

# Texas Institute for Education Reform

[www.texaseducationreform.org](http://www.texaseducationreform.org)

## Texas Public Schools Today and Tomorrow: Call to Action and Agenda for Success

### *Assessments for the Schools We Need*

Policy Series, Issue 5  
January 2007

*“Today, many state assessment systems are complex and sophisticated machines that can provide a wealth of information to help improve curriculum, instruction, and policy and drive the level of student learning progressively upward.”* National Association of State Boards of Education, 2001<sup>i</sup>

Well-designed, rigorous assessments are crucial to the success of students in Texas public schools. Assessments produce the information about student performance needed to evaluate and improve teaching, schools, curriculum, district practices, and state policies. Assessments have proven their power in guiding classroom instruction and student learning. The power of assessments is indisputable, richly documented, and acknowledged by the adage that “what is tested is taught.”<sup>ii</sup>

Creating better state assessments is the focus of this paper, fifth in the Policy Series produced by TIER. Although assessment is the primary focus, state curriculum standards also figure prominently in this paper. This is because standards (expectations for student learning in each grade, K-12) serve as the building blocks for assessments, and strong standards are necessary for strong assessments. As described in the third issue paper of this policy series, our state curriculum standards have significant, serious weaknesses that must be corrected if we are to improve student learning. The Texas Essential Knowledge and Skills must be strengthened before we create new assessments.

New, strong assessments for Texas public schools, assessments that are based on strong curriculum standards, will drive student learning progressively upward, and create the schools we need for the 21<sup>st</sup> Century.

## **Texas Public Schools and State Assessments**

*“Our nation’s education and skills pipeline is leaking badly and in need of significant repair. Inefficiencies and obstacles to smooth transitions to further learning come at great cost to individuals, businesses, the economy, and our society. Business as usual—*

*that is educational and workforce development reforms that tinker at the edges—will not suffice.”* Jobs for the Future, 2005<sup>iii</sup>

Today vast numbers of students leave Texas public schools woefully unprepared for success in skilled employment, postsecondary vocational training, and higher education. This fact is comprehensively detailed and substantially documented in previous papers of this series. Academic deficits begin in elementary schools, particularly in reading skills, and progressively worsen through the middle and high school years.

Texas scores on the National Assessment of Educational Progress (NAEP) indicate that the majority of elementary and middle school students never reach levels of academic proficiency, while ACT and SAT scores indicate that the most academically advanced of Texas high school students<sup>1</sup> lack the postsecondary proficiency necessary to succeed in skilled vocational training and college.

The important academic deficits identified by NAEP, ACT, and SAT go undetected by state measures of student achievement administered in Texas public schools.<sup>2</sup> Clearly, our current state assessments fail to provide enough meaningful information about student performance, and consequently prevent us from introducing the reforms needed to improve student learning. It is also clear that state assessments fail to encourage and support classroom instruction that will prepare students to succeed in advanced academic studies that culminate in postsecondary readiness for high school graduates.

Several independent studies identify these deficiencies with TAKS and suggest ways that state assessments should be improved:

- In a Policy Memorandum prepared for the Texas Legislature in 2004, the Hoover Institution’s Koret Texas Task Force on K-12 Education described improving reading proficiency and state reading assessments as the key challenge facing Texas public schools. The Task Force noted that TAKS does not stimulate adequate measures for improvement in reading because reading tests are not linked to knowledge in the academic disciplines.<sup>iv</sup> Adding vocabulary to reading tests and linking tests to grade-level content specified by state curriculum standards, the Task Force recommended, will encourage coherent teaching, cumulative learning, and faster-paced improvement in Texas public schools.<sup>v</sup>

---

<sup>1</sup> The “most academically advanced students,” are considered to be those graduates of Texas public schools who take a test of postsecondary readiness in preparation for transitioning into higher education, the majority of whom have completed the state’s most rigorous high school programs (either the Recommended or Distinguished Achievement Program).

<sup>2</sup> The design of state assessments provides an explanation for why assessments may conceal deficits in academic performance. When assessments are not designed to measure relatively high levels of student achievement, a larger percentage of students will score at the top than ordinarily would if the assessment measured higher ranges of achievement. Additionally, if assessments use a “cut score” (bar set to differentiate passing from failing) set at a relatively low level of proficiency (as compared to standards for proficiency set by the National Assessment of Educational Progress and/or assessments administered by most other states), scores would tend to be inflated and give the impression of higher student performance than warranted.

- Following up on an evaluation of state assessments that preceded TAKS (a study that showed passing standards for the Texas Assessment of Academic Skills [TAAS] were set too low at all grade levels for students to be prepared for high school courses or college), the National Center for Education Accountability (NCEA) undertook a study of the 11<sup>th</sup> grade TAKS in 2006 to determine how the state standard for college readiness relates to other, independent measures of college readiness.<sup>vi</sup> This study found that TAKS standards of college readiness in mathematics and English were too low, equivalent to scores on the SAT, ACT, and Texas Higher Education Coordinating Board's<sup>3</sup> assessments that indicate students are likely to need remediation in order to successfully complete college freshman courses.<sup>vii</sup> The NCEA recommended that state tests set higher standards for proficiency throughout K-12 to equip all students with skills necessary for citizenship, work, and college.<sup>viii</sup>
- In 2005 TAKS was described as one of the most “lenient” of state assessments by a national study that examined how state assessments identify proficiency for reading and math in 4<sup>th</sup> and 8<sup>th</sup> grades (John E. Chubb, Robert Linn, Katie Haycock, and Ross Wiener).<sup>ix</sup> Measuring the difference between proficiency on state assessments and those administered by NAEP, TAKS ranked as the fourth easiest reading test in the nation for 4<sup>th</sup> grade and easiest test in the nation for 8<sup>th</sup> grade; and, in math, TAKS was the second easiest test in the nation for 4<sup>th</sup> grade and seventh easiest in the nation for 8<sup>th</sup> grade.<sup>x</sup> In 2006 another national study compared state standards for proficiency with the standards set by NAEP; TAKS received a failing grade of D+ in this study by Paul E. Peterson and Frederick M. Hess.<sup>xi</sup>
- The Texas Public Policy Foundation analyzed the development of TAKS in 2002 to determine how it would differ from its predecessor TAAS, based on the blueprint for design.<sup>xii</sup> This study cited findings of a panel of academic experts assembled by Achieve, Inc., at the request of the Texas Education Agency, to determine how TAKS aligned with the state curriculum standards (TEKS); over half of these experts criticized the new assessment objectives as poorly defined, repetitive from grade to grade, covering the TEKS superficially, and setting student performance expectations too low. Examining the relatively low percentage of state curriculum standards included in the TAKS, particularly in English Language Arts, this study predicted classroom instruction would likely be significantly narrowed with TAKS if teachers relied on it to shape classroom instruction.<sup>xiii</sup>

The studies furnish strong arguments for creating new, better assessments for Texas public schools – arguments that become compelling when connected with the academic weaknesses of state standards for student learning on which these assessments are built.

Problems with assessments are often deeply rooted in standards for student learning because assessments are based on these standards. Serious weaknesses in our state

---

<sup>3</sup> This study revealed the need for remediation was more highly related to the Texas Higher Education Coordinating Board than the ACT or SAT; in other words the THECB's score set for postsecondary readiness was associated with a higher rate of need for remediation than the ACT or SAT score.

standards for student learning have been thoroughly identified over the past several years. As detailed in TIER Policy Paper 3, independent experts have documented that the Texas Essential Knowledge and Skills (TEKS) generally lacks: (1) specificity; (2) differentiation from grade to grade; (3) adequate coverage of academic subject areas; (4) explicit language that teachers, students, and test developers need to identify what level of knowledge and skills represents proficiency; and (5) sufficiently high expectations for academic proficiency that, beginning in elementary school, will prepare students for success as grades progress and culminate in postsecondary readiness at graduation.<sup>xiv</sup>

Weaknesses of state assessments (TAKS), combined with weak state standards for learning (TEKS), mean that teachers, schools, taxpayers, and policymakers are deficient in the tools necessary to provide the education that youth need to succeed in the 21<sup>st</sup> Century.

