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Tennessee Comptroller of the Treasury, Justin P. Wilson
Legislative Brief

On the Horizon: More Rigorous Standards and New Graduation Requirements

Contact: Kim Potts, Principal Legislative Research Analyst
(615) 401-7875 / Kim.Potts@tn.gov

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Key Points

- *Tennessee has revised K-12 curriculum standards in language arts, math, and science. The new standards, effective in school year 2009-10, represent more rigorous expectations for Tennessee students.*
- *Tennessee has eliminated the two-path curriculum. All high school students will be required to complete the same core requirements whether they are college- or career-bound.*
- *The state is replacing the Gateway assessments with new, more rigorous end-of-course (EOC) tests. Students will have to pass the courses in which EOCs are given, but will not have to pass the tests themselves to receive a diploma. The EOC test grades will count 20 percent toward students' final semester grades for the first two years and 25 percent thereafter.*

Introduction

In January 2008, the Tennessee State Board of Education passed a new High School Policy requiring all students to complete the same graduation requirements; the previous policy defined separate paths for college-bound students and career-technical students. The State Board also adopted new K-12 standards in language arts, math, and science, representing more rigorous expectations for students.

> Raising the bar is much more than making schoolwork more difficult or making it harder to get good grades. Raising the bar entails elevating what teachers expect of each student, what each student expects of him or herself and what accountability we attach to those expectations.
>
> Hank Rubin, *School Administrator*, "What Does 'Raise the Bar' Really Mean?" Dec. 2005.

The High School Policy eliminates the existing Gateway tests and replaces them with new, more rigorous end-of-course assessments that are aligned to the revised standards. Students must pass the courses in which end-of-course assessments are given, but do not have to pass the tests themselves, to graduate.

Another significant change is the increase in the number of math course requirements; students must now take one math course for each year of high school (previously students were required to take only three math courses).

The new standards were developed with input from the business community and higher education – stakeholders who could either employ many of Tennessee's high school graduates or admit them to postsecondary studies. The state's involvement with the American Diploma Project (ADP) (for more about ADP, see the information box on page 4) drove much of the work done to develop the new standards.

Students entering high school in 2009-10 (the class of 2013) or later will be subject to the new standards and required to take 10 end-of-course assessments instead

of the current Gateway exams. Students in the graduating classes of 2009, 2010, 2011, and 2012 will still be required to meet the Gateway diploma requirements to graduate.

This brief details the main components of the new High School Policy and addresses the reasons behind the changes. It concludes with a section describing some of the challenges Tennessee will face in implementing these tougher standards and assessments.

Why did the state adopt new standards?

Previous standards were weak and expectations for student performance were low

In spring 2007, Tennessee received a grade of "F" for "Truth in Advertising About Student Proficiency" from a National Chamber of Commerce report card about states' educational effectiveness. The report found a significant gap between the percentage of students Tennessee labeled proficient on its state assessments and those deemed proficient by the federal National Assessment of Educational Progress (NAEP).

For many years, a sizeable portion of Tennessee 8th graders – 87 percent in 2005 – scored at the "proficient" level in reading and math according to state assessments. But national assessments showed only about 26 percent measuring proficient in reading and 21 percent in math for 2005. Exhibit 1 shows the 2005 gaps for reading and math in 8th grade:

National Standards are on the Horizon

Tennessee is one of 46 states that "have formally agreed to join forces to create common academic standards in math and English language arts through an effort led by the National Governors Association and the Council of Chief State School Officers."

States' governors and chief education officers have each signed a memorandum of agreement stating that the common core will represent no less than 85 percent of a state's standards and will be adopted within three years. The effort represents two major goals: to eliminate the "patchwork of academic standards" among states and to develop a set of more rigorous academic targets that will be internationally benchmarked.

Source: Michele McNeill, "46 States Commit to Common Standards," *Education Week*, June 1, 2009.

Trying to interpret student performance on a test without understanding the passing score is like reading a map without a scale.
Andrew J. Rotherham, Education Sector

Federal regulations allow states to set their own cut scores on state assessments. Tennessee set its cut scores – the passing scores on state assessments – very low, in effect setting minimal expectations for students. The effect of this policy was that a significant majority of students were reported "proficient," when in fact by national standards a significant majority were less than proficient.

