



# Policy *Perspective*

## Rethinking Public School Accountability:

### Using End-of-Course Exams to Measure and Improve the Quality of a High School Education

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In today's high-tech, global economy, students need a rigorous education and a high level of skills to succeed in college or the workplace. Today, some students are graduating without the basic skills needed to be successful in the "real" world. In addition, our public education system is plagued by low expectations, grade inflation, and course-credit inflation.

Assessing students with rigorous and well-designed end-of-course exams can help measure and improve the quality of a high school education. While end-of-course exams can provide a step toward restoring the value of the high school diploma, opening the education system to competition through choice is ultimately the solution for improving education. As The New Commission on The Skills of The American Workforce says:

*"It is not possible to get where we have to go by patching that system. There is not enough money available at any level of our intergovernmental system to fix this problem by spending more on the system we have. We can get where we must go only by changing the system itself."<sup>1</sup>*

#### WEAKNESSES IN OUR CURRENT EDUCATIONAL SYSTEM

##### **Grade Inflation**

One weakness in our education system is the inability to discern if an "A" is truly an "A". Teachers are increasingly giving high marks to students for less achievement. Some teachers even admit they are pressured to inflate grades. According to a survey of American Federation of Teachers members, one-third of teachers

admitted feeling pressure to lower academic standards in the classroom. Furthermore, 30 percent of teachers said they specifically felt pressure to give higher grades than a student's work deserved and to decrease the difficulty and amount of work assigned.<sup>2</sup> While some schools are more likely to inflate grades than others, an analysis by the U.S. Department of Education found that students in poor schools typically receive an "A" for work that would earn a "C-" in wealthy schools.<sup>3</sup>

Awarding undeserving students high grades provides them with an inaccurate perception of their skills and abilities and sets them up for future frustration. For example, the *Sun and Inland Valley Daily Bulletin* profiled Shirley Zepeda, a 2004 graduate from San Bernardino High School in California. Although Shirley made all A's in high school, much to her surprise, Shirley was placed in remedial math and writing classes her first year of college. Hence, she personally experienced the consequences of grade inflation and the disconnect between high school and college expectations.<sup>4</sup>

##### **Course-Credit Inflation**

Giving students credit for courses for which they have not mastered the material is called course-credit or course-title inflation.

An example of course-title inflation was found by Dr. William Schmidt, Director of the U.S. TIMSS National Research Center at Michigan State University. In his evaluation of data from this study, he found that one-third of U.S. 8th grade mathematics courses labeled "Algebra I" used a textbook with little algebra content.<sup>5</sup>

**QuickFact:**

Sixty percent of low-income students—65 percent of African-American students, and 57 percent of Hispanic students—received course credit for geometry and Algebra II and yet failed the Texas exit exam covering geometry and Algebra I.<sup>7</sup>

A 2002 report prepared for the U.S. Department of Education examined the National Assessment of Educational Progress and state assessments to determine if the increase in students completing a rigorous college preparatory curriculum led to a corresponding increase in student achievement in high level courses. The report states that the results “raise grave questions about what is actually taught in these courses, for student performance in higher level content has not grown proportionately.”<sup>6</sup>

Similarly, researchers at the National Center for Educational Accountability compared Texas student course-completion data with Texas exit test results and found a startling 60 percent of low-income students—65 percent of African-American students, and 57 percent of Hispanic students—received course credit for geometry and Algebra II and yet failed the Texas exit exam covering geometry and Algebra I.<sup>7</sup>

Even Advanced Placement Program (AP) courses are not immune to the problem of course-credit inflation. As more parents realize the importance of a strong and rigorous high school curriculum, they are demanding that schools enroll their children in advanced courses. Thus, the number of Texas schools offering Advanced Placement (AP) courses grew from 158 in 1993 to 1,114 in 2004.<sup>8</sup> Furthermore, the number of Texas students taking AP exams increased 198.9 percent from 1997 to 2005.<sup>9</sup> Unfortunately, some students are placed in advanced level courses for which they are not academically ready. Even worse, some students receive credit for advanced courses without mastering the material. According to the National Center for Educational Accountability, “high percentages of students receiving credit for advanced courses are not learning the content implied by their course titles.”<sup>10</sup>

The College Board is taking action to ensure content taught in high school AP courses meets college-level and AP standards. To

protect the AP brand, the College Board is implementing an annual AP Course Audit in the 2007-2008 school year including sending college professors to drop in on AP classes to ensure teachers are following their submitted syllabuses.<sup>11</sup>