*“Tests play an integral role in a state’s efforts to raise academic achievement. High-quality tests shine a spotlight on what is working in successful schools, and they sound an alarm when schools and students need help.”* Achieve, Inc. and the National Center for Educational Accountability<sup>xv</sup>

## **New, Better Assessments for Texas Public Schools**

Assessments used in Texas public schools today do not tell us what we need to know nor do they drive teaching and learning to the required destination. However, with technological advances and new knowledge generated by research about the connections between testing, teaching and learning, we have the ability to construct a new, better system of state assessments that will provide:

- A more sophisticated measure of student achievement;
- Meaningful standards for academic proficiency;
- Certification of college and career readiness;
- Comparisons of Texas public schools with schools throughout the nation; and
- Multiple measures of student achievement necessary for reliable high stakes decisions.

We now know that a single type of assessment cannot provide all of the information needed to evaluate and improve student learning in Texas public schools. Our state assessment system should combine several different types of student assessments. The reason for different assessments and the challenges in creating a multi-tiered system of state assessments was recently offered to the Texas Senate Education Committee by Mary Lyn Bourque, a testing expert with the Mid-Atlantic Psychometric Services (formerly responsible for designing NAEP tests). She testified:

“There is a temptation to use a single test for multiple purposes. This is what some in NAEP call the Christmas tree approach. We have a single test (a tree), and we try to hang as many ornaments on it (purposes) as it will hold before falling down under its own

weight. It is a very powerful temptation, bearing on testing resources, testing time vs. instruction time, convenience, simplicity of public reporting, and a host of other issues.”<sup>xvi</sup>

The returns for building a state assessment system on several different tests are numerous. Not only do different tests provide unique, essential information about student achievement, different tests can be used to confirm results, and furnish the multiple measures necessary to ensure high stakes decisions are valid and reliable.

This new system can be constructed simply, rapidly, and cost-effectively by improving and elaborating on our current assessments as follows:

- Revising reading assessments and TAKS tests for elementary and middle schools to be more academically rigorous and grade-level specific;
- Expanding end-of-course tests to all core high school courses and eliminating TAKS for grades 9-11;
- Incorporating statistical measures in all state assessments to identify value-added to student learning; and
- Supplementing state assessments with national norm-referenced tests and college readiness tests.

The rationale for these recommendations is outlined in the following pages.

## **1. New and Better State Assessments for Elementary and Middle Schools**

*“Assessments help policymakers ensure that all students have access to a sound education.”* National Association of State Boards of Education, 2001<sup>xvii</sup>

Studies described in this and previous issue papers suggest our state assessments can be improved by:

- Creating new reading assessments for pre-kindergarten through grade 8 that are based on the knowledge and skills identified by TEKS across the academic disciplines for each grade level; and
- Aligning new criterion-referenced assessments for grades 3 through 8 to better-designed and more academically rigorous TEKS. Establish standards of proficiency and set the bar for passing at a level that is comparable to or higher than the benchmarks for proficiency set by the National Assessment of Educational Progress for these grades.

New state assessments should not be created, however, until state curriculum standards are strengthened. Because assessments must be aligned with state expectations for student learning, we cannot create high quality assessments until we have new, high quality state curriculum standards. The Texas Essential Knowledge and Skills (TEKS) must be

rewritten to clearly identify the measurable knowledge and skills that students are to master during each grade and course, and establish different, progressively higher expectations for academic proficiency for each grade level/subject that culminate in college and career readiness at grade 12.

*“An effective Assessment System is aligned with rigorous [curriculum] standards.”*  
National Association of State Boards of Education, 2001<sup>xviii</sup>

## **2. End-of-Course Tests for High Schools**

End-of-course (EOC) tests are proving an increasingly useful tool for enriching teaching and learning throughout the U.S. Today, about one-third of the nation is administering or introducing EOC tests for high school studies: Arkansas, California, Georgia, Indiana, Maryland, Mississippi, New York North Carolina, Oklahoma, South Carolina, Tennessee, Utah, Virginia, and West Virginia.<sup>xix</sup> In each of these states, EOC test results are used in the state’s accountability system, although most states only require schools to report, not improve or meet standards for, test results.<sup>xx</sup>

Although EOC tests are relatively new for most states, curriculum-based tests are the rule rather than the exception outside of the U.S.,<sup>xxi</sup> and studies find that student achievement is higher and the achievement gap between student groups is less in countries with EOC tests.<sup>xxii</sup> Achievement gains associated with EOC tests have been significantly high in some nations. In a comprehensive Canadian study, schools in provinces with EOC tests performed at an equivalent of half a grade level higher than in provinces without them, even after researchers controlled for school and student characteristics.<sup>xxiii</sup>

EOC tests are generally based on government standards for what students are required to know (curriculum standards), and are usually designed to cover a major portion of what students are expected to learn in a course, identify multiple levels of achievement (more than simply pass-fail), and assess more difficult knowledge and skills than is associated with minimum competency assessments.

Because EOC tests typically cover a comprehensive and defined body of subject area knowledge, they have been shown to exert a powerful impact on classroom instruction – defining expectations for student learning and promoting common expectations for learning across classrooms and districts.<sup>xxiv</sup> This standardization likely explains why use of EOC tests result in narrowing of the achievement gap between student groups (an explanation supported by research that connects rigorous academic studies with higher achievement by disadvantaged students<sup>xxv</sup>).

In years past, EOCs were part of the state assessment system for Texas public schools. EOC tests were administered in Texas high schools from the spring of 1994 through the end of the 2002-03 school year, and results were included in the state’s school accountability system. EOC tests were ended when the legislature called for the development of new state assessments to cover more of the state curriculum (TAKS). In 2005, EOC tests were reprised when Governor Perry issued an executive order calling for

the development and voluntary administration of EOC tests in science, math and other subjects currently assessed by the 11<sup>th</sup> grade TAKS, offering these assessments as a potential alternative to the 11<sup>th</sup> grade TAKS high school graduation assessment.<sup>xxvi</sup> In 2006, the Legislature called for voluntary EOC tests to determine placement of students in or readiness for higher education.<sup>xxvii</sup> As of January 2007, voluntary EOC tests for Algebra I had been administered in 2006, and field-testing had been conducted on EOC tests for Geometry and Biology (scheduled for administration in 2008); EOC tests in Chemistry, Physics, and U.S. History are scheduled to be field tested in 2008 and administered in 2009.<sup>xxviii</sup>

By and large, teachers generally favor EOC tests over minimum competency or grade level assessments, particularly for high schools. Almost 75 percent of teachers surveyed in 2005 by the Texas Federation of Teachers indicated they would support or strongly support replacing TAKS with end-of-course tests at the secondary level.<sup>xxix</sup>

*“Testing is undoubtedly the school reform with the highest ratio of benefits to costs.”*  
Caroline M. Hoxby, 2001<sup>xxx</sup>

### **3. Value-Added Assessments of Student Learning**

Value-added assessments represent a relatively new way to measure student achievement, developed over the past several decades to provide more accurate, unbiased, and precise information about student achievement. Value-added, unlike traditional assessments, identify academic gains achieved during a grade or course of study, and consider student performance over multiple years, instead of how a student performs at a single, specific point in time. Additionally, value-added assessments, unlike traditional assessments, can factor out student gains that are attributable to non-school influences, such as the student’s prior schooling and family background.

