 Performance Task," (2013) http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/09/performance-tasks/nuclear.pdf

# What Assessments are Used for College Readiness, Admissions and Placement?

educationfirst
experience | quality | results

# Section Overview

### Use of Current Tests

States and higher education institutions currently use a variety of tests to assess college readiness and to drive the admissions and course placement processes.

### Non-aligned Tests

Some tests currently used to assess college readiness and/or to admit or place students are not aligned to K-12 standards (past state standards or Common Core).

### Test Alignment to Standards

PARCC and SBAC tests are explicitly aligned to the Common Core standards, which were created to help prepare students for success in college and careers. ACT Aspire will reportedly be aligned to the Common Core and linked to ACT College Readiness Benchmarks.

### College and Career Readiness

PARCC and SBAC have worked with faculty from state colleges and universities to develop common college- and career-readiness definitions that reflect what students should know in order to succeed in entry-level credit-bearing courses.

# Uses of Current State and National Tests

States and higher education institutions currently administer a wide range of tests to students as they exit high school and enter college for a variety of purposes. In many cases the uses of the tests vary from state to state and even institution to institution, making it difficult to discern a clear link between K-12 academic standards and college expectations.

**High school exit exams**, currently required by 26 states, assess the minimum skills necessary to earn a high school diploma based on mastery of state K-12 standards. They do not typically predict college readiness.

Tests used to measure **college readiness** are designed to reflect the K-12 standards and provide a predictive score indicating that students are prepared for the reading, writing and math skills required to succeed in credit-bearing, entry-level college courses.

Example: CA's Early Assessment Program (11th grade)

High schools and colleges/universities value **college-admissions** tests as one credential in admissions process—though only a small number of public colleges use them as a major factor. They assess students' knowledge, skills and/or aptitude, but are not aligned to K-12 standards.

Examples: The ACT, The SAT

Tests used for **college placement** typically are administered shortly before or once students arrive to enroll in college. They assess a broad range of basic skills to place students in credit-bearing or remedial courses, and are not aligned to K-12 standards.

Examples: ACT's Compass, College Board's ACCUPLACER



Source: The National Center for Public Policy and Higher Education, *Beyond the Rhetoric: Improving College Readiness Through Coherent State Policy* (2010), http://www.highereducation.org/reports/college_readiness/CollegeReadiness.pdf; Achieve, *Closing the Expectations Gap* (2013), http://www.achieve.org/files/Achieve2013ClosingtheExpectationsGapReport.pdf

# College Admissions Tests

- Most colleges and universities in every state across the nation use the ACT and/or SAT tests as part of their admissions process. The vast majority of state colleges and universities, however, are "non-selective," meaning they admit most of their applicants, and do not require minimum scores for admission that represent college readiness.

- Although the ACT test predicts a student's likelihood of earning credit in entry-level courses, the ACT is not aligned to states' K-12 academic standards.