Exhibit 2 shows where 33 states' definitions of proficiency on 4th grade math assessments fall when compared to NAEP's proficiency levels – the difference between state and NAEP definitions of proficiency is often referred to as the "proficiency gap."[1] Tennessee's definition of proficiency on state tests is below the NAEP definition of "basic" and well below the NAEP definition of "proficient." The proficiency levels set by Massachusetts, South Carolina, Hawaii, and Wyoming are more closely aligned to NAEP standards. Of the 33 states shown here, Tennessee ranks last in the proficiency gap comparison for 4th and 8th grade math and second to last in 4th and 8th grade reading.[2]

Portions of the new federal regulations finalized by the U.S. Department of Education in October 2008 attempt to shed light on the proficiency gap between state assessments and NAEP. The new regulations require states to report their most recent NAEP reading and math assessment results for grades 4 and 8 on their annual state report cards. States will now have to report the percentage of students at each NAEP achievement level, both in the aggregate and disaggregated by subgroup.[3]

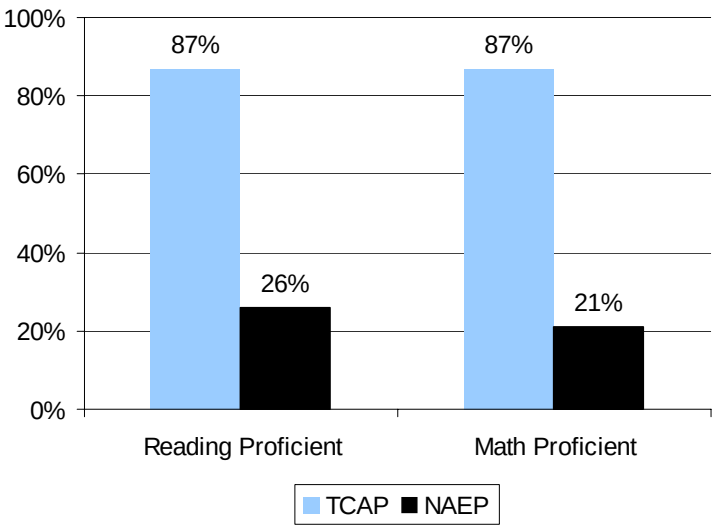
More recent diagnostic assessments show that many Tennessee students are not prepared for postsecondary or career success. In 2007, the Tennessee General Assembly adopted legislation that requires diagnostic exams in grades 8, 10, and 11 to determine students' college readiness.[4] The state uses diagnostic tests developed by ACT, Inc. Collectively referred to as EPAS (Educational Planning and Assessment System), the tests include the EXPLORE

test for 8th grade, the PLAN test for 10th grade, and the ACT college entrance test for 11th grade. The ACT diagnostic tests are based on college readiness standards for English, mathematics, reading, and science.[5] The table in Exhibit 3 shows the percent of Tennessee students in 2007 (the first year the tests were given in the state) and 2008 who met all four ACT Benchmarks.