More than a dozen states – including California, Colorado, Florida, Ohio, and New York – are currently introducing or already have introduced value-added assessments as a complement to traditional assessments.<sup>xxxi</sup> The first state to use this method was Tennessee, introducing value-added assessments to public schools in 1993. Use of value-added assessments is growing because this method furnishes an objective way to evaluate the effectiveness of teachers and schools, and provides the information needed to based student and school improvement on continuous achievement, rather than absolute test scores or pass rates.

Value-added assessments can be based on several different methods of analyzing student achievement. These statistical methods can be applied to any form of standardized test, including criterion-referenced tests<sup>4</sup>, norm-referenced tests,<sup>5</sup> or end-of-course tests.

---

<sup>4</sup> Criterion-referenced tests (CRTs), such as TAKS, measure how well a student has mastered specific curriculum objectives (such as those defined by the Texas Essential Knowledge and Skills-TEKS). CRTs generally establish a threshold for passing and are considered pass-fail tests, although they sometimes identify additional thresholds for higher levels of student performance.

The most recognized and widely used method is known as the Educational Value-Added Assessment System (EVAAS). This method was developed by William Sanders and associates for Tennessee public schools. EVAAS differs from other methods primarily because it determines the academic growth of individual students based on their own achievement, combining data across years and different academic subjects.<sup>xxxii</sup>

Another widely used method that provides information about academic gains, although not commonly described as value-added, is “on-track assessment.” On-track assessments measure student progress toward a standard of achievement or proficiency. This standard or expectation for student achievement can be based on the average gain of a specific student group or represent graduated levels of achievement that culminate in the proficiency students are required to demonstrate at high school graduation.

Both methods are distinguished by differences in statistical methodology as well as the information they produce. On-track assessments are generally connected with specific grade-level standards (although these standards may be norm-referenced rather than connected with established expectations for academic learning), whereas value-added assessments are not connected achievement standards. Unlike on-track assessments, value-added generally provides a broader, more precise measure of gains in individual student achievement and identifies the gains that can be clearly connected with the teacher and school.

Both methods provide essential information that is needed to supplement state criterion referenced tests, however, it is important to recognize that neither will tell us if students are learning what we want them to know, whether schools are preparing students for postsecondary success, or how students compare with their national or international peers. Both methods of assessment are most effectively used as components of a system of assessments, in conjunction with other types of tests (criterion-referenced, norm-referenced, grade-level, and end-of-course exams).

Of the two methods, value-added is increasingly the assessment of choice for several reasons:

- First, it is widely believed that value-added offers the greatest potential for improving student learning. Results of value-added assessments, when put to use in helping to evaluate teachers and guide professional development to hone teachers’ skills, can strengthen classroom instruction. Value-added assessments can also serve as a powerful tool for evaluating and improving the effectiveness of teacher preparation programs and the quality of their teaching graduates;
- Second, with federal acceptance of value-added assessments as a means to certify annual achievement gains connected with No Child Left Behind, states look with

---

<sup>5</sup> Norm-referenced tests (NRTs) identify how well a student compares to a benchmark that represents the average achievement of all students taking the test at a specific point in time. NRTs generally identify the “norm” as the national average for specific grade-levels in percentile rank.

growing favor on adding value-added assessments as a component of their assessment system;

- Third, value-added assessments offer a way for states to level the playing field in school accountability systems. Accountability systems that are based on absolute test scores or average passing rates, things that are highly related to socio-economic characteristics of student populations, fail to recognize the academic value of schools with high populations of disadvantaged students, and similarly blind to those high-performing schools that add little academic value to economically advantaged students. Incorporating value-added standards into school accountability would eliminate the necessity for an alternative accountability system that sets lower standards for schools primarily serving students at-risk (such as charter schools), and hold schools responsible for achieving academic gains, no matter what type of student population they serve; and
- Fourth, value-added assessments offer a way for schools to measure the academic gains of all students and identify the unique educational needs of individual students. While all students are better served when schools focus on adding value instead of simply achieving passing scores, high ability students will particularly benefit from assessments that signal the need to improve because their needs are not identified by traditional assessments.

#### **4. National Norm-Referenced Tests**

*“Research shows that assessment for learning is one of the strongest interventions schools can make to raise test scores for all student groups—with the greatest gains occurring among the lowest-performing students.* National Middle School Association, 2006<sup>xxxiii</sup>

A large number of state testing systems use both criterion-referenced tests, like TAKS, with norm-referenced tests (NRT), such as the Stanford 10. In the 2003-04 school year, 19 states used NRTs to supplement their state criterion-referenced tests (tests that are based on their state curriculum standards, like our TEKS), according to the most recent data reported by the National Center for Education Statistics.<sup>xxxiv</sup>

Unlike criterion-referenced tests, NRT are designed to measure the overall performance of large student groups, either districts or states, and to compare a student or set of students with a larger group. Generally, NRTs measure the breadth of knowledge and skills in a subject area – unlike criterion-referenced tests that typically measure a small range of specifics and end-of-course exams that measure subjects in both depth and breadth. NRTs generally sample the knowledge and skills that are conventionally taught and learned in a specific subject and grade throughout the nation, unlike criterion-referenced tests that sample how well students have mastered the expectations for learning established by the state.

The most commonly used NRTs in the United States are the Stanford 10, and the Iowa Test of Basic Skills.

States use NRT for several reasons. They provide information about student achievement necessary for state and national comparisons, information that is essential to evaluating the overall function of public schools and guiding state policy decisions. NRT also allow states to benchmark and validate the results of state criterion-referenced assessments, and give states the capacity to rely on multiple measures for high-stakes decisions.

## 5. Targeting Assessments on Postsecondary Readiness

*“Students who succeed on state tests from grade to grade must be on a trajectory to leave high school prepared to do well in college and meet the intellectual demands of a high-skills workplace.”*<sup>xxxv</sup> Achieve and the National Center for Educational Accountability, 2003

Texans broadly believe that students should graduate from public schools equipped with the knowledge and skills to succeed in skilled employment, vocational training, or college. This belief is rooted in state law; the Texas Education Code states the purpose of the public school curriculum is to “prepare *all* [italics in text] students to continue to learn in postsecondary education, training, or employment settings.”<sup>xxxvi</sup> Further, this belief is firmly rooted in the economic reality that acquiring more advanced skills beyond high school is now a prerequisite for earning a living wage.

The demand for more highly educated workforce is growing rapidly. Consider the availability for jobs for unskilled labor; sixty percent of jobs in the U.S. were classified as unskilled in 1950 but only 14 percent of jobs were unskilled in 2005.<sup>xxxvii</sup> In Texas today, 19 of the 25 fastest growing jobs require some additional education beyond high school, and at least a bachelor’s degree is required for at least half of these jobs.<sup>xxxviii</sup>

The necessity for postsecondary education/training is not only a prerequisite for professional employment, it is also needed for blue-collar jobs. A study of job requirements conducted by the American Diploma Project indicates that high school courses once thought important only for college-bound youth are now equally important for high school students who intend to enter the job market immediately after graduation.<sup>xxxix</sup> According to this study, tool and die workers need algebra, geometry, trigonometry, and statistics, and many construction jobs require algebra, geometry, trigonometry, and physics.

