

Research Brief

School Redesign Network

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Multiple Measures Approaches to High School Graduation

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Over the last decade, virtually all states have initiated standards-based reforms that seek to define more clearly what students should know and be able to do upon completion of high school. These standards are typically the cornerstones for accountability systems that are designed to drive reforms in curriculum and instruction.

In states where comprehensive systemic reforms have been launched, there is evidence that instruction and student learning have improved. At the same time, there have been concerns about the unintended consequences of some accountability systems for the quality of instruction and for the progress of students through school to graduation. These concerns have been heightened as the federal No Child Left Behind legislation has added annual testing requirements which have required many states to add tests rapidly at various grade levels, without much opportunity to study the likely effects on teaching, learning, access, and attainment. The costs associated with the more extensive requirements have also caused some states to reduce or abandon performance-oriented assessments that evaluate higher order skills and provide more evidence of student reasoning and performance.

State testing programs have become somewhat more similar because of this federal influence. However, a wide range of practices still exists, and these practices are associated with different outcomes for schools and students. One area in which policy-makers are seeking greater information concerns the design and outcomes of high school graduation policies that include exit examinations, a policy strategy that has rapidly expanded in recent years.

High School Graduation Policies and Exit Examinations

According to the Center on Education Policy (CEP), by 2003, 19 states that educate 52% of all public school students required exit exams. The process of implementing these policies has been difficult. As the CEP noted of trends in 2003:

Public resistance to mandatory exit exams mounted as diplomas were withheld from thousands of students and as high initial failure rates set off alarms in states scheduled to begin withholding diplomas in the next few years. More evidence also emerged about impacts and costs of exit exams, making clearer to states — if they

didn't know it already — that exit exams are no cheap or easy fix for education reform.

Concerns raised about the use of exit exams include reduced graduation rates, especially for African American and Latino students, English language learners, and students with disabilities; reduced incentives for struggling students to stay in school rather than drop out or pursue a GED; narrowing of the curriculum and neglect of higher order performance skills where limited measures are used; and invalid judgments about student learning from reliance on a single set of test measures, a practice discouraged by professional testing experts.

Exit exams are used very differently from state to state, however. Although 25 states have passed laws that include an examination as a component of high school graduation (not all of them yet implemented), most have included a range of options and alternatives. Only eight states have implemented exit examinations as requirements that must be passed by all students who would receive a state diploma, without consideration of other information about performance.

In a greater number of states, *multiple measures* of performance are used to evaluate student learning. The state examination is used as one indicator of readiness to graduate along with alternatives that provide a broader range of methods for students to demonstrate their learning. In these states, no single set of tests is used to deny a diploma, instead, a combination of indicators is used by local districts to determine what students know and can do.

- In 25 states, graduation decisions are made locally on the basis of measures that assess performance without state tests. Twenty of these states use a high school exam to provide information about school performance, guide curriculum improvement, and inform individual needs for remediation, but not to deny diplomas.
- Most states with exit exams (at least 19 of 25) offer alternative measures and sources of evidence for students with disabilities or for English language learners to receive a regular state diploma.

- Some states offer state alternatives that are available to all students, including performance tasks or portfolios; evaluation of courses, grades, attendance, teacher recommendations, work samples, and the combined evaluation of local assessments with the state test.
- Several states, in line with professional testing standards, require that the state high school examinations must be used only in conjunction with other performance measures, including local performance assessments, to make a graduation decision.
- Some states use state tests or local performance assessments to offer as an endorsement on the diploma or place the scores on transcripts as information for colleges and employers, rather than as a requirement for graduation.

Multiple Measures Approaches to Graduation shows how the design of high school graduation policies can have important consequences for teaching, learning, and student attainment. It contrasts the results of single-test approaches to graduation with those of states using a broader range of measures to award a high school diploma. The report profiles the assessment systems of 27 states, describing policy strategies that have been developed to enhance rigor in the high school program while providing diverse means for students to demonstrate their learning; incentives for evaluating the full range of state learning standards, including higher order thinking and performance skills; and useful information about student learning, which is essential to classroom teaching and school improvement.

