Designing a Comprehensive Assessment System

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States and districts face unprecedented challenges today in navigating an assessment landscape that is characterized by controversy, competing priorities, and increased demands for innovation as well as accountability (Hill & Barber, 2014). Assessments are expected to be fair and technically sound measures of rigorous college- and career-readiness standards that call for students to demonstrate complex, analytical thinking skills and deep content knowledge. As a result, stakeholders are demanding new delivery platforms and item types for these assessments. New technologies have spurred innovations in next-generation assessments that have the potential to maximize accessibility for all students, promote test security, and accommodate the incorporation of performance-based activities on a large scale (Laitusis, 2016).

As part of the current assessment environment, many have questioned the emphasis placed on summative assessments in federal and state accountability systems. Local districts and schools have also developed or selected their own assessments in addition to those required by the state. With this abundance of assessments, educators are faced with balancing the need to collect information for accountability purposes and the need for student performance data that are more closely linked to classroom instruction. Many educators, parents, and students have raised concerns that over-testing takes valuable time away from teaching and learning. As a consequence, “opt-out” movements have gained momentum in some communities. Meanwhile, policymakers at the state and federal levels are likely unaware of local assessment practices that may add to the assessment burden. These concerns are amplified when tests are used for purposes other than those for which they were designed or when one assessment is used for multiple purposes (Newton, 2007).

As these various pushes and pulls on state and local assessment systems have
increased, it is little wonder that frustration has emerged among policymakers, K-12 educators, parents, faculty in institutions of higher education, and workforce leaders. However, the need for equitable measures that inform and support student learning remains paramount. Therefore, it is time to revisit and reevaluate current assessment practices in light of these critical needs and competing priorities.

Assessments, as tools, are used to collect or elicit evidence, and through the assessment process, practitioners and policymakers reason from that evidence to make informed decisions. What is needed is an assessment system that provides decision-makers at all levels with sound information on which they can base their decisions in support of student learning. In a comprehensive system, there is a place for different types of assessment tools and processes, used for different purposes at different levels of the system: national, state, district, school, and classroom. But designing this kind of system is more difficult than it might appear.

The purpose of this paper is to conceptualize what a comprehensive system that is balanced and aligned might comprise, as well as identify what actions states, districts, and schools can take to create a comprehensive assessment system. Section I describes the federal response to recent testing concerns. Section II describes the purposes and characteristics of a comprehensive assessment system. Section III outlines concrete steps that policymakers and stakeholders might consider in developing a comprehensive assessment system. The final section provides examples from three state education agencies (SEAs) engaged in creating a comprehensive assessment system.

SECTION I
The Federal Response

The Testing Action Plan
In October 2015, the U.S. Department of Education (ED) released the Testing Action Plan (TAP) fact sheet, a document to guide the development, selection, and use of “fewer and smarter assessments.” Included in the TAP is a set of seven principles to ensure a thoughtful approach to testing by SEAs and local education agencies (LEAs). These seven principles, excerpted below, are intended to provide SEAs and LEAs with a clear statement of purpose and strategies for ensuring that all assessments administered in their jurisdictions are rigorous, fair, and yield unique (i.e., non-redundant) information about what students know and can do in relation to academic content standards. In short, assessments must be:

1. Worth taking
2. High quality
3. Time-limited
4. Fair — and supportive of fairness — in equity in educational opportunity
5. Fully transparent to students and parents
6. Just one of multiple measures
7. Tied to improved learning

The TAP reaffirms the importance of assessment and it clearly articulates state and district responsibilities in selecting or developing assessment tools:
One essential part of educating students successfully is assessing their progress in learning to high standards. Done well and thoughtfully, assessments are tools for learning and promoting equity. They provide necessary information for educators, families, the public, and students themselves to measure progress and improve outcomes for all learners. Done poorly, in excess, or without clear purpose, they take valuable time away from teaching and learning, draining creative approaches from our classrooms. In the vital effort to ensure that all students in America are achieving at high levels, it is essential to ensure that tests are fair, of high quality, take up the minimum necessary time, and reflect the expectation that students will be prepared for success in college and careers. (2015, Fact Sheet, para. 1)

The TAP also outlines the actions the federal government planned to take to minimize testing redundancies. In addition, in early 2016, the department began releasing case studies that highlight exemplary practices from states and districts across the country as they started to review and revise their assessment systems (https://www2.ed.gov/documents/press-releases/testing-action-plan-profiles.pdf).