To prepare all Texas youth to be successful, postsecondary readiness must be the end goal of teaching, learning, and assessments in Texas public schools. Standards for postsecondary readiness must begin in the early grades, continue throughout the entire K-12 sequence, and culminate in college and career readiness by high school graduation. These standards need not be invented – they already exist, developed by such respected entities as: the America Diploma Project Benchmarks (Achieve);<sup>xl</sup> Standards for Transition (ACT);<sup>xli</sup> Springboard (The College Board); and Knowledge and Skills for University Success (Association of American Universities).<sup>xlii</sup>

An alternative to building college readiness assessments into the state assessment system is administering national tests of postsecondary readiness, such as the ACT or the SAT,

to high school juniors. This is an alternative used by a growing number of states that include Colorado, Illinois, Kentucky Maine, Michigan, Tennessee, and Wyoming.<sup>xliii</sup>

## **Getting Assessments Right: Problems and Solutions**

*“No one knows the value of testing better than teachers. It’s the tool teachers use all the time to gauge how their students are doing. Testing is as integral to our stock and trade as a tape measure is to a carpenter. But today in many places we find ourselves in an environment where standardized testing is so dominant it is distorting the relationship between teaching and learning: increasing test scores is more a common topic than supporting learners; generating right answers has grown more central than the thinking behind them; and recalling data tidbits is more highly valued than developing comprehensive knowledge.”* American Federation of Teachers, 2006<sup>xliv</sup>

Testing has long had a respected place in teaching and learning. However, it is clear that some individuals, both inside and outside the classroom, have grave concerns about testing today. These concerns warrant examination – particularly since many of them can be allayed by a new, improved state assessment system.

### “Teaching to the Test”

*“Teaching to the test: harmful or not? Emerging studies suggest that teaching to the test can be good or bad; good if it means teaching a focused and aligned curriculum; bad if it reduced instruction to the memorization of test items.”* The Center for Public Education (no date)<sup>xlv</sup>

One of the loudest criticisms voiced about tests today by Texans is that the quality of instruction and learning is being sacrificed by “teaching to the test.” For some, this concern reflects the belief that that meaningful learning has become secondary to high test scores, and, as a result, comprehensive knowledge and “higher order thinking” (abstract, analytical concepts) – are replaced by “rote memorization” of unconnected pieces of trivial knowledge. For others, this criticism reflects the belief that too much time is devoted to preparing students for tests, practicing test-taking, drills to improve test scores, and “benchmarking” where students score on tests.

There is some evidence that teaching to the test is occurring in Texas public schools. In 2005, the Texas Federation of Teachers conducted a survey of their membership about the impact of TAKS; they found that 8 out of 10 teachers surveyed were expected to conduct test drills and practice, 15 percent of these teachers devoted 50 percent or more of their class time preparing students for TAKS, almost 90 percent reported that test practice significantly reduced instructional time, and more than 90 percent reported that the quality of education in areas not covered by TAKS had been adversely affected by the emphasis on TAKS.<sup>xlvi</sup>

There is some research showing that teaching to the test can indeed harm the quality of classroom learning, by narrowing the curriculum to the topics that appear on tests,

focusing instruction on memorizing specific details in a subject that are tested, and prioritizing time for test preparation.<sup>xlvi</sup>

At the same time, there is also research showing that teaching to the test can positively impact classroom instruction if tests are well designed and closely aligned with equally well-designed curriculum standards.<sup>xlvi</sup> A number of studies find strong evidence that high-stakes tests can significantly improve student achievement (authors of these studies include recognized researchers, such as Eric Hanushek of Stanford and John H. Bishop of Cornell, and entities, such as the Education Testing Service and Education Week).<sup>xlix</sup> Studies also find that high-stakes tests not only improve student achievement, they also produce a narrowing of the achievement gaps between student groups.<sup>1</sup>

The characteristics of well-designed tests and test systems, identified by a number of reputable organizations (including the National Associations of School Boards, Achieve Inc., the National Center for Educational Accountability, and the American Educational Research Association), include:

- Close, full alignment between the test and an academically rigorous curriculum;
- Validation of scores;
- Definitions of proficiency that mean students are well-prepared for college and career;
- A clearly articulated relationship with national and international measures of student achievement;
- Different types of tests designed to serve different purposes; and
- Multiple measures for high-stakes decisions.

Based on these guidelines and research, the adverse impacts of teaching to the test can be turned into positives for Texas public schools by creating a new, better system of assessments. New grade-level, criterion-referenced tests for elementary and middle schools, and end-of-course tests for high schools – all based on enriched, more rigorous state curriculum standards – will make teaching to the test a powerful, constructive tool for improving student learning.

#### Focus on “Bubble Students”

*“One Texas teacher I interviewed poignantly captured this dilemma as we discussed Ana, a low-performing student in her class. ‘Ana’s got a 25 percent,’ the teacher said. ‘What’s the point in trying to get her to grade level? It would take two years to get her to pass the test, so there’s really no hope for her. I feel like we might as well focus on the ones there’s hope for.’”* Washington Post, 2006<sup>li</sup>

The second most common criticism heard in Texas is that some schools divide students into three groups: students who will pass state assessments, students who will fail assessments by a large margin, and students who are likely to score right above or below the passing standard. Some schools are said to identify this last group as “bubble kids,” and divert resources from all other students to help this group pass state assessments and improve school accountability ratings.

There is some corroboration of the “bubble student” phenomena. In 2005, the Texas Federation of Teachers reported that 56 percent of their members believe that emphasis on TAKS causes their schools to pay less attention to students in the regular education program, and over 72 percent indicate this emphasis caused their schools to pay less attention to the needs of gifted and talented students.<sup>lii</sup> Probably the strongest corroboration comes from newspaper articles. “Bubble kids” have been featured in numerous newspapers throughout the nation, including the Dallas Morning News,<sup>liii</sup> and described by one article as educational rationing.<sup>liv</sup>

While there is reason to believe that perverse incentives associated with testing do exert adverse affects on student learning, there is also equally strong reason to believe that tests, especially high-stakes tests, can serve as a highly effective tool for identifying and stimulating real academic improvements for all students, but most particularly for low-performing students.<sup>lv</sup> Consequently, eliminating tests is not a good way to halt the practice of focusing resources on students close to passing scores. The better solution to this problem is administering different, better tests.

“Bubble student” is a term associated with a pernicious practice that injures the educational opportunities of the labeled student and every other student enrolled in the school where it occurs. This practice can and should be solved by introducing a value-added measure to our state assessment system; value-added assessments create incentives for schools to prioritize learning over test scores and improve achievement of all student groups.

The problem of “bubble students” highlights the importance of examining how types of tests and testing policies impact student learning. A less recognized, but equally important, impact of pass-fail assessments is the disincentive for schools to attend to the educational needs of high-achieving students (those achieving in the top quarter of their class). Unlike students at the “bubble” and those who persistently fail assessments, pass-fail assessments do not stimulate specialized instruction for high-achieving students, a situation which may account for the several-decades long decline in performance of high-ability students in U.S., as measured by universities,<sup>lvi</sup> national assessments (NAEP<sup>lvii</sup> and the College Board’s SAT<sup>lviii</sup>) and international assessments (TIMSS).<sup>lix</sup> Value-added assessments offer Texas public schools a means to measure and stimulate academic growth for all students.

#### Standardized Assessments and Cookie-Cutter Classroom Instruction

*“Texas is hurting its future Einsteins and Picassos with the ‘tyranny’ of standardized testing and curriculum mandates, acting Rep. Cheri Isett said Friday in an emotional speech to House members.”* Houston Chronicle, 2006<sup>lx</sup>

There are some well-meaning, learned Texans who strongly believe that student learning is harmed in public schools by standardization produced by state-mandated assessments

and curriculum. They believe each child should be encouraged to discover or construct the knowledge that is singularly important to her or him, and value creativity far more than the body of knowledge that is traditionally taught in the academic disciplines. These ideas resonate with parents who educate their children at home or in private schools, as well as with some members of the educational community who elevate the importance of how students learn above the acquisition of specific knowledge.