***Disconnect Between High School and College Coursework and Expectations***

Another weakness in our public education system is the disconnect between skills taught in high school and skills required in college. Many states use poor assessments for measuring subject-area mastery that fail to measure high-level skills. According to the 2005 National Education Summit on High School report, “high school tests typically measure 8th, 9th, and 10th grade skills—only a subset of the skills that students will ultimately need” causing colleges and employers to pay little attention to state test results.<sup>12</sup> Too many high schools are graduating students unprepared for college as demonstrated by the high percentage of students taking remedial classes in basic subjects during their first year of college. The Higher Education Coordinating Board reports that over 40 percent of students entering Texas two- and four-year colleges in 2002 were enrolled in remedial courses. This means approximately 200,000 Texas high school graduates entering college were not prepared.<sup>13</sup> Even more disturbing is a statement in the 2000 long-range plan for The University of Texas System saying that “there are large numbers of students whose preparation is so weak that currently available remedial programs are not adequate to prepare them for success in college.”<sup>14</sup>

And the cost for not educating our students in the basics like reading, writing, and arithmetic is high. In studying the education deficit in Texas, Dr. Christopher Hammons found that Texas loses over \$13.6 billion a year and he estimates the 10 year cost could be as high as \$174.2 billion. His report states:

*The financial impact on the state manifests itself in a variety of ways—lowering earning potential and poor productivity of workers, increased spending on social programs, direct costs of remediation by institutes of higher education and employers, and personal losses that may affect individuals for a lifetime and the state for generations.<sup>15</sup>*

Furthermore, the New Commission on The Skills of The American Workforce report says:

*“We tolerate an enormous amount of waste in the system, failing our students in the early years when the cost of doing the job right would be relatively low, and trying to remediate it later at a much higher cost.”<sup>16</sup>*

### **Devaluing of the High School Diploma**

Many parents, taxpayers, employers and university administrators no longer believe a high school diploma demonstrates mastery of core academic subjects and advanced skills. As a report by the American Federation of Teachers explains, “in too many cases, a diploma signifies little more than high school attendance.”<sup>17</sup> How can parents, businesses, colleges and the community know that an “A” really means an “A” or that the student has mastered certain skills? Researchers at the Manhattan Institute for Policy Research explain the challenge:

*For too long, students have been able to graduate from our nation’s schools without gaining the skills necessary to make it in the workforce. When we give diplomas to those who have not earned them, we only decrease employers’ ability to distinguish between those who really have basic skills and those who do not.*

*This is harmful to those who do possess such skills, because they don’t get credit for their accomplishments, and also to the students who were simply passed along from grade to grade, without ever being taught such skills.<sup>18</sup>*

## **TEXAS’ ACCOUNTABILITY SYSTEM**

In the late 1990s, Texas had four end-of-course tests: Algebra I, English II, biology and U.S. history. While the score on an end-of-course exam did not affect a student’s grade in the course, a passing score on three end-of-course exams did exempt students from having to take the exit-level Texas Assessment of Academic Skills (TAAS) to graduate.<sup>19</sup> Between the 1998-1999 and 2001-2002 school years, students passing three<sup>i</sup> of the four end-of-course exams were exempted from meeting graduation test requirements.<sup>20</sup> According to the Texas Education Agency, 11,800 students in the 2001-2002 school year fulfilled their graduation requirements by passing three end-of-course exams.<sup>21</sup>

In 1999, Texas changed the school accountability system by replacing the TAAS test with the more rigorous Texas Assessment of Knowledge and Skills (TAKS) tests and in the process got rid of end-of-course exams.<sup>ii</sup> End-of-course exams were last used statewide in the 2001-2002 school year and the TAKS test was first administered in the 2002-2003 school year.

Currently, Texas students take the TAKS test every year in grades 3-11. Failing the TAKS test can prevent students from advancing to the next grade for 3rd, 5th, and 8th grades.

### **QuickFact:**

The Higher Education Coordinating Board reports that over 40 percent of students entering Texas two- and four-year colleges in 2002 were enrolled in remedial courses. This means approximately 200,000 Texas high school graduates entering college were not prepared.<sup>13</sup>

<sup>i</sup> Algebra I, English II and either biology or U.S. history.

<sup>ii</sup> The Algebra I end-of-course exam is currently available to school districts as a voluntary assessment and can be administered online.