Every Student Succeeds Act

In December 2015, new federal policies related to assessment and accountability were enacted through the reauthorization of the Elementary and Secondary Education Act, termed the Every Student Succeeds Act (ESSA). ESSA shifted much of the authority and responsibility for assessment and accountability systems to SEAs and LEAs, thereby allowing for increased flexibility in design of these systems. Both the TAP and ESSA set the stage for states and districts to examine their current assessments and make needed changes.

SECTION II

A Comprehensive Assessment System

Shifting more authority and flexibility to SEAs and LEAs will not necessarily ensure the effective selection and use of assessments. Much work must be done at the state and local levels to achieve these outcomes. That work begins with developing a shared understanding of the characteristics or elements of a comprehensive system.

A 2001 report from the National Research Council, *Knowing What Students Know: The Science and Design of Educational Assessment*, defines a comprehensive system as comprising a range of measurement approaches used to provide a variety of evidence to support education decision-making. In such a system, multiple measures enhance the validity of inferences drawn from assessment. These multiple measures may include four broad categories of assessment: formative, diagnostic, interim/benchmark, and summative (Center on Standards and Assessment Implementation, 2016). The information each type of assessment provides is summarized on page 4.
### Type of Assessment

<table>
<thead>
<tr>
<th>Description of Assessment</th>
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<tbody>
<tr>
<td><strong>Formative Assessment</strong></td>
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<tr>
<td>Formative assessment is a 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 (Council of Chief State School Officers, 2008). The information collected is finely grained, providing a level of detail about the current status of student learning in relation to lesson goals. Its purpose is to inform real-time teaching and learning.</td>
</tr>
<tr>
<td><strong>Diagnostic Assessments</strong></td>
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<td>While many assessments may be considered diagnostic, traditionally and formally, diagnostic tests are generally used when students are demonstrating difficulties in learning, and results may assist in diagnosing strengths and needs. Because of the diagnostic nature of these assessments, they are often administered by specially trained education personnel.</td>
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<tr>
<td><strong>Interim/Benchmark Assessments</strong></td>
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<td>Interim or benchmark assessments are generally administered by teachers at key points in time for one or both of two purposes: 1) to evaluate what students have learned in relation to mid-term goals; 2) to predict students’ performance on particular standards assessed by the state’s end-of-year summative assessment. Interim assessments may be administered under standardized or non-standardized conditions depending on purpose. Results may provide teachers with an early warning signal about those students who are falling behind in their learning and may benefit from targeted assistance to help them learn content prior to end-of-year testing. For leaders, results indicate whether students are on track in meeting learning goals and can inform decisions about curricular adjustments and professional learning needs, for example.</td>
</tr>
<tr>
<td><strong>Summative Assessments</strong></td>
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<td>Summative assessments provide information about students’ achievement of academic content standards following a longer period of instruction, such as a full semester or school year. Examples of summative assessment include final course exams developed by a teacher and an end-of-year or end-of-course assessment developed by a state or a multi-state consortium. State-developed summative assessments are administered in a standardized manner so that each student across the state can demonstrate his or her achievement under the same testing conditions. Results from summative measures can be used for grading and reporting purposes, policy and program decisions, and decisions about resource allocation and professional learning priorities.</td>
</tr>
</tbody>
</table>
An Assessment Continuum

Figure 1, below, displays how these broad assessment categories can provide information along an assessment continuum. The grain size — the size and scope of the learning goals assessed — becomes larger along the continuum. Assessments along the continuum may provide information at the instructional, program, or institutional (policy) level (Stiggins, 2008). Formative assessment provides real-time information at a fine grain size that the teacher and student can act upon immediately or in the near term. Interim assessments measure a larger number of standards or portion of learning, while still providing opportunity for instructional adjustments before moving on. Summative assessments indicate what students have achieved by the end of the term or year across the scope of the standards, providing information at a coarser level. Diagnostic assessments may be needed at different points along the continuum depending on students’ demonstrated needs.