The beliefs of those who oppose educational standardization stand in stark contrast to the fundamental principles embodied in public schools throughout Texas and the nation. In every state, public schools were created for the express purpose of providing a free, common education. Although state curriculum standards and assessments establishing a common academic program are relatively recent additions to public education, most public schools have generally offered a core academic (usually “college prep”) program that differed from other schools primarily in how well, rather than what, academics were taught.

These beliefs also stand in contrast to research which identifies the core academic instruction (common learning) that is required for students to succeed in endeavors following graduation from public schools, whether students exit for work, vocational training, or college.<sup>lxi</sup> The benefits of a common, coherent core curriculum for individuals and society as a whole have long been chronicled by E.D. Hirsch, Jr., founder of the Core Knowledge Foundation. In describing the lack of a standardized instruction in America’s public schools, he laments:

*“The lack of shared knowledge among American students not only holds back their average progress, creating a national excellence gap, but more drastically, holds back disadvantaged students, thus creating a fairness gap. A systemic failure to teach all children the knowledge they need in order to understand what the next grade has to offer is the major source of avoidable justice in our schools.”* American Educator, 2002<sup>lxii</sup>

Implicit in this statement is the recognition that students in public schools operated by most industrialized nations outperform students in the U.S., and that public schools operated by the nations that outperform the U.S. all use centralized and standardized curriculum and assessment.<sup>lxiii</sup> Also implicit in this statement is the recognition that research has thoroughly proven the educational advantage of explicit, direct instruction over discovery learning or letting children construct knowledge for themselves – and this advantage confers an even higher benefit to children who are poor, Hispanic, or African American.<sup>lxiv</sup>

While state law is silent on how students are taught, the Texas Education Code requires all public schools to provide the required state curriculum, based on standards developed by the State Board of Education (the Texas Essential Knowledge and Skills-TEKS).<sup>lxv</sup> However, state law does not insist that all public schools have to teach and test all students exactly the same. To the contrary, the law stipulates that school districts may offer additional courses and urges districts to elaborate on state requirements, stating:

“Each district is encouraged to exceed minimum requirements of law and State Board of Education rule.”<sup>lxvi</sup>

In other words, by creating a common core curriculum, Texas furnishes all students with equal opportunity for a strong educational foundation that is buttressed with standardized state assessments, and at the same time, the state invites school districts to offer more and different instruction than is established by state requirements, furnishing schools the opportunity to individualize and customize student learning.

Equal opportunity, created on the basis of standardized instruction and tests, is what public education is all about in Texas and throughout the nation. There is proven value in a common core curriculum and benefits from standardized testing, particularly for economically disadvantaged students.<sup>lxvii</sup> This is an important point for Texas since 54.6 percent of students in Texas public schools were classified as disadvantaged during the 2004-05 school year.<sup>lxviii</sup>

The nature and challenges of Texas public schools today make it impossible to fully allay concerns about standardization. Further, it is questionable whether these concerns are justified. However, it must be acknowledged that public schools have limited resources and capacity to individualize and customize student learning, another reason why student-centered funding through school choice should be expanded in Texas, giving parents the opportunity to select any public or private school that best suits their needs.

### Too Much Time on Testing

*“Here’s a radical idea: We need more assessment, not less. Seem crazy? Substitute feedback for assessment and you’ll better understand what I mean. The point of assessment in education is to advance learning...Tests don’t just measure adsorption of facts. They teach what we value.”* Grant Wiggins, 2006<sup>lxix</sup>

Based on newspaper headlines, it would be easy to assume that educators and parents are sharply dissatisfied with the time devoted to testing by public schools. Here, for example, is a headline recently published by the Austin American Statesman: “Plenty of Texans have had enough of testing frenzy.”<sup>lxx</sup>

A number of independent studies indicate that people are more concerned about how tests affect the quality of teaching and whether it is a good idea to rely on a single test for making high-stakes decisions, than they are about the time devoted to testing.<sup>lxxi</sup> In surveys that specifically examine public attitudes about time and tests, a little over half of the individuals surveyed say the amount of testing in public schools is about right.<sup>lxxii</sup>

However, surveys of educators reveal that, while supporting state assessments, there are concerns about the amount of time that is devoted to test preparation. In the previously described 2005 survey of Texas teachers, 97 percent of teachers reported their schools require them to give practice tests and prepare students for TAKS, 15 percent of teachers devoted 50 percent or more of their class time to preparing for TAKS, and 14 percent

devoted 90 or more percent of their time to TAKS preparation.<sup>lxxiii</sup> When these teachers were asked if they would throw out the state testing program and let every school select its own testing program, 51 percent of teachers states they would “overhaul” the state assessment program but keep state assessments.<sup>lxxiv</sup>

Concerns about the time devoted to test preparation appear well-founded, but concerns about the time devoted to testing likely are not as well-founded, particularly when policies of other, more educationally advanced nations are considered. Among the 29 members of the Organization of Economic Cooperation and Development (OEC), the U.S. has the weakest system of high-stakes testing.<sup>lxxv</sup> Richard Phelps, who researched differences in testing among nations, reports: “The majority of other advanced industrialized nations in the world have been administering large-scale national or state-level high stakes tests for decades. Moreover most other countries are increasing their use of standardized testing and high stakes.”<sup>lxxvi</sup>

## **Assessments, Information Systems, and Improving Public Education**

Improving Texas public schools is deeply connected to the effectiveness of state assessments and to the state system that collects and reports information about the achievements of students, teachers, and schools. Without appropriate information, there is no way to measure progress, or evaluate programs, or craft the reforms needed to improve teaching and learning.

Today, Texas is desperately in need of an updated, sophisticated public education information system. Lauded as a national leader in the statewide collection of educational data in the 1990’s, the capacity of our Public Education Information System (PEIMS) has been surpassed today by several state systems, such as Florida and North Carolina, that collect better data, analyze it more efficiently, and make it available to independent researchers at universities and non-profit organizations.

To meet our information needs, Chrys Dougherty of the National Center for Educational Accountability and Paul Jargowsky of the Texas Schools Project recommend including the following essential elements in a new state education information system:

- **Student-teacher links.** Currently the PEIMS system includes the grade of the students and the grade(s) taught by a teacher, but individual students cannot be linked to individual teachers. There is no effective way to measure teacher performance without these links. The TEA should add these links to the PEIMS system going forward, and attempt to reconstruct them for 5 prior years to the extent possible.
- **Student Transcript Information.** The current PEIMS system only records the courses completed by students. Grades earned by students should be added, so that studies can be undertaken regarding grade inflation, the link between grades earned and performance on nationally normed tests, and other important topics.

- Teacher training and prior experience. Currently, only the degree received (bachelors, masters, etc.) is included in PEIMS. To facilitate evaluation of teacher training institutions and programs, the name of the teacher training institution, the major field of study, and the credit hours in specific topics of instruction should be included in each teacher's record. In addition, years of experience in other occupations should be recorded, to enable researchers to study the effectiveness of alternative routes into the teaching profession.
- In-Service Training. Currently, evaluations of in-service training programs can only be done locally, and are hampered by small sample sizes and inadequate outcome measures. PEIMS should include the number of hours of in-service training received, the type of instruction, and the ID of the instructor, and the ID of the providing agency or organization. Then, the impact of such programs on teacher quality can be evaluated based on the impact on teacher effectiveness, as measured by the value-added to student learning.

With much of this information already recorded by local education agencies and educator preparation programs, but not collected by the TEA in a systematic manner, the primary burden for developing this new system would rest primarily on the State.