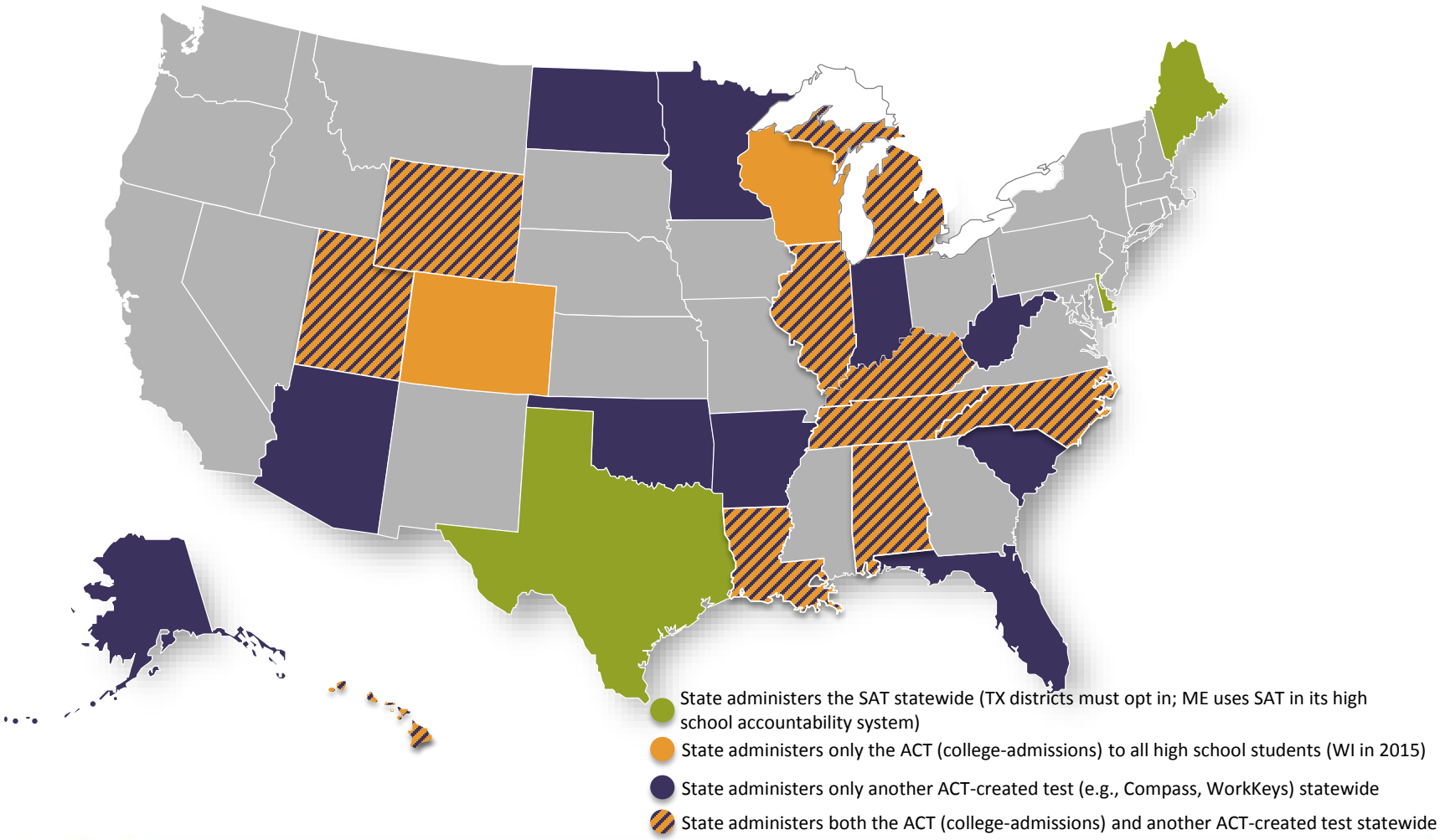
- The SAT is not currently aligned to states' K-12 academic standards, nor is it designed to specifically predict college entry-level course success. It does provide predictors of overall college success, retention and completion.

- A number of states offer and pay for all high school students to take the ACT or SAT test.



Source: ACT, Inc., "Your Guide to the ACT," (2010) http://www.act.org/aap/pdf/YourGuidetoACT.pdf; College Board, "SAT: About the Tests" (2013), http://sat.collegeboard.org/about-tests

# Statewide ACT and SAT Testing






Source: ACT, Inc., "ACT and Statewide Testing," (2013) http://www.act.org/stateservices/; Achieve, *Closing the Expectations Gap* (2013), http://www.achieve.org/files/Achieve2013ClosingtheExpectationsGapReport.pdf

# College Placement Tests

- More than two-thirds of states do not have a commonly agreed-upon score on an admissions or placement test (e.g., ACT, SAT, ACT's Compass, College Board's ACCUPLACER, state- or institution-developed assessments) for entry-level, credit-bearing mathematics and English courses in their public two- and four-year colleges and universities.
  - →In other words, different institutions within the same state may use different tests and draw different conclusions from the test results

- Several researchers have suggested that a common cut score could smooth disconnects between K-12 and higher education systems and better help students navigate both systems successfully.

- The next slide further demonstrates the relatively weak link between the knowledge and skills required for college success and what current admissions and placement tests measure.



Source: Achieve, Inc., "Closing the Expectations Gap," (2012) http://www.achieve.org/files/Achieve201250StateReport.pdf; ACT, Inc., "ACT and Statewide Testing," (2013) http://www.act.org/stateservices

# What's Measured on Current College Admissions and Placement Tests?

In 2007, Achieve analyzed questions from college admissions (e.g., ACT and SAT) and placement (e.g., ACT's Compass and College Board's ACCUPLACER) tests.

## Reading

- Reading passages on admissions tests are complex and reflect the demands of college and work, but placement tests include less challenging passages that are more in line with the level of reading done in middle school and early high school.
- Placement tests emphasize informational text — the types of reading students tend to do in college and on the job. Admissions tests are more balanced between informational and literary texts.