Concerns About the Consequences of Exit Exams

A great deal of public attention has focused on the relatively small number of states that have required state examinations as the primary basis for graduation from high school. In part this attention resulted from accumulating evidence about the problems experienced by such states, especially those that do not offer

alternatives. In these states, a growing body of research has documented:

- Reduced graduation rates, especially for African American and Latino students, English language learners, and students with disabilities (see Figure 1). These are often associated with increases in grade retention – which is a strong predictor of dropping out.
- Reduced incentives for struggling students to stay in school rather than drop out or pursue a GED. This can happen as students become discouraged after repeated unsuccessful attempts to pass the exams and see little reason to persist in school if they feel their persistence cannot gain them a diploma.
- Incentives for schools to push out students who do poorly in school, when school ratings are contingent on the average pass rates of students. This occurs through encouragements to transfer to other schools or GED programs as well as exclusions for tardiness, attendance or behavior. Some schools have increased their test scores by creating barriers to the enrollment or continuation of low-achieving students.
- Neglect of higher-order performance skills where limited measures are used that do not reward extensive research, writing, product development, or problem solving. Where teaching to the test has led to a narrowing of the curriculum, research has found little relationship between student performance on the high school test and other measures of college readiness.
- Invalid judgments about student learning from reliance on a single set of test measures. This can be especially true of students with disabilities and limited English proficient students, but is also true of all students, given the limitations of one-shot tests to evaluate all students know and what they are able to do.

Professional testing standards emphasize that no test is sufficiently reliable and valid to be the sole source

of important decisions about student placements, promotions, or graduation, but that such decisions should be made on the basis of several different kinds of evidence about student learning and performance in the classroom. The *Standards for Educational and Psychological Testing* state:

In educational settings, a decision or characterization that will have major impact on a student should not be made on the basis of a single test score. Other relevant information should be taken into account if it will enhance the overall validity of the decision.

The standards suggest that other information about performance should include alternative assessments as well as evidence from samples of school work and other aspects of the school record, such as grades and classroom observations of performance. These additional indicators are important not only for reasons of validity and fairness in making decisions, but also to assess important skills that tests cannot measure. Multiple-choice and short-answer tests that are currently used to measure standards in many states do not adequately measure the complex thinking, communication, and problem solving skills that students need to succeed in college, work, and life. As Achieve, a national organization of governors, business leaders, and education leaders, has noted:

States. . . will need to move beyond large-scale assessments because, as critical as they are, they cannot measure everything that matters in a young person's education. The ability to make effective oral arguments and conduct significant research projects are considered essential skills by both employers and postsecondary educators, but these skills are very difficult to assess on a paper-and-pencil test.

States with Multiple Measures Approaches to High School Graduation

Some states have sought to encourage these higher order thinking and performance skills – and to keep students working hard in high school – by using multiple measures approaches to graduation that ask

TABLE 1: USES OF STATE TESTS AND STANDARDS IN MULTIPLE MEASURES APPROACHES TO HIGH SCHOOL GRADUATION

State Approaches	Examples of States that Use this Approach
1. A statewide high school exit exam is required but alternative assessments or measures are available as a pathway to graduation.	In New Jersey , the state supplemental assessment — which includes remedial coursework as well as locally administered performance assessments — is an option for students who have not succeeded on the exit exam. In Washington , the state is creating portfolios and performance assessments to be available for such students. In Indiana , students can graduate by attaining a passing score on the test OR completing state core course requirements with a score of C or higher OR completing local course requirements with a GPA of C or better, meeting an attendance target, and receiving recommendations from teachers.
2. Alternative assessments or measures are available for students with disabilities and English language learners.	Many states offer alternative assessments for students with special needs. In Kansas, Michigan, Montana, Nebraska, Wisconsin , and other states, modified assessments are available for students with disabilities and LEP students (generally, those who have been in public school for less than 3 years). In Arkansas and Maine , an Alternate Portfolio Assessment System evaluates the performance of students with disabilities and LEP students for whom state examinations are not appropriate. In Illinois , a special state-developed assessment called IMAGE measures reading and math progress of all students during their first 3 years of English learning and others with limited English proficiency thereafter.
3. Students take a state exam that is used for school/district accountability reporting or identification of students for remediation. The exam may be considered in the graduation decision, but it is not used to deny a diploma. In some cases, districts use a combination of local performance assessments, along with course records and state test results, in making the graduation decision.	More than 20 states require students to take a high school exam to provide information about school performance, curriculum improvement, or individual needs for remediation, but do not use the test for graduation. States like Arkansas and Delaware use the high school exam results to fund required remediation and personal assistance plans for students. In Connecticut , students must take the exit exam, but the exam cannot be used to deny a diploma. Local districts decide how to use the exam in combination with local performance assessments and coursework performance to make graduation decisions. In Maine and Rhode Island , districts will combine the results of local performance assessments with state assessment results for the graduation decision. Rhode Island provides that the state test can comprise no more than 10% of the total graduation decision. In Pennsylvania , students must demonstrate proficiency on either the state assessments or on local assessments aligned with the state standards. Students must also complete a senior project that shows application of their knowledge and skills.