Many high school graduates are unprepared for college and the workforce

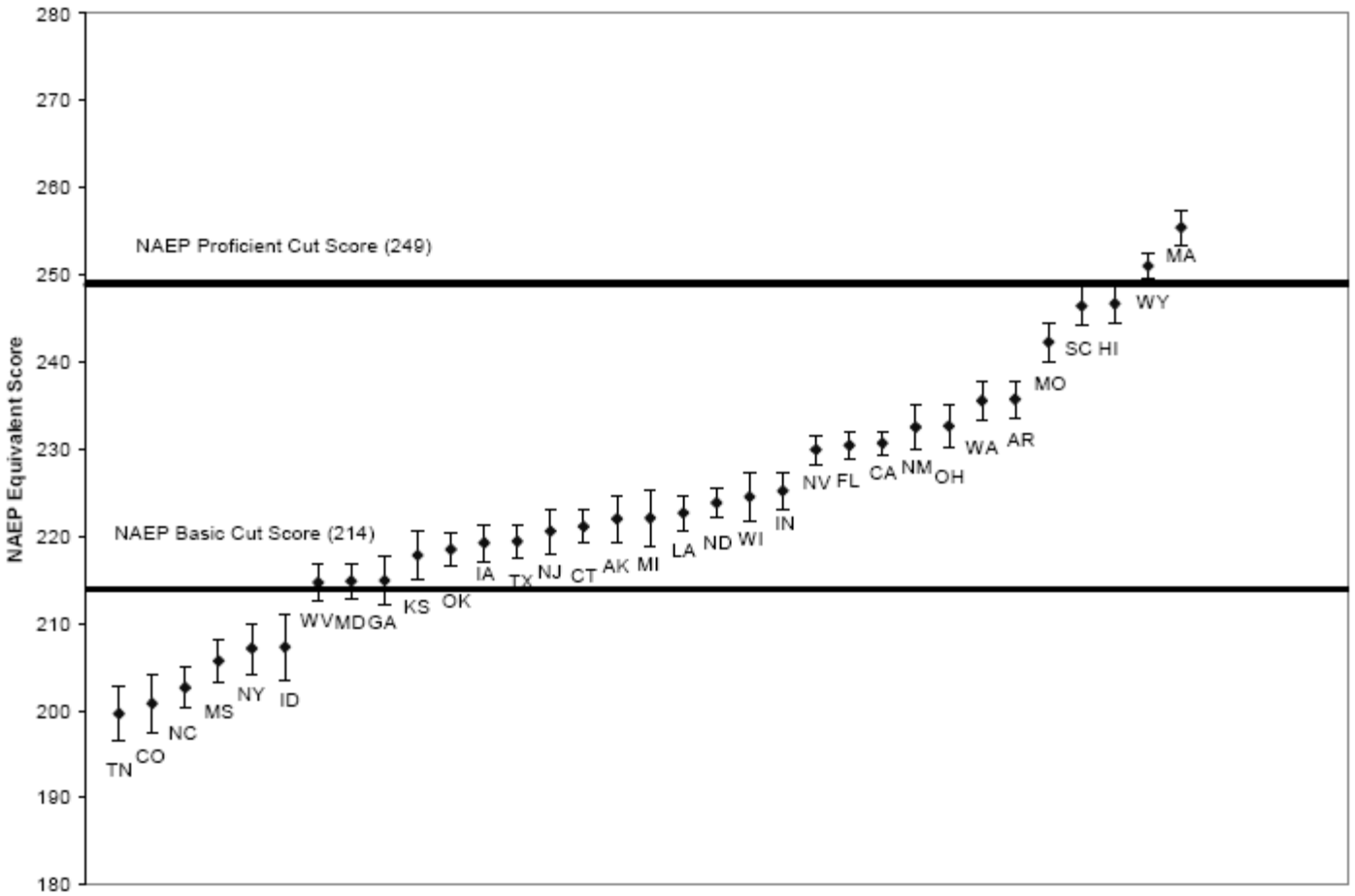
Significant numbers of first-time freshmen who are recent high school graduates in many of Tennessee's public post-secondary institutions need to complete one or more remedial or developmental courses when they enter college, suggesting that their high school studies did not prepare them for college-level work.[6] Students enroll in a remedial or developmental course if they are deficient in a basic academic area, such as reading, writing, or math,

Exhibit 1: 8th grade achievement, TCAP vs. NAEP, 2005



Source: Tennessee State Board of Education, "The Tennessee Diploma Project, Aligned Expectations," no date. Accessed May 6, 2009, at http://tennessee.gov/sbe/.

Exhibit 2: NAEP score equivalents of states' proficiency standards for mathematics, grade 4, 2005



Source: National Center for Education Statistics, *Mapping 2005 State Proficiency Standards Onto the NAEP Scales*, NCES 2007-482, U.S. Department of Education, 2007, p. 14.

Notes: (1)This exhibit illustrates states' proficiency gaps for one of the NAEP tests only; for more information on proficiency gaps in relation to other NAEP assessments, see exhibit source. (2) NCES used the 2005 NAEP assessment results for the report from which this graph is taken. Some states were not in the database — therefore, the exhibit depicts information for 33 states rather than 50.

based on test results. Research indicates that college students who find it necessary to enroll in remedial or developmental studies generally have less favorable outcomes than those who enter ready for college-level studies.[7] Exhibit 4 indicates the percentage of first time freshman in Tennessee Board of Regents' institutions who require remedial or developmental coursework.

Many recent high school graduates also lack skills they need to succeed in the workplace. In a 2007 series of roundtable discussions associated with the Tennessee Diploma Project, business leaders across the state candidly described the skills they have found lacking in job applicants who were recent Tennessee high school graduates:[8]

- Basic math skills
- Problem solving / critical thinking
- Good verbal communication
- Ability to work as part of a team
- Professional or "soft" skills (e.g., dress, work ethic)

Exhibit 3: Percent of Tennessee students meeting all four ACT Benchmarks, 2007

	ACT EXPLORE 8th Grade	ACT PLAN 10th Grade	ACT 11th Grade
2007	15%	16%	18%
2008	11%	13%	18%

Source: Tennessee State Board of Education, Master Plan 2008-2012, p. 5, http://tennessee.gov/sbe/; Gary Nixon, Re: Comptroller's Brief on New Standards and Assessments, e-mail message, Aug. 3, 2009.