## TAKS TEST SCHEDULE BY SUBJECT

Grade Level	Reading	Writing	Math	Science	Social Studies
3rd Grade	X		X		
4th Grade	X	X	X		
5th Grade	X		X	X	
6th Grade	X		X		
7th Grade	X	X	X		
8th Grade	X		X	X	X
9th Grade	X		X		
10th Grade	X	X	X	X	X
11th Grade**	X	X	X	X	X

Source: Texas Education Agency

\*\*Students must pass all sections of the 11th grade TAKS to graduate.

### QuickFact:

*criterion-referenced tests* measure student attainment of specific knowledge and skills

*norm-referenced tests* measure how students perform against their peers

The TAKS assesses: reading in grades 3-9; math in grades 3-10; writing in grades 4 and 7; English language arts (includes reading and writing) in grade 10; science in grades 5 and 10; and social studies in grades 8 and 10. Texas students take a multi-subject, cumulative exit exam called the exit TAKS test in the spring of their 11th grade year. Students are assessed in language arts, math, science, and social studies and must pass all parts of the exit TAKS test to graduate.

In December 2005, Texas Governor Rick Perry issued an Executive Order instructing the development of a “series of voluntary end-of-course assessments in science, mathematics, and other subjects, currently assessed by the 11th grade Texas Assessment of Knowledge *and* Skills, to measure student performance; and provide for a potential alternative to the Texas Assessment of Knowledge *and* Skills.”<sup>22</sup> To comply with the Executive Order, the Texas Education Agency is currently developing end-of-course

assessments in geometry, biology, chemistry, physics, and U.S. history to be administered online. Voluntary end-of-course exams will be field-tested<sup>iii</sup> in intervals and will be ready between Spring 2008 and Spring 2009.<sup>23</sup>

### End-of-Course Exams

End-of-course exams are final exams administered at or near the end of each academic course. The exams are curriculum-based tests tied to the content of specific courses at the high school level and are generally tied to the overall course grade.<sup>24</sup> The best-known end-of-course exams are the Advanced Placement (AP) tests and the International Baccalaureate exams, which measure varying degrees of student achievement in several core subject areas. While some school districts have developed their own exams, the exams are usually developed and graded by a centralized entity such as a state education department or national organization like the College Board.<sup>25</sup>

<sup>iii</sup> The geometry and biology end-of-course exams will be field-tested during Spring 2007 and implemented during Spring 2008. The other assessments are under development and will be field-tested in Spring 2008 and implemented in Spring 2009.

End-of-course exams are generally designed as criterion-referenced tests, which mean that they measure student achievement against a content standard and not relative to the performance of other students in the classroom.<sup>26</sup> Test expert Mary Lyn Bourque explains in her testimony before the Texas Senate Education Committee that criterion-referenced tests are diagnostic in nature and designed “to measure the test content well, or at least well enough to make important instructional decisions, such as who passes or fails, or who graduates or does not, or who gets promoted or not.”<sup>27</sup>

### **End-of-Course Exams Can Raise Academic Achievement and Learning**

John Bishop, a professor at Cornell University and prolific researcher of curriculum-based exams, found that curriculum-based exit exams raise student achievement. He wrote:

*My analysis of data collected by the 1995 Third International Mathematics and Science Study (TIMSS) of students in 40 countries shows that curriculum-based exit exams do raise achievement. The study found that students from countries with medium- and high-stakes exit examination systems outperform students from other countries at a comparable level of economic development by 1.3 U.S. grade-level equivalents in science and by 1.0 U.S. grade-level equivalents in mathematics.*<sup>28</sup>

Bishop also studied states’ 8th-grade reading, math, and science scores on the 1996 and 1998 National Assessment of Educational Progress (NAEP). His research found that the “hybrid end-of-course/minimum-competency exam systems” in New York and

North Carolina in the 1990s “clearly had the largest effects on tests scores.” In particular, 8th grade students in both New York and North Carolina were approximately 45 percent of a grade-level ahead in math and science and 65 percent of a grade-level ahead in reading compared to students in states without such exams. Furthermore, New York students did significantly better on the SAT and on the 1992 8th-grade NAEP math tests than other states with demographically similar populations.<sup>29</sup>