students to demonstrate what they have learned in a variety of ways, including research papers, projects, exhibitions, and other performance assessments.

The concept of multiple measures is routinely used by policymakers to make critical decisions about such matters as employment and economic forecasting (for example, the Dow Jones Index or the

GNP), as well as admission to universities, where grades, essays, activities, and accomplishments are considered along with test scores. Successful businesses use a “dashboard” set of indicators to evaluate their health and progress, aware that no single indicator is sufficient to understand their operations. This concept was embraced in successive revisions of the Elementary

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<p>4. State test results or local performance assessments tied to state standards are noted on the transcript, provide a diploma endorsement, or lead to a differentiated diploma.</p>	<p>In Delaware, scores on the high school reading, writing, and mathematics tests are combined into a graduation index. Students receive a basic, standard, or distinguished diploma based on their index score. Some states, including Arkansas, Illinois, and Oklahoma include the score from a state high school examination or from end-of-course tests on the students’ transcript, but do not use the tests for the graduation decision. Pennsylvania and Washington award special certificates of achievement or distinction based on state test scores. Oregon uses locally scored student work samples and performance assessments tied to state standards to award Certificates of Initial Mastery and Certificates of Advanced Mastery to students.</p>
<p>5. Local performance assessments, scored according to state standards, are used to evaluate student learning. In some cases, these are a requirement for the diploma.</p>	<p>In Nebraska, all districts develop or select assessments to evaluate the content standards in reading, mathematics, science, and social studies. The state convenes a group of technical experts to approve local assessment systems, and districts use their results to inform decisions about students. In Oregon, students must complete work samples and performance assessments that demonstrate application of knowledge in multiple content areas in order to graduate. These are scored in specific dimensions according to state standards. In Vermont, students can receive a diploma by completing course requirements or by passing locally developed performance assessments tied to the state standards. In Wyoming, local assessments must demonstrate each student’s proficiency in state standards, either through grades or competency-based assessments. Districts are encouraged to combine state and local assessments and to use curriculum-embedded student work in assembling a “body of evidence” to determine student proficiency.</p>

and Secondary Education Act, including the No Child Left Behind Act in 2002, which calls for multiple measures of student performance, extending beyond test scores.

Among states with high school examinations, more than half have developed or are in the process of developing multiple measures of performance as the basis for graduation. In addition to traditional state tests, these measures include performance assessments developed at the local or state level based on state standards, as well as other indicators of student learning, such as grades in courses tied to state standards or student exhibitions of learning. These states take student performance on the state high school examination into account, but they do not rest the graduation decision on this one instrument alone.

Table 1 illustrates the different ways that tests are used in states that seek to assemble evidence from multiple sources for graduation.

In a number of states profiled in this report, graduation decisions are based on a range of indicators that:

- encourage the teaching and evaluation of a more ambitious range of thinking and performance skills (including students’ abilities to conduct research and communicate effectively in many ways),
- consider different ways of demonstrating learning, which reduces the likelihood of inappropriate decisions for special needs students and English language learners,
- increase the validity and defensibility of the

- graduation decision,
- provide diagnostic information that guides improved instruction,
- reward student investment in school attendance and course performance, and
- maintain student engagement and increase the likelihood of students continuing in school through graduation.

While states that instituted test-only graduation systems have often experienced decreasing graduation rates, states that introduced multiple measures systems of assessment in the 1990s have tended to maintain higher and steadier rates of graduation (see Figure 1).

Furthermore, studies have found that, in states where assessment systems have included extended writing and mathematics portfolios and performance tasks, teachers assigned more ambitious writing and mathematical problem solving, and student achievement performance improved.