Source: Adapted from *English Language Arts/English Language Development Framework for California Public Schools: Kindergarten Through Grade Twelve*, Chapter 8. Copyright 2014 by the California Department of Education. Adapted with permission.
Additional Assessment Aspects to Consider

This section identifies three aspects of assessment to consider when developing a comprehensive system:

» assessment purpose;
» balance; and
» alignment.

Assessment Purpose

Assessments are developed and designed to serve a particular purpose. A comprehensive assessment system includes different types of assessment, aligned to standards, to provide the information educators at different levels of the system and other stakeholders (e.g., parents, students, and policymakers) need to fulfill their responsibilities. For example, SEAs use assessment information to determine state priorities and policies, for accountability purposes, and to make decisions about needed supports to LEAs. LEAs use assessment data for decision-making about the effectiveness of certain policies, programs, or practices. Teachers use assessment data to make choices about instructional methods or approaches to teaching students with different academic strengths and needs. Finally, parents obtain information about their child’s achievement status relative to academic standards; and students may use information from assessments to monitor their own progress and improvement.

It is important to note that along the assessment continuum, each assessment can contribute unique types of information to the collective understanding of what students know and can do, such that no one assessment will be expected to yield evidence it was not designed to collect.

Balance

Balancing varied assessments requires what Chattergoon and Marion (2016) refer to as assessment efficiency, meaning “getting the most out of assessment resources and eliminating redundant, unused, and untimely assessments... enabling each assessment to do what it is designed to do” (p. 8).

In some contemporary assessment systems, state summative assessments — and needs for accountability — are weighted so heavily that it has resulted in an imbalance with the other measures in the system. On the one hand, the underemphasis on instructionally sensitive measures and formative practices can vitiate efforts to promote a seamless instruction, curriculum, and assessment cycle. On the other hand, calling for the cessation of all summative assessment administrations and advocating for the sole use of formative practices could lead to an imbalance, leaving those stakeholder groups who need summative assessment data for decision-making at a disadvantage. Overemphasizing one test purpose or emphasizing the needs of one stakeholder group compared to another, can lead to system dysfunction as well as ineffective use of scarce resources. This perspective has been articulated by the National Association of State Boards of Education (NASBE):

*Recognizing that no single test serves all purposes, states need to create a comprehensive, balanced assessment system that includes both assessment*
of learning (reporting on what’s been learned) as well as assessments for learning (providing ongoing feedback to teachers and students as learning progresses). (2009, p. 46)

Figure 2. Finding the Right Balance

Achieving and maintaining balance in an assessment system requires reconsideration of the purposes, uses, and targeted audience for all current or proposed measures. Finding the right balance in an assessment system also requires consensus-building among key stakeholder groups about the information that is needed and identification of those assessments that can best be utilized to collect such information.

Given the limited resources available in most education communities, making decisions about the “just right” set of assessments requires the identification of trade-offs, such as cost versus benefit and value versus burden, for each assessment considered for inclusion in the collection of assessments (see figure 2). As leaders make decisions about their comprehensive systems, achieving this balance will include examination of the primary assessment purpose, the ease of administration, the time involved in the administration, and the type and format of the information needed. As assessment decisions are made, each will require choices about cost, time, and value. Recognizing and articulating the trade-offs will facilitate transparency of the system. Thoughtful consideration of the balance of value versus burden, and of benefit versus cost, can serve as a guardrail to prevent practitioners and policymakers from relying too heavily on any one assessment. In addition, considering balance in this fashion can highlight the many levels and types of information available for varied decision-making processes.

Alignment

And finally, assessments along the continuum should be aligned — aligned with each other so that measures along the continuum assess learning at different grain sizes, from formative to interim/benchmark to summative. Also necessary in a comprehensive system is alignment at different levels of the system: classroom, school, district, and state, so that what is taught and measured leads to college- and career-ready citizens.

Figure 3 reminds us of the continuous feedback loop between curriculum, instruction, and assessment. When a comprehensive assessment system is deliberately developed, the feedback loop of instruction, curriculum, and assessment is strengthened and the learning process is enhanced:
Curriculum, instruction, and assessment must work together as a continuous cycle of the learning process. Assessment viewed in isolation will not improve student achievement. (Wisconsin, 2009, p. 8)

Figure 3. The Curriculum, Instruction, and Assessment Cycle

SECTION III
Recommendations for Creating a Comprehensive System

The reauthorization of the ESEA provides a critical and much-needed opportunity for states and districts to reevaluate the tests and measures currently in use and, in doing so, to reconsider the information needs of all stakeholders.