In addition, a 2006 report by the New York State Education Department found that increased student participation<sup>iv</sup> in Regents courses and Regents exams led to increased student performance on national tests.<sup>30</sup> New York’s average SAT score increased 20 points between 1993 and 2005, rising from 988 to 1008.<sup>31</sup> Over this same time period, Texas’ average SAT score rose 7 points from 988 to 995.<sup>32</sup> Nationally, the average SAT score rose 23 points from 1003 to 1026.<sup>33</sup>

### **End-of-Course Exams Can Reward All Levels of Academic Achievement**

Rigorous and well-designed end-of-course exams measure multiple levels of achievement and skill versus minimum-competency exams which are designed to identify students who fail to pass a low minimum standard.<sup>34</sup> The threshold needed to pass most exit exams is set at such a low level that many high-achieving students have no incentive to do well.<sup>35</sup> Dr. William Sanders, an expert on school assessments, testified before the Texas Senate Education Committee stating that a school’s focus on meeting minimum standards in exit exams like the TAKS test hurts high-achievers. He asserts that there is no incentive for strong students to do better than the minimum on exit exams since there is no reward. Hence, Dr. Sanders strongly

### **TalkingPoint:**

*End-of-course exams can:*

- Raise academic achievement and learning
- Reward all levels of student achievement
- Give educators a tool to diagnose student comprehension after every course
- Allow the test to follow the student
- Link teacher performance with student achievement

<sup>iv</sup> According to the New York education department, the percentage of high school graduates earning Regents diplomas increased from 42 percent to 70 percent since the implementation of higher graduation requirements in 1996.

advocates implementing end-of-course exams to correct this problem.<sup>36</sup> Researcher John Bishop also believes that the high school accountability system should be based on end-of-course exams. His research found that end-of-course exams measure “the full range of achievement level in the subject; so everyone has an incentive to study harder in order to do better on the test; not just the students at risk of failing the course.”<sup>37</sup>

useful for evaluating the strength of course content or effectiveness of instruction.”<sup>41</sup>

End-of-course exams test students on what they learned in a course near the end—or directly after—they complete the course. Since end-of-course exams only assess the material taught in the course, the test can be very comprehensive in the subject area and test students in depth. As a result, educators can evaluate subject mastery, diagnose weaknesses in academic curriculum and teaching, determine if the student is ready for the next level of the course, and more accurately measure student progress. The Texas Senate Committee on Education’s Interim Report to the 80th Legislature concludes that by administering end-of-course exams throughout high school, “problems would be identified early and additional instruction and assistance could be provided to struggling students.”<sup>42</sup>

### TalkingPoint:

End-of-course exams can provide incentive for students to learn and perform well on the exam by measuring multiple levels of achievement and by rewarding students for their performance on the exam.

End-of-course exams can provide an incentive for students to learn and perform well on the exam by measuring multiple levels of achievement and by rewarding students for their performance on the exam. Rewards can include a more prestigious diploma, merit-based scholarships,<sup>v</sup> and visibility of exam grades on transcripts.<sup>38</sup> Some states print exam grades on student transcripts for colleges and future employers to see. These states include New York, North Carolina, Michigan, Arkansas, Colorado, Illinois, Pennsylvania, and West Virginia.<sup>39</sup>

### *End-of-Course Exams Can Provide a Diagnostic Tool to Assess Student Comprehension After Every Course*

Most educators agree that the purpose of testing is to determine subject matter comprehension and to identify where improvement is needed. As an Achieve report states, “test results should enable teachers and parents to pinpoint weaknesses.”<sup>40</sup> Unfortunately, the 9th and 10th grade TAKS test and the exit TAKS test does not enable educators to diagnose student strengths and weaknesses in each course and grade level to allow them to intervene and provide additional help. In testimony before the Texas Senate Education Committee, John Stevens, Executive Director of the Texas Business and Education Coalition (TBEC), stated that the high school testing system “is not particularly

### *End-of-Course Exams Allow the Test to Follow the Student*

Although elementary and middle schools have a sequenced curriculum that all students take together, high schools lack a sequenced curriculum for subjects like math and science. High schools allow students to choose which math and science courses to take and when to take them according to their skill level. For example, students could take biology, chemistry, physics, environmental science, or earth science for their science credit in 10th grade. The variation and flexibility with math and science courses in high school reduces the accountability and effectiveness of a generic grade level test on math and science. In a report to the U.S. Education Department, Bishop addresses the difficulty in designing a challenging 10th grade generic science test and concludes that “a test covering all fields of science will inevitably be watered down and