The importance of developing a new, better public education information system is immeasurable for (1) statutory and regulatory policy – related to such things as school accountability and accreditation of teacher preparation programs; (2) local management of schools and districts – helping to inform decisions pertaining to such things as teacher salary incentives and resource allocation; and (3) research – helping to answer critically important questions pertaining to such things as the impact of assessments and teacher effectiveness.

## **Assessments: Agenda for Reform**

*“We have only one next generation to educate. For its sake, then, we bear a great responsibility to get it right.”* Darvin M. Winick and Sandy Kress (Testing Student Learning and Evaluating Teacher Effectiveness, 2004)<sup>lxxvii</sup>

Getting assessments right is essential for meeting our responsibility of getting public education right. Assessments, like any other human endeavor, require corrections of course to reach the desired destination and outcomes. It is time for Texas to develop a new system of state assessments for public schools based on our new knowledge about technical advances and research findings. This knowledge is synthesized in the following recommendations for a new, better state assessment system and to get education right for the schools we need in the 21<sup>st</sup> century.

### State Policy Recommendations

- Set higher standards for reading proficiency on state diagnostic assessments administered in kindergarten through second grade, and secure validation of standards by independent state and national reading experts.
- Strengthen state criterion-referenced assessments (Texas Assessment of Knowledge and Skills-TAKS) as follows:
  - Create specific grade level assessments and base passing standards only on standards for the students' current grade level so that students may not pass by demonstrating mastery of standards for earlier grades (this change is not intended to apply to alternative assessments administered to students enrolled in special education programs);
  - Set passing standards at a level that is full, instead of minimum, proficiency, and identify proficiency at a level that is equal to or higher than standards for proficiency set by the National Assessment of Educational Progress (NAEP);
  - Align assessments with new, more rigorous state curriculum standards (Texas Essential Knowledge and Skills-TEKS) and include every expectation for grade-level learning on assessments randomly over time to prevent curriculum narrowing;
  - Incorporate the capability to measure the academic value-added earned annually by individual students, to be used for accreditation of charter schools and educator preparation programs, and to support performance-based compensation.
  - Incorporate the capability to measure the annual progress that individual students make towards attaining the level of academic proficiency necessary to graduate from Texas public schools; and
  - Secure independent validation of state curriculum standards by independent state and national experts.
- Strengthen the state assessment system with end-of-course (EOC) tests for core middle and high school subjects:
  - Commission a national testing company to independently create EOC tests for core academic middle and high school courses that are aligned with the state curriculum and designed to culminate in postsecondary readiness;
  - Incorporate a measure of academic value-added in EOC tests;
  - Have independent state and national experts validate EOC tests; and
  - Incorporate EOC test results in the state's school accountability system and hold schools accountable for annual progress toward proficiency in passing rates.
- Strengthen the state assessment system with national norm-referenced tests:
  - Supplement the state's criterion-referenced assessments with a national norm-referenced test (such as the Iowa Test of Basic Skills or SAT-10) for grades 1-12 to allow comparisons of students in Texas public schools with students in other states;
  - Administer and fund a national norm-referenced test of postsecondary readiness (such as the ACT) at grade 11 or 12 and waive requirements for students to pass the state graduation assessment if students score at national benchmarks for postsecondary readiness; and
  - Incorporate postsecondary readiness test results in the state's school accountability system as one of the standards for rating, and hold schools accountable for annual gains in postsecondary readiness.

- Make literacy a priority for all state assessments, K-12. Create a reading assessment for each grade that is based on the grade level content in each core subject area that is defined by TEKS, and include testing of the vocabulary necessary to master the core subject area content of TEKS for each grade-level.
- Connect all state assessments with academic intervention, and require schools to provide accelerated academic support whenever students fail any portion of state assessments.
- Benchmark student achievement regularly and frequently – provide real-time data to teachers and use data to shape classroom instruction and provide intervention.
- Design student assessments to provide valuable information about student achievement that can be used to strengthen curriculum, evaluate teachers, support performance-based compensation programs, frame professional development, and improve teacher preparation and certification policies.
- Phase in computer-assisted testing.
- Validate assessments and standards regularly to ensure they are aligned with state policy goals;
- Create a new public education information system that connects all education and training from early childhood programs through postsecondary degrees and the workplace, including the following elements:
  - Linking individual students with individual teachers;
  - Creating student transcripts that records courses, grades, and scores on national tests;
  - Identifying teacher training and experience (including name of teacher training institution, major field of study, credit hours, and grades, years of teaching experience, and years of experience in other occupations); Identifying teacher professional development/in-service training (including number of training hours, type of instruction, instructor’s name, and providing agency); and
  - Make available to researchers all data, subject to confidentiality protections established by the Texas Education Agency.

## **ACKNOWLEDGEMENTS:**

TIER is indebted to Chris Patterson for drafting this paper, and to the following individuals who served as reviewers, provided valuable input and assistance, and generously shared their expert knowledge of public education research and practice: Chrys Dougherty, Dianne Johnson, Don McAdams, and Sandra Stotsky. TIER is solely responsible for all interpretations of fact and any possible error.

## **END NOTES**

---

<sup>i</sup> *A Primer on State Accountability and Large-Scale Assessment*, National Association of State Boards of Education, 2001. [http://www.nasbe.org/Educational\\_Issues/Reports/Assessment.pdf](http://www.nasbe.org/Educational_Issues/Reports/Assessment.pdf).

<sup>ii</sup> *Research review: Effects of high-stakes testing on instruction*, The Center for Public Education (no date), [http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research\\_review\\_Effects\\_of\\_highstakes\\_testing\\_on\\_instruction.htm](http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research_review_Effects_of_highstakes_testing_on_instruction.htm); Brian M. Stechner, “Consequences of Large-Scale, High-Stakes Testing on School and Classroom Practice,” *Making Sense of Test-Based Accountability in*