Researchers have found that assessment systems in which teachers look at student work with other teachers and discuss standards in very explicit ways help schools develop shared definitions of quality. Evaluating work collaboratively rather than grading

students in isolation helps teachers make their standards explicit, gain multiple perspectives on learning, and think about how they can teach to produce the kinds of student work they want to see. Where teachers do this, studies find that changes in teaching and schooling practices tend to occur — especially for students who are not as often successful at schoolwork.

The assessment policies of states using multiple measures approaches, in conjunction with other reforms to strengthen teaching, appear to have supported strong improvement in student achievement as measured by increases on local assessments and the National Assessment of Educational Progress. For example, research on the strong gains in achievement shown in Connecticut, Kentucky, and Vermont in the 1990s attributed these gains largely to investments in teaching quality and to assessment systems that supported diagnosis of student needs as well as curriculum reform and professional development.

Components of a Multiple Measures System for High School Graduation

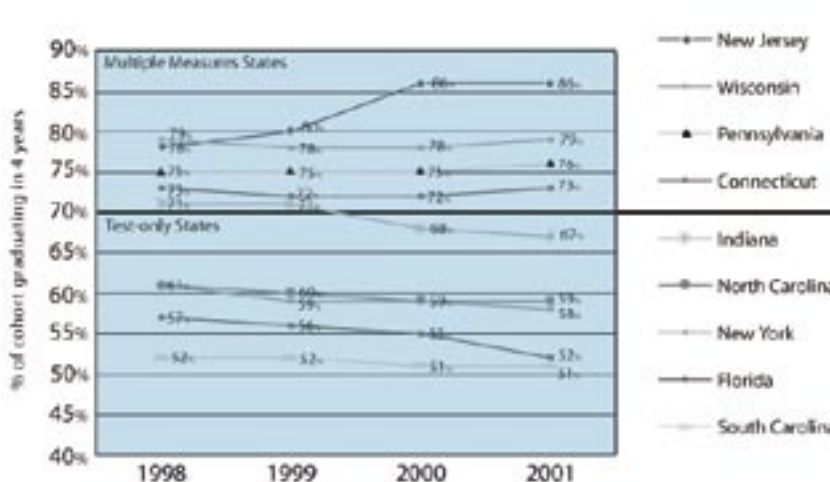
Looking across the various states that are seeking to support valid assessment and ambitious instruction through multiple measures approaches, we find four components of a balanced assessment system

that appear particularly productive for leveraging both high-quality assessment and high-quality instruction:

1. A Range of Assessments of Student Performance

In addition to a state test, states with successful multiple measure approaches include performance assessments developed locally (e.g., Connecticut, Rhode Island, Nebraska) or by the state (e.g., Washington, Oregon, New Jersey) as elements in a graduation decision. The presence of multiple measures heightens the validity of the system, while also providing incentives for teachers to teach a broader range of

Figure 1: Graduation rates in states using multiple measures and test-only systems prior to 2001



Data from National Center for Education Statistics, Common Core of Data. Graduation rates are calculated as the number of graduates divided by the size of the 9th grade cohort 3.5 years earlier.

skills and content and for students to learn how to demonstrate their learning in many ways — including direct applications of knowledge to real-life problems.

In many states, high school examinations serve as a common measure across districts, producing information for the state accountability system, while curriculum-embedded performance assessments evaluate a broader range of skills and providing multiple indicators of student competence. In a system like Connecticut's, all students take the state exam and aggregated scores are reported for districts and schools, but individual student graduation decisions must be made with information from students' long-term school record and from district-adopted performance assessments in key areas of mathematics and English language arts. In a system like Rhode Island's, the state exam counts for a portion of the graduation decision (up to 10%), while local performance assessments that are state-approved (senior exhibitions, portfolios, and projects) count for the remainder. In a system like Pennsylvania's, districts are encouraged to use local standards-based measures, in addition to the state test, to inform the graduation decision, including grades in standards-based courses and a culminating senior project.

2. Assessment Options for Students with Special Needs

Many states have developed alternative assessment for students with special needs and those who are learning English. These assessments also heighten the validity of the system — making it more likely that students' understanding will be evaluated in ways that reflect what they actually know and that the inferences drawn from the test about what students are capable of doing are accurate.