<sup>v</sup> Michigan and Ohio reward excellence on end-of-course exams with merit-based scholarships.

hold no one in particular accountable.”<sup>43</sup> Dr. William Sanders, a strong advocate for high school end-of-course exams, testified before the Texas Senate Education Committee that schools should give an end-of-course algebra test to students whenever they take algebra. He believes the test should follow the student.<sup>44</sup>

### ***End-of-Course Exams Can Link Teacher Performance with Student Achievement***

Under the current high school assessment system, students are tested on material taught over several years by different teachers making it hard to tie student learning and achievement to a specific teacher. As TBEC Executive Director John Stevens said in written testimony to the Texas Senate Education Committee, the high school testing system “does not have a particularly strong impact on individual teachers because they do not have personal ‘ownership’ of the results.”<sup>45</sup> Researcher John Bishop finds that assessment systems based off of multi-subject, cumulative tests do not hold individual teachers responsible for student results because “when everyone is responsible, no one is responsible.”<sup>46</sup>

Testing students at the end of each academic course with a standardized end-of-course exam could provide a direct link between teaching performance and student achievement. German researchers Erich Gundlach and Ludger Wößmann found that centralized, or standardized, exams allow for comparability and increase transparency, stating that “parents can assess the performance of children, teachers, and schools; heads of schools can assess the performance of teachers; and the government and administration can assess the performance of different schools.”<sup>47</sup>

Thus, excellent teachers could be rewarded for tremendous student academic gains over the year and struggling teachers could be provided with the assistance of a mentor.

### ***Criticism of End-of-Course Exams***

Critics of end-of-course exams note that end-of-course exams do not provide schools with a cumulative measure of student knowledge at the end of their high school career. This is correct. As test expert Mary Lyn Bourque explains in her testimony before the Texas Senate Education Committee, criterion-referenced tests like end-of-course exams are designed to test a subject in depth and are not designed to be a survey test. However, in the current testing system, the exit-level TAKS assesses students at end of 11th grade and does not provide any information about student performance and achievement in 12th grade. Whereas, end-of-course exams test students in each academic course in all four years of high school and provide interested stakeholders data from 12th grade coursework. For those states that want a cumulative test, they can follow the lead of several states that are using ACT or SAT scores as a cumulative measure of student achievement.

## **EXAMPLES OF END-OF-COURSE EXAMS**

### ***New York’s Regents Examinations Model***

New York’s curriculum-based Regents exams are the oldest example of end-of-course examinations in the United States.<sup>48</sup> Passed by an ordinance of the Board of Regents in 1864, New York State has given curriculum-based high school examinations since 1878. The first exams tested five subjects: algebra, American history, Latin, philosophy, and geography.<sup>49</sup> Over time, the number and type of examinations have changed to correspond

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with changes in the high school curriculum.<sup>50</sup> In the 2004–2005 school year, over 1.5 million Regent examinations were administered in New York high schools in 15 subjects.<sup>51</sup>

Students can choose to take Regents exams at the end of each academic course throughout their high school career. To accommodate summer school and semester-long courses, Regents exams are administered three times a year.<sup>52</sup> Each Regents examination is based on a state syllabus or core curriculum.<sup>53</sup> Regents exams test subject areas comprehensively with essays and open-answer, true-false, multiple-choice, completion, and matching questions.<sup>54</sup> The exams are graded by a panel of teachers using rubrics supplied from the state Board of Regents.<sup>55</sup> Teachers grade their student's exams with colleagues resulting in feedback and discussions on what types of mistakes their students are making and how to improve their teaching and coverage of that material for the following year.<sup>56</sup> For many teachers, the grading of the exams can be an excellent professional development experience.<sup>57</sup> Regents exams are constantly changing with each Regents examination used one time to assess students and then released to the public.<sup>58</sup>

For more than a century, Regents exams were voluntary and not required for graduation. In 1995, the Board of Regents raised curriculum standards and required passage of Regents exams in five core areas in order to graduate. New York has gradually phased in the higher graduation standards by incrementally raising the bar each year.