As states and districts undertake this effort, they may want to consider the following recommendations:

» Develop a framework for a comprehensive system.
  • Frameworks that include information regarding different types of assessments, definitions, purpose, format, frequency, and use can serve as a guide for states and districts in building common understanding and in examining and redesigning current systems. See the Center on Standards and Assessment Implementation’s (CSAI) Overview of Major Assessment Types for an example.
  • A framework can guide both SEAs and LEAs in building coherence across the system. See CCSSO’s resource, Comprehensive Statewide Assessment Systems: A Framework for the Role of the State Education Agency in Improving Quality and Reducing Burden, which presents different approaches and key action steps a state can take to advance an efficient and effective system.

» Establish a set of principles to guide the redesign.
  • Engage stakeholders in a process for reaching consensus on a set of principles that can guide decision-making. The guiding principles in the Testing Action Plan and in the Commitments on High-Quality Assessments, jointly published by CCSSO and the Council of the Great...
City Schools (CGCS), can provide a place to start.

» Identify and weigh the information needs of a wide range of stakeholders.
  • Students, teachers, administrators, parents, the community, advocacy groups, and policymakers need to be considered and consulted during this process.
  • CSAI provides a number of communication resources that could support this work. These resources are available at [http://www.csai-online.org/search?type=All&type=All&search_api_views_fulltext=communication](http://www.csai-online.org/search?type=All&type=All&search_api_views_fulltext=communication)

» Keep policymakers and stakeholders informed about the process and system.
  • Communicate the features of a proposed comprehensive assessment system.
  • Communicate how the measures in the proposed system would work together to serve multiple purposes and audiences.
  • Communicate how information from these assessments can and/or will be used to improve teaching and learning.

» Conduct an inventory of all measures in the current assessment system.
  • Include state, district, school, and classroom assessments to the degree possible.
  • Clarify the intended purpose(s) for each assessment.
  • Evaluate the usefulness of the data collected from each assessment.
  • Determine if purpose(s) and use(s) are meeting the needs of the target population of stakeholders.
  • Weigh trade-offs such as burden and cost with benefit and value.
  • Determine if the assessments work together in a coherent way to move the state or district forward in addressing valued student learning outcomes. What is missing and/or should be added?
  • Is the same type of information being collected from multiple sources?
  • Are one or more of these sources of information redundant or unnecessary?
  • The Student Assessment Inventory for School Districts from Achieve allows districts and schools to inventory their assessments and assessment strategies from a student’s perspective. The tool can be found at [http://www.achieve.org/files/AchieveStudentAssessmentInventory.pdf](http://www.achieve.org/files/AchieveStudentAssessmentInventory.pdf)
  • The CSAI-developed inventory tool uses the TAP’s seven principles to guide the inventory process. The tool may be used by states and districts. The tool can be found at [http://www.csai-online.org/sites/default/files/Assessment%20Inventory%20Resource%20and%20TAP%20Handout.pdf](http://www.csai-online.org/sites/default/files/Assessment%20Inventory%20Resource%20and%20TAP%20Handout.pdf)

» Take advantage of local flexibility to consider that a balanced assessment system can be both state and locally driven.
• ESSA allows a great deal of flexibility in designing a state-level assessment system. A summary of the final assessment regulations can be found at https://www2.ed.gov/policy/elsec/leg/essa/essaassessmentfactsheet1207.pdf

• Explore the use of innovative assessments as part of a comprehensive system.

• Determine how these assessments may impact practices and policies for stakeholders.

• Examine both intended and unintended consequences of these assessments.

SECTION IV
Examples of State Approaches

This concluding section provides examples of states that have begun the process of establishing a comprehensive assessment system.