In addition to specially-designed assessments, options designed for special need students include adjustments to testing time or response formats and use of assistive processes (e.g., providing Braille translations or providing special readers or writers). A number of states (e.g., Kentucky, New Hampshire, Vermont, and West Virginia) use portfolios of student

work which document students' learning in relation to the standards. Options designed for English language learners include reading aloud, translating words, using glossaries or dictionaries, and, in some cases, taking tests created with modified language and graphics.

A number of states exempt LEP students who have been in English instruction for less than three years and evaluate their learning through alternate means. Illinois has developed a special set of assessments for English language learners across content areas.

While some states restrict the development of options only to students with disabilities and/or English language learners, others provide access to alternative assessments for all students (e.g., New Jersey, Rhode Island, Pennsylvania, and Washington). In these states, options include local assessments or the use of alternative performance assessments addressing state standards. Some states have processes for examining other specific data that demonstrate learning if a student does not pass the exit exam. Indiana and Ohio, for example, have developed a detailed set of criteria based on attendance, grades, participation in remediation, and personal references.

3. Development of Local Assessments

Although tests aim to inform instruction, teachers are not much helped in their efforts to understand standards or to fine-tune their instruction for individual students by secret tests that arrive under heavy security and are whisked off for external scoring, yielding only aggregated scores many months after students have finished the year. Local, curriculum-embedded assessments provide ongoing information about student learning and help teachers benchmark their teaching to student needs and state standards. State supports for local districts to develop performance assessments encourage schools to embed challenging and informative assessments in their ongoing teaching, thus increasing the possibilities that students will be engaged in rigorous, standards-based instruction and that teachers will pay close attention to how students are learning and will adjust instruction accordingly.

Some state assessments systems rely substantially

on performance assessments — designed around state standards and specifications — for information about student learning. These include portfolio systems (Vermont and Kentucky) and systems that incorporate performance tasks (Connecticut and Maine). Some state systems use (or are currently developing) several kinds of performance assessment tools, ranging from portfolios and performance tasks to exhibitions and on-line assessments (Oregon, Nebraska, Rhode Island and Washington). Some states partner with districts to support diagnostic and performance assessments. For example, Connecticut and Vermont help districts access and learn to use a classroom-based Developmental Reading Assessment that complements other state and local tests. Oregon has created a diagnostic, standards-based system of adaptive computer-based testing that teachers can access at any time. Policies that develop assessment capacity at the local level help develop a focus on standards and a diagnostic approach to teaching.

4. A Process for Review and Approval of Local Assessment Systems

A well designed and implemented local accountability system can yield vital information about student learning — information that will guide instruction, shape curriculum and build teacher capacity to meet the needs of all students. To ensure that locally designed assessment systems are rigorous and aligned to state standards, some states like Nebraska have developed a formal review process to judge their quality. The review team includes nationally-known measurement experts and educators with expertise in curriculum and assessment to evaluate the district

assessment systems of its 500 local districts. Using well-defined criteria to examine assessments, scoring systems, and scored student work, the review panel, 1) evaluates district assessment and plans, along with plans for training teachers to effectively use and score the performance assessments and 2) certifies that the local assessment system is standards-based, meets technical standards of quality, and can be used to make defensible decisions for graduation or other purposes. The external reviewers also offer advice for improving each district's assessment system and the state provides technical assistance to support these improvements.

State processes for reviewing local assessment systems acknowledge that, if local assessments are important to drive teaching and learning in the classroom, it is equally important that the assessments be high-quality and good measures of the standards. Processes that evaluate local districts' assessment systems and provide feedback about how to make them better create an engine for continuous improvement that can leverage system learning as well as student learning.

Together these four elements — multiple measures of student performance; appropriate alternatives that allow all students to demonstrate their knowledge; local performance assessments developed with state support, and a process for review and improvement of local assessments — can stimulate more thoughtful teaching, ongoing improvement and professional development, and a commitment to standards that shape more powerful learning.

The full report can be downloaded from the SRN web site or purchased from SRN.



The School Redesign Network (SRN) is based at Stanford University and supported through a grant from the Bill & Melinda Gates Foundation. SRN supports research on school redesign; houses an extensive clearinghouse of materials for communities working to improve their schools; and hosts institutes, seminars, working groups, and leadership/study tours.

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