When the new graduation requirements are fully implemented, students will be required to score 65 or higher on Regents examinations in the five core areas of English, mathematics, global history and geography, U.S. history and government, and science.<sup>59</sup>

New York awards a more prestigious diploma to students who excel in advanced courses called the Regents Diploma with Advanced Designation. Students must score 65 or higher on eight Regents examinations<sup>vii</sup> to receive the advanced diploma.<sup>60</sup> New York's Regents examinations are so well regarded for their rigor that The City University of New York accepts a score of 75 or higher on the English Regents exam in lieu of their own placement test.<sup>61</sup>

### *Advanced Placement Program Model*

The Advanced Placement (AP) Program provides high school students an opportunity to take college-level courses for college credit or placement through an end-of-course AP exam. The College Board, a non-profit organization comprised of schools, colleges, universities, and other educational organizations, manages and oversees the Advanced Placement Program operations.<sup>62</sup> According to the College Board, more than 15,000 schools worldwide participate in the AP Program and over 1.2 million students took AP exams in 2005.<sup>63</sup> And most of the nation's colleges and universities, along with colleges in more than 30 countries, award students college credit or placement for qualifying<sup>viii</sup> AP exam scores.<sup>64</sup> The Advanced Placement Programs asserts

### **QuickFact:**

New York State has given curriculum-based high school examinations since 1878. In 2004–05 over 1.5 million Regent examinations were administered in New York high schools in 15 subjects.

<sup>vi</sup> Students graduating in 2000 were required to score 55 or higher on the English Regents examination. Each succeeding class was required to score 55 or higher on additional Regents exams to graduate. The class of 2003 was required to score 55 or higher on all five Regents exams. The score requirement increases to 65 on two Regents exams for the class of 2009 and for all five exams for the class of 2012.

<sup>vii</sup> The three additional exams are math, science, and foreign language.

<sup>viii</sup> While most colleges and universities grant college credit for a score of three or higher on the AP exam, some schools only award credit for a score of four or five on the AP exam.



that since “AP exams provide a consistent, national measure of college-level mastery of a course, college admissions officers place a higher value on AP than on honors courses in gauging the rigor of a student’s high school curriculum.”<sup>65</sup>

Currently, the AP Program offers 35 courses in 20 different subject areas.<sup>66</sup> AP courses and exams are developed and continually updated by an AP Development Committee in each AP subject. An AP Development Committee consists of experienced AP high school teachers and professors at top colleges and universities. Scores on AP exams range from 1 to 5 with a 5 equaling A-level work in an equivalent college course. AP exams contain multiple choice questions and a lengthy free-response section including essays, translations, and problems. Each year, AP exams are graded by 7,000 college faculty and AP teachers using standards and scoring rubrics developed by college and university faculty who teach corresponding courses. Although there is no cost to take an AP course in high school, taking an AP exam cost<sup>ix</sup> students \$82.<sup>67</sup>

### ***Other End-of-Course Exams in the States***

The type of assessments used in American classrooms varies widely. Some states use minimum competency exams to determine if a student possesses a certain level of competency to graduate. These exams are usually set at an 8th or 9th grade level. Many states in the South use end-of-course exams to test student achievement. An analysis of state education department websites in January 2006 found 14 states currently using

or implementing end-of-course exams. The states include: Arkansas, California, Georgia, Indiana, Louisiana, Maryland, Mississippi, New York, North Carolina, Oklahoma, South Carolina, Tennessee, Virginia, and West Virginia. Missouri is considering replacing their state exit-exam with end-of-course exams and selected schools in Pennsylvania are working to establish end-of-course exams in core subjects.<sup>68</sup> States have implemented end-of-course exams in various ways. For instance, Georgia, South Carolina, and Tennessee require the end-of-course exam to count between 15 percent and 25 percent of the overall course grade. Maryland,<sup>x</sup> New York, and Tennessee all include essays on one or more end-of-course exam.<sup>69</sup> And exam scores in Oklahoma, Tennessee, and Maryland are reported on student transcripts. Several organizations support the use of end-of-course exams including Achieve, Inc.,<sup>xi</sup> The Education Trust, the Thomas B. Fordham Foundation, the Southern Regional Education Board, the National Governor’s Association,<sup>xii</sup> and the American Federation of Teachers.<sup>70</sup>

### ***International Model of Curriculum-Based Exams***

Many countries in Europe, East Asia, and parts of Canada have some type of curriculum-based external exam system to evaluate student learning.<sup>xiii</sup> The curriculum-based exams are typically collections of end-of-course exams used to test students on the curriculum by subject area at the end of a sequence of courses. The curriculum-based exams in Europe tend to be more challenging and difficult than the minimum

### ***QuickFact:***

More than 15,000 schools worldwide participate in the AP Program and over 1.2 million students took AP exams in 2005.