- 
- Education*, edited by Laura S. Hamilton et al., 2002, [http://www.rand.org/pubs/monograph\\_reports/MR1554/MR1554.ch4.pdf](http://www.rand.org/pubs/monograph_reports/MR1554/MR1554.ch4.pdf); and James H. McMillan et al., *The Impact of Mandated Statewide Testing on Teachers Classroom Assessments and Instructional Practices*, Metropolitan Educational Research Consortium, 1999, [http://eric.ed.gov/ERICDocs/data/ericdocs2/content\\_storage\\_01/0000000b/80/11/86/7e.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/11/86/7e.pdf).
- <sup>iii</sup> *Education and Skills for the 21<sup>st</sup> Century: An Agenda for Action*, Jobs for the Future, 2005, <http://www.jff.org/jff/kc/library/0263>.
- <sup>iv</sup> Ibid.
- <sup>v</sup> Ibid.
- <sup>vi</sup> Chrys Dougherty et al., *Identifying Appropriate College-Readiness Standards for All Students*, NCEA Issue Brief #2, Austin, TX, 2006.
- <sup>vii</sup> Ibid.
- <sup>viii</sup> Ibid.
- <sup>ix</sup> John E. Chubb et al., "Do We Need to Repair the Monument?" *Education Next*, No. 2, 2005, <http://www.hoover.org/publications/ednext/3220551.html>.
- <sup>x</sup> Ibid.
- <sup>xi</sup> Paul E. Peterson and Frederick M. Hess, "Keeping an Eye on State Standards," *Education Next*, No. 3, 2006, <http://www.educationnext.org/20063/28.html>.
- <sup>xii</sup> Chris Patterson, *From TAAS to TAKS: A Progress Report on New Assessments for Texas Public Schools*, Texas Public Policy Foundation, Austin, TX, 2002.
- <sup>xiii</sup> Ibid.
- <sup>xiv</sup> *Academic Standards for the Schools We Need*, Texas Institute for Education Reform, Policy Series, Issue 3, 2006, <http://www.texas.educationreform.org>.
- <sup>xv</sup> *All Tests Are Not Equal: Why States Need To Give High-Quality Tests*, Achieve, Inc. and the National Center for Educational Accountability, Washington, DC, 2003.
- <sup>xvi</sup> Mary Lyn Bourque, Testimony to the Texas Senate Education Committee, Austin, TX, October 4, 2006, <http://www.senate.state.tx.us/75r/senate/commit/c530/handouts06/100406.c530.BourqueML.pdf>.
- <sup>xvii</sup> *A Primer on State Accountability and Large-Scale Assessments*, National Association of State Boards of Education, 2001, [http://www.nasbe.org/Educational\\_Issues/Reports/Assessment.pdf](http://www.nasbe.org/Educational_Issues/Reports/Assessment.pdf).
- <sup>xviii</sup> *A Primer on State Accountability and Large-Scale Assessments*, National Association of State Boards of Education, 2001, [http://www.nasbe.org/Educational\\_Issues/Reports/Assessment.pdf](http://www.nasbe.org/Educational_Issues/Reports/Assessment.pdf).
- <sup>xix</sup> *State Policy Review of High School End of Course Assessment Programs*.
- <sup>xx</sup> Ibid.
- <sup>xxi</sup> John Bishop, *Curriculum-Based External Exit Exams*, CPRE Research Report Series RR-40, 1998, <http://www.cpre.org/Publications/pb-08.pdf>.
- <sup>xxii</sup> , Ludger Woessman, *The Effect Heterogeneity of Central Exams: Evidence from TIMSS, TIMSS-Repeat and PISA*, CESIFO Working Paper No. 1330, 2004, pg. 1 & 14, [http://ideas.repec.org/p/ces/ceswps/\\_1330.html](http://ideas.repec.org/p/ces/ceswps/_1330.html).
- <sup>xxiii</sup> John Bishop, "Money and Motivation," *Education Next*, Winter 2004, <http://www.educationnext.org/20041/62.html>.
- <sup>xxiv</sup> Janis Somerville, Lori Levitt and Yun Yi, *State Policy Review of High School End of Course Assessment Programs*, Prepared for the U.S. Department of Education, Office of Vocational and Adult Education, 2002, <http://www.nashonline.org/content/EOCReport.pdf>.
- <sup>xxv</sup> Clifford Adelman, *Answers in the Toolbox: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment*, U.S. Department of Education, 1999, Executive Summary, <http://www.ed.gov/pubs/Toolbox/toolbox.html>.
- <sup>xxvi</sup> Executive Order of the Governor of Texas, December 16, 2005, <http://www.governor.state.tx.us/divisions/exorders/rp53>.
- <sup>xxvii</sup> Texas Education Code, Section 39.0232.
- <sup>xxviii</sup> End-of Course Assessments, Texas Education Agency, Austin, TX, Summer 2006 (document distributed to Senate Education Committee, End-of-Course Cabinet, January 23, 2007).
- <sup>xxix</sup> *Texas Federation of Teachers Survey on the Impact of TAKS*, Texas Federation of Teachers, Austin, TX, 2005.

- 
- <sup>xxx</sup> Carolyn M. Hoxby, "Conversion of a Standardized Test Skeptic," *The Daily Report*, Commentary, June 18, 2001, Hoover Institution, <http://www.hoover.org/pubaffairs/dailyreport/archive/2865651.html>.
- <sup>xxxi</sup> Barbara Elizabeth Stewart, *Value-Added Modeling: The Challenge of Measuring Educational Outcomes*, Carnegie Corporation, 2006, pg. 2, [http://www.carnegie.org/pdf/Value\\_Added\\_Challenge\\_paper\\_mockup.pdf](http://www.carnegie.org/pdf/Value_Added_Challenge_paper_mockup.pdf).
- <sup>xxxii</sup> Henry I. Braun, *Using Student Progress To Evaluate Teachers: A Primer on Value-Added Models*, ETS Policy Information Perspective, Educational Testing Service, 2005, <http://www.ets.org/Media/Research/pdf/PICVAM.pdf>.
- <sup>xxxiii</sup> *Success in the Middle: A Policymakers Guide to Achieving Quality Middle Level Education*, National Middle School Association, Westerville, OH, 2006, pg. 6, <http://www.nmsa.org/Advocacy/PolicyGuide/tabid/784Default.aspx>.
- <sup>xxxiv</sup> *Standards, Assessment, and Accountability*, Table 1.5. Names and types of statewide assessments administered by state: 2003-2004, National Center for Educational Statistics, [http://nces.ed.gov/programs/statereform/saa\\_tab5.asp?referrer+tables](http://nces.ed.gov/programs/statereform/saa_tab5.asp?referrer+tables).
- <sup>xxxv</sup> *All Tests Are Not Equal: Why States Need To Give High-Quality Tests*, Achieve, Inc. and the National Center for Educational Accountability, Washington, DC, 2003.
- <sup>xxxvi</sup> Texas Education Code, Section 28.001.
- <sup>xxxvii</sup> *Do All Students Need a College Prep Curriculum?* Achieve, Inc., <http://www.achieve.org/files/RequireCollegePrep.pdf>.
- <sup>xxxviii</sup> *Texas 2012 Long-Term Projections Occupation Outlook*, Texas Workforce Commission, <http://www.tracer2.com/publication.asp?PUBLICATIONIS=1687>.
- <sup>xxxix</sup> *Do All Students Need a College Prep Curriculum?* Achieve, Inc., <http://www.achieve.org/files/RequireCollegePrep.pdf>.
- <sup>xl</sup> American Diploma Project High School Benchmarks, <http://www.achieve.org/node/175>.
- <sup>xli</sup> College Readiness Standards, ACT, <http://www.act.org/standard/index.html>.
- <sup>xlii</sup> Knowledge and Skills for University Success, Association of American Universities and the Center for Educational Policy, University of Oregon, <http://www.s4s.org/cepr.products.php>.
- <sup>xliii</sup> Jennifer Dounay, *Embedding College Readiness Indicators in High School Curriculum and Assessments*, ECS Policy Brief, Education Commission of the States, Denver, CO, 2006; and Lynn Olson, "In More States, It's Now ACT or SAT for All," *Education Week*, September 13, 2006.
- <sup>xliv</sup> *Smart Testing: Let's Get It Right*, American Federation of Teachers, Policy Brief, No. 19, Washington, DC, July 2006.
- <sup>xlv</sup> *Research review: Effects of high-stakes testing on instruction*, The Center for Public Education (no date), [http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research\\_review\\_Effects\\_of\\_highstakes\\_testing\\_on\\_instruction.htm](http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research_review_Effects_of_highstakes_testing_on_instruction.htm).
- <sup>xlvi</sup> Texas Federation of Teachers Survey on the Impacts of TAKS, Texas Federation of Teachers, Austin, TX, 2005.
- <sup>xlvii</sup> *Research Review: Effects of high-stakes testing on instruction*, Center for Public Education, [http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research\\_review\\_Effects\\_of\\_highstakes\\_testing\\_on\\_instruction.htm](http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIwE/b.1536671/k.9B6A/Research_review_Effects_of_highstakes_testing_on_instruction.htm); and Martin West, *Testing, Learning, and Teaching: The Effects of Test-based Accountability on Student Achievement and Instructional Time in Core Academic Subjects*, Working Draft, Thomas B. Fordham Institute, Washington, DC, 2006; and Nancy Kober, *Teaching to the Test: The Good, the Bad, and Who's Responsible*, TestTalk for Leaders, Center on Education Policy, 2002, <http://www.cep-dc.org/testing/testtalkJune2002.pdf>.
- <sup>xlviii</sup> Ibid.
- <sup>xliv</sup> Ibid.
- <sup>l</sup> Patricia A. Lauer et al., *The Influence of Standards on K-12 Teaching and Student Learning: A Research Synthesis*, Mid-continent Research for Education and Learning, 2006, [http://www.mcrel.org/PDF/Synthesis/5052\\_RSInfluenceofStandards.pdf](http://www.mcrel.org/PDF/Synthesis/5052_RSInfluenceofStandards.pdf).
- <sup>li</sup> Jennifer Booher-Jennings, "Rationing Education," *Washington Post*, October 5, 2006.
- <sup>lii</sup> Texas Federation of Teachers Survey on the Impacts of TAKS, Texas Federation of Teachers, Austin, TX, 2005.
- <sup>liii</sup> Joshua Benton, "TAKS push not so equal," *Dallas Morning News*, September 19, 2005.
- <sup>liv</sup> Jennifer Booher-Jennings, "Rationing Education," *Washington Post*, October 5, 2006.
- <sup>lv</sup> T. Kirst Williams et al., *Similar Student, Different Results: Why Do Some Schools Do Better?* EdSource, Mountain View, CA, 2006; and *Expecting Success: A Study of Five High Performing, High Poverty Schools*, Council of Chief State School Officers, 2002,