## Writing

- Admissions and placement tests require students to take a position or develop a point of view—important skills valued by college professors.
- Most scoring rubrics and anchor papers reflect the college-ready writing expectations of institutions of higher education.

## Mathematics

- The admissions and placement tests put their heaviest emphasis on algebra—content that is important to colleges and high-skilled workplaces. However, the algebra content assessed tends to favor pre-algebra and basic algebra.
- Too few questions on admissions and placement tests tap higher-level cognitive skills critical to success in college.



Source: Achieve, Inc., *Aligned Expectations? A Closer Look at College Admissions and Placement Tests* (2007), http://www.achieve.org/files/Admissions_and_Placement_FINAL2.pdf

# Uses of New Consortia Tests

The work by the PARCC and SBAC consortia is intended to create a common understanding of **both college placement and readiness** criteria, as well as provide a direct link between K-12 and college expectations.

Performance on the high school summative PARCC and SBAC assessments will signal whether or not students have the content knowledge and skills to succeed in credit-bearing first-year college courses without remediation.

The PARCC and SBAC summative assessments are explicitly and transparently aligned to the Common Core standards, which were developed based on state educators' expertise, college readiness information, including the ACT College Readiness Benchmarks and employers' real-world job needs, to prepare students for success in college and careers.

The PARCC and SBAC assessment systems will measure each year whether students are on track to graduate ready for success in college and careers. States, districts and schools will be able to provide supports and interventions to students to address any readiness gaps before students enter their first year of college or a career.



Source: Smarter Balanced Assessment Consortium, "Achievement Level Descriptors and College Content-Readiness," (2012) http://www.smarterbalanced.org/achievement-level-descriptors-and-college-readiness/; PARCC, "College- and Career-Ready Policies," (2013) http://www.parcconline.org/ccr

# Higher Education Involvement in PARCC and SBAC

- In PARCC member states, 640 individual institutions of higher education (IHE) have committed to participate in the development of the assessments and to use the tests as college placement tools.
  - →Designated higher education leads in each state review the Common Core and aligned test items to identify what college readiness looks like at their institutions, score field test items, develop scoring rubrics and participate in the process to set the college- and career-ready achievement levels

- In SBAC member states, 175 individual IHEs and IHE systems have committed to participate in the development of the assessments and to use the tests as college placement tools.
  - →Each SBAC member state has appointed a higher education lead to provide input into the assessment development and coordinate outreach to institutions in the state.



Source: Smarter Balanced Assessment Consortium, "Higher Education," (2012) http://www.smarterbalanced.org/higher-education/; Smarter Balanced Assessment Consortium, "Race to the Top Application," (2010) http://www.smarterbalanced.org/wordpress/wp-content/uploads/2011/12/Smarter-Balanced-RttT-Application.pdf; PARCC, "Postsecondary and PARCC," (2013) http://www.parcconline.org/postsecondary

# PARCC and SBAC
# Definitions of College- and Career-Readiness

States created both the PARCC and Smarter Balanced assessments to measure the Common Core standards and establish a common definition of college readiness.

| | PARCC | Smarter Balanced |
|---|---|---|
| ELA/Literacy | Students who earn a College- and Career-Ready Determination in ELA/literacy will have demonstrated the academic knowledge, skills and practices necessary to enter directly into and succeed in entry-level, credit-bearing courses in College English Composition, Literature, and technical courses requiring college-level reading and writing. | Students who perform at the College Content-Ready level in English language arts/literacy demonstrate reading, writing, listening, and research skills necessary for introductory courses in a variety of disciplines. They also demonstrate subject-area knowledge and skills associated with readiness for entry-level, transferable, credit-bearing English and composition courses. |
| Math | Students who earn a College- and Career-Ready Determination in mathematics will have demonstrated the academic knowledge, skills and practices necessary to enter directly into and succeed in entry-level, credit-bearing courses in College Algebra, Introductory College Statistics, and technical courses requiring an equivalent level of mathematics. | Students who perform at the College Content-Ready level in mathematics demonstrate foundational mathematical knowledge and quantitative reasoning skills necessary for introductory courses in a variety of disciplines. They also demonstrate subject-area knowledge and skills associated with readiness for entry-level, transferable, credit-bearing mathematics and statistics courses. |