<sup>ix</sup> High schools administering AP exams retain \$8 of the \$82 fee to pay for AP exam administration costs.

<sup>x</sup> Maryland requires written responses on their English, science, algebra, and government exams.

<sup>xi</sup> Achieve is working with Arkansas, Indiana, Kentucky, Massachusetts, Maryland, New Jersey, Ohio, Pennsylvania, and Texas to develop a Request for Proposal for a common end-of-course exam for Algebra II.

<sup>xii</sup> Australia, Canada, Denmark, England, Finland, Germany, Ireland, Japan, Korea, Netherlands, and Scotland all have a curriculum-based exam system.

<sup>xiii</sup> ACT is working with the National Governor’s Association to develop end-of-course assessments in English II, biology, and geometry as part of a pilot project with Mississippi, Oklahoma, and Pennsylvania.

## RECOMMENDATIONS

Replace the high school TAKS tests with statewide end-of-course exams in all academic subjects including math, science, history, language arts and foreign language.

### TEST DESIGN

- Include essays, open-ended questions and math/science problems on the exams.
- Seek assistance from New York and the College Board to make exams rigorous.

### TEST ADMINISTRATION

- Administer the exams close to the end of the course.
- Have a panel of teachers grade each exam.
- Provide graders with a standard scoring rubric for each exam.
- Provide students who fail the exam with opportunities to retake the exam/class and receive tutoring assistance.

### TEST SCORING

- Attach consequences to the exams by requiring students to pass the exam to pass the course.
- Score exams on a grading scale that the public understands like an A to F scale.
- Incrementally raise the passing standard on exams to give students and teachers time to adjust to the new standards and exams.
- Use exam scores in assessing high school performance and in high school accountability rankings.

### TEST TRANSPARENCY

- Publish exam grades on high school transcripts to provide visibility to all stakeholders.
- Release older exams to the public.

competency exams and standards-based exams used in the United States. According to Bishop, the exams are about three hours long and require students to “write long essays, do experiments and show how they solved multi-step problems.”<sup>71</sup> The exams align instruction and assessment and allow for teacher accountability.<sup>72</sup> Employers use exam grades in their hiring decisions, as curriculum exam grades typically appear on resumes and are requested on job applications. Students are rewarded for excellence on the exams with a more prestigious diploma and or a merit-based scholarship.

## CONCLUSION

Our education system is becoming increasingly ineffective due to low expectations, grade inflation, and course-credit inflation. As a result, many parents, employers, and institutions of higher learning view a high school diploma as a record of attendance rather than a record of achievement. One way to restore value to the high school diploma and increase the quality of education in high school is to measure student progress and achievement at the end of each course with rigorous end-of-course exams. Statewide end-of-course exams that are aligned with curriculum standards and use an external measurement to assess student knowledge will highlight deficiencies in our education system and make grade inflation and course-credit inflation more obvious.

It is imperative that the design of end-of-course exams include open-ended questions. European curriculum-based exams, New York Regents exams, and Advanced Placement exams all include essays and free-response questions that allow the graders to assess writing skills and math and science comprehension. Tests with fewer multiple choice questions and more open-ended questions can encourage teachers to teach

the knowledge and skills in the curriculum and not how to answer specific types of test questions.

End-of-course exams can provide educators, parents, and students with timely and in-depth information on student comprehension and skill attainment and whether or not the student is ready to proceed to the next level. For the exam results to be useful, the exams need to be administered close to the end of the course and graded quickly so teachers can use the results to plan improvements in their classrooms and provide assistance to students who need extra help. Moreover, test results need to be available to students, parents, and school counselors in a timely manner to allow for changes to a student’s course schedule.

It is important to note that for end-of-course exams to be effective in assessing student knowledge, they must be rigorous and well-designed. And in order for students to have an incentive to do well on the exams, they need to be included in the overall course grade. Texas did not attach consequences to end-of-course exams used in the late 1990s; thus, a student’s score on the end-of-course exam did not affect their course grade or whether they passed the course. For example, in 1999, the Texas Education Agency reports that 36 percent of students passed Algebra I yet failed the Algebra I end-of-course exam.<sup>73</sup>

Ultimately, the rigor of Texas’ academic curriculum is only as tough as the tests used to measure performance. If Texas lawmakers want to improve the quality of a high school education and determine if students are actually learning the curriculum, Texas should adopt rigorous end-of-course exams in all academic subjects. ★

## ENDNOTES

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