Nevada Assessment Inventory

The Nevada Department of Education (NDE) sought a process for systematically analyzing and evaluating its state and district assessment systems. It was interested in obtaining feedback on the efficacy of state assessments, cataloging district assessments, exploring how state and district assessments align, and estimating the overall cost versus benefit of each system component. In 2016, with the assistance of WestEd’s Center on Standards and Assessment Implementation and the West Comprehensive Center, the NDE conducted an inventory of state and district assessments used, and administered a series of surveys and focus groups in three regions of the state. A report of findings from these activities highlighted current assessment practices and perceptions of these practices from a range of state stakeholders.

NDE leaders have reported that this effort was invaluable as the state considers changes to its system of assessments. The NDE has shared report findings with district administrators and state policymakers to support informed decision-making about a comprehensive system and to plan future actions. In addition, the Nevada State Board of Education used the results to inform a policy decision on K-2 assessments, and NDE has used the analysis in its ESSA planning. “It couldn't have happened at a better point in time; it has proven to be an invaluable resource for stakeholders at all levels” (Peter Zutz, NDE Director of Assessment, personal communication, August 19, 2016).
Colorado Assessment Literacy Initiative

After WestEd assisted the Colorado Department of Education in collecting input from stakeholders on the value versus burden of state and local assessments, the department launched the Colorado Assessment Literacy Program (CALP) to (a) help fill assessment knowledge gaps among teachers, (b) describe the features of a high-quality assessment system and how it can support optimal student learning, and (c) promote systems-level thinking during the processes of selecting and developing assessments. Teachers and administrators were provided with online resources (https://www.cde.state.co.us/contentcollaboratives/phase3) and in-person workshops with department staff designed to deepen their assessment knowledge and skills. One resource is the Colorado Assessment Framework, which describes the features of a high-quality assessment system that is tailored to the specific needs of Colorado stakeholders.

The department is beginning to see early signs of the positive impact of the CALP. Participating district personnel report greater confidence during decision-making about assessment choice and data use and in evaluating what is working and what is not. The department has learned that it can play an important role in providing training and support to districts and that messaging is critical. As Angela Landrum, Principal Consultant for the department’s Vision 2020, puts it, “We can't say at the state level that we believe in a comprehensive system, but only focus on the state assessment” (personal communication, October 25, 2016). Colorado's Assessment Literacy Program is helping districts and schools view the state assessment in the larger context of a comprehensive system driven at the local level.
Building a Next-Generation, Comprehensive Assessment System in California

Prompted by a legislative requirement (California Education Code, 2014) to “… provide a system of assessments of pupils that has the primary purposes of assisting teachers, administrators, and pupils and their parents; improving teaching and learning; and promoting high-quality teaching and learning using a variety of assessment approaches and item types,” the California Department of Education set out to reimagine what an effective, comprehensive assessment might look like. The department was seeking a system that had the potential to improve teaching and learning throughout the state, with roles for both the SEA and the LEAs in realizing this vision.

For this effort, the department and its partners, including WestEd, collected information from existing resources, solicited input from a range of stakeholders, and solidified a set of principles to guide the decision-making. The result was a report (http://www.cde.ca.gov/ta/tg/ca/documents/compassessexpand.pdf) that synthesized all collected information and articulated a vision for a comprehensive assessment system in California that would be used to guide policies governing California’s assessment system by both the state board of education and the legislature.
References


California Education Code, Section 60602.5(a) (2014).


Additional Resources

Assessment Policy Landscape

Every Student Succeeds Act (ESSA) Assistance — Center on Standards and Assessment Implementation

Testing Action Plan Fact Sheet — U.S. Department of Education

Testing Action Plan Resources and Guidance — Center on Standards and Assessment Implementation

Testing Action Plan: State and District Profiles — U.S. Department of Education

Testing Overload in America’s Schools — Melissa Lazarín, Center for American Progress


Building a Comprehensive, Balanced, and Aligned System

Coherent Systems of Assessment: The Pathway to Student Success — Center on Standards and Assessment Implementation

Comprehensive Standards-Based Assessment Systems Supporting Learning — Center on Standards and Assessment Implementation and National Center for Research on Evaluation, Standards, and Student Testing

Comprehensive Statewide Assessment Systems: A Framework for the Role of the State Education Agency in Improving Quality and Reducing Burden — Council of Chief State School Officers

Criteria for High-Quality Assessment — Stanford Center for Opportunity Policy in Education, Center for Research on Student Standards and Testing, and Learning Science Research Institute