Source: Smarter Balanced Assessment Consortium, "Achievement Level Descriptors and College Content-Readiness," (2012) http://www.smarterbalanced.org/achievement-level-descriptors-and-college-readiness/; PARCC, "College- and Career-Ready Policies," (2013) http://www.parcconline.org/ccr

# PARCC and SBAC
## Definitions of College- and Career-Readiness, *continued*

**Comparison of PARCC and Smarter Balanced College-Readiness Definitions**

- Definitions are very comparable, with a few small differences:
  - Smarter Balanced notes that students at the college-ready level demonstrate the skills needed for introductory courses in multiple disciplines, not only ELA or math
  - PARCC specifies college course titles
  - Smarter Balanced specifies that college courses are transferable

**Comparison of PARCC and Smarter Balanced Career-Readiness Definitions**

- Definitions have larger discrepancies:
  - PARCC does not distinguish between college-readiness and career-readiness
  - Smarter Balanced has not yet developed a specific career-ready policy

Both PARCC and SBAC engaged in iterative processes with their member states and the general public (via public comment opportunities) to draft, get feedback on and approve their college- and career-readiness definitions.


Source: Education First analysis

# How Student Performance Signals College Readiness

Both PARCC and Smarter Balanced worked with thousands of educators from K-12 and higher education in their respective member states to define and adopt performance levels for reporting student assessment results.

Once each consortium has analyzed results from field tests and live test administrations, their member states will set appropriate cut scores for each level to ensure that students, educators and institutions of higher education can use the summative assessments as evidence that students are ready for entry-level, credit-bearing college courses without needing remediation.

Institutions of higher education are working with the consortia to ensure that they can accept the performance levels as valid indicators of students' mastery of the knowledge and skills required to succeed in entry-level credit-bearing English and mathematics college courses.



Source: PARCC, "PARCC Grade- and Subject-Specific PLDs," (2013), http://www.parcconline.org/plds; Smarter Balanced Assessment Consortium, "Achievement Level Descriptors and College Content-Readiness," (2013), http://www.smarterbalanced.org/achievement-level-descriptors-and-college-readiness/

# Comparison of PARCC and Smarter Balanced Performance Levels for College Readiness

| Exempt From Placement Testing/Developmental Coursework | |
|---|---|
| PARCC: Levels 5 and 4 | SBAC: Level 4 |

| May Need Support to Be College Ready: Institution/State Discretion | |
|---|---|
| PARCC: Level 3 | SBAC: Level 3 |

| Not Exempt: Needs Academic Support to be College Ready | |
|---|---|
| PARCC: Level 2 | SBAC: Level 2 |

| Not Exempt: Needs Extensive Academic Support to be College Ready | |
|---|---|
| PARCC: Level 1 | SBAC: Level 1 |



Source: Jacqueline King, "Comparison of PARCC and Smarter Balanced Performance Levels for College Readiness," Unpublished (2013), via email.

# What Factors Should be Considered When Evaluating Assessments?

education**first**

experience | quality | results

# Summing It Up: Factors to Consider When Evaluating Assessments

Policymakers and educators have many variables to consider. We suggest focusing on:

| Factor | Evidence |
|---|---|
| **Quality and Alignment to Standards** | measurement of the Common Core instructional shifts, proportion of questions that are constructed response or performance tasks, and focus on higher-level thinking skills |
| **College Readiness Measurement** | whether the K-12 standards assessed align with the entrance standards of colleges/universities and careers, and clear data on how performance on the assessment predicts actual success in college and careers |
| **State and Educator Input** | extent of K-12 and college/university educator involvement in test creation, and ability of states and local districts to have influence on use of assessments |
| **Timely and Useful Reporting** | availability of student score reports early enough to improve instruction and inform policy, and assessment data reported in ways that educators can use to intervene with students before they finish high school |
| **Comparability** | ability for results to be easily compared across states and even internationally |
| **Vertical Alignment** | a measurable link between scores at each grade, which is useful for assessing student growth and tracking progress towards college- and career-readiness |
| **Transparency** | ability to see and understand how the assessment was developed at each stage, plus publicly available assessment blueprints, a full range of sample items and field tests |
| **Value for the Money** | clear data on current and potential state and local costs, including procurement, administration and reporting, plus the added value of features like formative assessment tools and performance tasks |

## For More Information:

www.education-first.com

www.parcconline.org

www.smarterbalanced.org

www.discoveractaspire.org/pages/home

www.achievethecore.org