---

<http://www.ccsso.org/publications/details.cfm?PublicationID=39>; Lance Izumi, "Developing and Implementing Academic Standards," *A Template for Legislative and Policy Reform*, Pacific Research Institute, 1999, pg. 27, [http://www.pacificresearch.org/pub/sab/educat/ac\\_standards/main.html](http://www.pacificresearch.org/pub/sab/educat/ac_standards/main.html); <sup>lv</sup> and Richard P. Phelps, "Why Testing Experts Hate Tests," in *Testing Student Learning, Evaluating Teacher Effectiveness*, edited by Williamson M. Evers and Herbert Wahlberg, Hoover Institution, Hoover Books Online, 2004, pg. 46-51, [http://media.hoover.org/documents/0817929827\\_1.pdf](http://media.hoover.org/documents/0817929827_1.pdf).

<sup>lvi</sup> W. Stephen Wilson, *Are Our Students Better Now?* 2007, <http://www.math.jhu.edu/~wsw/89/Study89.pdf>.

<sup>lvii</sup> Sam Dillon, "Science ability drops in U.S. high schools," *The New York Times*, May 25, 2006.

<sup>lviii</sup> *The American Education Diet: Can U.S. Students Survive On Junk Food*, Center for Education Reform, 2006, [http://www.edreform.com/\\_upload.CER\\_JunkFoodDiet.pdf](http://www.edreform.com/_upload.CER_JunkFoodDiet.pdf).

<sup>lix</sup> Om P. Ahuja, "World-Class High Quality Mathematics Education for All K-12 American Students," *The Montana Mathematics Enthusiast*, The Montana Council of Teachers of Mathematics, ISSN 1551-3440, Vol. 3, No. 2, pg. 229.

<sup>lx</sup> Janet Elliott, "Lawmaker fears TAKS 'tyranny,'" *Houston Chronicle*, May 13, 2006.

<sup>lxi</sup> *Do All Students Need a College Prep Curriculum?* Achieve, Inc., <http://www.achieve.org/files/RequireCollegePrep.pdf>.

<sup>lxii</sup> E.D. Hirsch, Jr., "The Benefit to Equity," in *American Educator*, American Federation of Teachers, Summer 2002, pgs. 16-17.

<sup>lxiii</sup> *The Impact of High-Stakes Exams on Students and Teachers*, New York State Education Department, Fiscal Analysis and Research Unit, Policy Brief, Albany, NY, August 2004.

<sup>lxiv</sup> Bonita Grossen, *30 Years of Research: What We Now Know About How Children Learn to Read*, The Center for the Future of Teaching and Learning, 1997, [http://eric.ed.gov/ERICDocs/data/ericdocs2/content\\_storage\\_01/0000000b/80/24/10/dc.pdf](http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/24/10/dc.pdf); Wesley C. Becker, "Teaching Reading and Language to the Disadvantaged—What We Have Learned From Research," *Journal of Direct Instruction*, Winter, 2001; Cathy L. Watkins, *Project Follow Through: A Case Study of Contingencies Influencing Instructional Practices of the Educational Establishment*, Cambridge Center for Behavioral Studies, Concord, MA, 1977; and Mark C. Schug et al., *Direct Instruction and The Teaching of Early Reading*, Wisconsin Policy Research Institute, Vol. 14, No. 2, 2001.

<sup>lxv</sup> Texas Education Code, Sections 28.001 and 28.002.

<sup>lxvi</sup> *Ibid.*, 28.002 (f) and (g).

<sup>lxvii</sup> T. Kirst Williams et al., *Similar Student, Different Results: Why Do Some Schools Do Better?* EdSource, Mountain View, CA, 2006; and *Expecting Success: A Study of Five High Performing, High Poverty Schools*, Council of Chief State School Officers, 2002, <http://www.ccsso.org/publications/details.cfm?PublicationID=39>; Lance Izumi, "Developing and Implementing Academic Standards," *A Template for Legislative and Policy Reform*, Pacific Research Institute, 1999, pg. 27, [http://www.pacificresearch.org/pub/sab/educat/ac\\_standards/main.html](http://www.pacificresearch.org/pub/sab/educat/ac_standards/main.html); <sup>lxvii</sup> and Richard P. Phelps, "Why Testing Experts Hate Tests," in *Testing Student Learning, Evaluating Teacher Effectiveness*, edited by Williamson M. Evers and Herbert Wahlberg, Hoover Institution, Hoover Books Online, 2004, pg. 46-51, [http://media.hoover.org/documents/0817929827\\_1.pdf](http://media.hoover.org/documents/0817929827_1.pdf).

<sup>lxviii</sup> *Pocket Edition 2004-05 Texas Public School Statistics*, Texas Education Agency, Austin, TX, 2006.

<sup>lxix</sup> Grant Wiggins, "Healthier Testing Made Easy," *Edutopia*, April 2006, <http://www.edutopia.org/magazine>.

<sup>lxx</sup> Clay Robison, "Plenty of Texans have had enough of testing frenzy," *Austin American Statesman*, June 4, 2006.

<sup>lxxi</sup> *Research Review: Effects of high-stakes testing on instruction*, Center for Public Education, <http://www.centerforpubliceducation.org/site/c.kjJXJ5MPIw1536>.

<sup>lxxii</sup> *Ibid.*

<sup>lxxiii</sup> Texas Federation of Teachers Survey on the Impacts of TAKS, Texas Federation of Teachers, Austin, TX, 2005.

<sup>lxxiv</sup> *Ibid.*

<sup>lxxv</sup> Richard Phelps, *Kill the Messenger: The War on Standardized Testing*, Transaction Publishers, Somerset, NJ, 2005, pg. 12.

<sup>lxxvi</sup> Richard Phelps, *Kill the Messenger: The War on Standardized Testing*, Transaction Publishers, Somerset, NJ, 2005, pg. 12.

---

<sup>lxxvii</sup> Darwin M. Winick and Sandy Kress, "Accountability Works in Texas," in *Testing Student Learning, Evaluating Teacher Effectiveness*, edited by Williamson M. Evers and Herbert Wahlberg, Hoover Institution, Hoover Books Online, 2004, pg. 321, [http://media.hoover.org/documents/0817929827\\_243.pdf](http://media.hoover.org/documents/0817929827_243.pdf).