Developing a Coherent Assessment System Webinar — Center on Standards and Assessment Implementation

Guide to Evaluating Assessments Using the CCSSO Criteria for High Quality Assessments: Focus on Test Content — Brian Gong and Thanos Patelis, The National Center for the Improvement of Educational Assessment


Nevada State and District Assessment Survey - Expanded Summary — Center on Standards and Assessment Implementation, submitted to Nevada Department of Education

Not as Easy as It Sounds: Designing a Balanced Assessment System — Rajendra Chattergoon and Scott Marion, National Association of State Boards of Education

Ohio Testing Report and Recommendations — Richard A. Ross, Ohio Department of Education

Re-Balancing Assessment: Placing Formative and Performance Assessment at the Heart of Learning and Accountability — Peter Hofman, Bryan Goodwin, and Stuart Kahl, McREL International and Measured Progress

Recommendations for Building a Next-Generation: Comprehensive Assessment System in California — WestEd submitted to California Department of Education
General Assessment Information

A Framework for Considering Interim Assessments — Marianne Perie, Scott Marion, and Brian Gong, National Center for the Improvement of Educational Assessment

Assessment Design Toolkit — Center on Standards and Assessment Implementation

Attributes of Effective Formative Assessment — Sarah McManus, Council of Chief State School Officers

Criteria for Procuring and Evaluating High-Quality Assessments — Council of Chief State School Officers

CSE Report 806—District Adoption and Implementation of Interim and Benchmark Assessments — Kristen L. Davidson and Greta Frohbieter, National Center for Research on Evaluation, Standards, and Student Testing

Curriculum-Embedded Performance Assessments (CEPAs): Policy Considerations for Meaningful Accountability — Jane Best and Emily Winslow, McREL International

Distinguishing Formative Assessment from Other Educational Assessment Labels — Council of Chief State School Officers

Overview of Major Assessment Types — Center on Standards and Assessment Implementation

Quality Performance Assessment Framework — Center for Collaborative Education

Taking Stock of Your System

Addressing Overtesting: The Student Assessment Inventory in Action — Achieve

Assessment Evaluation Tool (AET) — Student Achievement Partners

Assessment Inventory Resource — Center on Standards and Assessment Implementation

Assessment Review Tool — Rhode Island Department of Education and National Center for the Improvement of Educational Assessment

Colorado Assessment Review Tool — Colorado Professional Learning Network

Evaluating the Content and Quality of Next Generation Assessments — Nancy Doorey and Morgan Polikoff, Fordham Institute

Four Ways to Reduce Testing and Maintain Accountability — Mike Thomas, Excel in Ed and Foundation for Excellence in Education

Knowing the Score: The Who, What, and Why of Testing — Nancy Kober, Center on Education Policy

Resources for Evaluating Assessment Systems — Center on Standards and Assessment Implementation

Student Assessment Inventory for School Districts — Achieve
Designing a Comprehensive Assessment System

Student Assessment Inventory for School Districts — Illinois State Board of Education
Student Assessment Inventory for School Districts: Considerations for Assessing English Language Learner Students — Kenji Hakuta, Achieve
Student Assessment Inventory for School Districts: Considerations for Special Education Assessment Systems — Achieve and National Center on Educational Outcomes
Student Assessment Inventory for School Districts: Guidance for School Districts — Achieve
Student Testing in America’s Great City Schools: An Inventory and Preliminary Analysis — Ray Hart, Michael Casserly, Renata Uzzell, Moses Palacios, Amanda Corcoran, and Liz Spurgeon, Council of the Great City Schools
Teaching is the Core: District Assessment Review — Cortland School District (New York)

Communicating about Assessment

Communications 101: Getting Your Message Out - Collection of Communication Tools — Center on Standards and Assessment Implementation
Empowering Parents with Data: Ensuring Parents Have Data to Make Informed Choices — Data Quality Campaign
Parent Assessment Event Toolkit — National Parent Teacher Association
Sample Student Assessment Reports — Achieve
The Role of Strategic Communications in the Transition to New Academic Standards and Assessments: Case Studies of Tennessee and Kentucky — The Hunt Institute
Understanding the Results (PARCC Score Report) — Partnership for Assessment of Readiness for College and Careers
Why Education Data? — Data Quality Campaign

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