Exhibit 4: Percent of first-time freshmen 18 years of age or younger enrolled in at least one remedial or developmental studies course at Tennessee Board of Regents' institutions

	2006	2007	2008
Total for all TBR Institutions	44%	38%	41%
Total for all TBR Community Colleges	65%	56%	64%

Source: Tennessee Higher Education Commission, Statutory Data Reports for 2007, 2008, and 2009.
Note: Data provided here includes only TBR institutions. A greater percentage of first-time freshmen attending TBR institutions require remedial or developmental courses compared to first-time freshmen attending University of Tennessee institutions.

Tennessee's college graduation rate is low

The rigor of high school curriculum is "the single biggest determinant of successful matriculation into college coursework and successful completion of degree."[9] The low percentage of college graduates in Tennessee – only 17 of every 100 9th-graders eventually graduate from a postsecondary institution – suggests the need for increased high school rigor.[10] Over the next decade, analysts expect the fastest job growth in the U.S. to occur in occupations that require skill levels reflecting some postsecondary education or training.[11]

What makes the new standards more rigorous?

Higher-order thinking skills rather than simply recalling facts

A report from the Southern Regional Education Board explains the importance of developing students' higher-order thinking skills:

> Higher-order thinking skills enable someone to make decisions, solve problems, visualize, reason, analyze, interpret and learn…Strategies for

Tennessee's involvement with the American Diploma Project

In 2007, Tennessee joined the ADP, a national initiative headed by Achieve, Inc., with the purpose of minimizing the state's "expectations gap" – the gap between what a student knows upon graduating from high school and what the student needs to know to be successful in college or the workforce.

Achieve and other education partners have developed a set of benchmarks on what high school graduates need to know in the core subjects of English and math to succeed in first-year college courses and in the workforce. Achieve worked with Tennessee education officials to ensure the alignment between the state's new high school standards and the skills needed to succeed in both postsecondary and work settings. Tennessee's ADP activities – called the Tennessee Diploma Project (TDP) – included the business and higher education communities as partners to help in clearly defining the skills needed for work and college.

Source: Tennessee State Board of Education, "The Tennessee Diploma Project: Aligned Expectations."
See http://tennessee.gov/sbe/.

> developing students' higher order thinking skills are based on research into how people learn and solve problems. Teachers cannot simply tell students how to think more productively…The learning process involves moving from using basic skills and pure facts to connecting new information and prior knowledge; from relying on a single source to recognizing multiple sources of knowledge; and from solving problems like a novice to finding solutions like an expert.[12]

The new standards are intended to help develop higher-order thinking skills. Exhibit 5 shows examples of old and new Tennessee standards from English III and Algebra II.

What courses must a high school student complete to graduate under the new High School Policy?

Additional math and lab science courses

Students entering 9th grade in 2009-10 or later will be required to complete more math courses (at least one course for every year of high school) and study personal finance. In addition, they must complete Biology I, physics or chemistry, and a third lab science course.[13] The previous High School Policy required only one lab science, Biology I. The new and previously required courses are compared in Exhibit 6.

Can students still choose either a vocational track or a college prep track? Is the two-path system still in place?

One curricular path applies to all students

Under the new High School Policy, all students must pursue one curricular path – made up of the same core courses – designed to prepare them for postsecondary study and the workforce. Tennessee's previous system created two separate paths for students, one to prepare for college and another to prepare for the workforce. But educators, researchers, and business leaders assert that the skills students need to meet job market demands are the same as those needed to pursue college studies.

In addition to the core requirements, the new policy requires that all students complete an elective focus of at least three credits. The elective focus may be Career Technical Education (CTE), math and science, humanities, fine arts, Advanced Placement or International Baccalaureate, or other areas approved by local boards of education. For example, for a math and science focus, a student would need to complete three elective math and/or science courses in addition to the four math and three science courses already required. For a humanities focus, students could take any combination of courses in English, Language Arts, Foreign Language, and Social Studies above the core

Exhibit 5: Examples of current and revised Tennessee high school curriculum standards

Previous	Revised
English III	
Evaluate and revise writing to focus on purpose, organization, development and style.	Drawing on readers' comments on working drafts, revise documents to develop or support ideas more clearly, address potential objections, ensure effective transitions between paragraphs, and correct errors in logic.
Practice various means of evaluation and revision.	
Algebra II	
Model real-world phenomena using functions and graphs.	Interpret graphs that depict real-world phenomena.
Select the graph that models a given real-world situation (i.e., linear and non-linear).	Use mathematical models involving equations and systems of equations to represent, interpret and analyze quantitative relationships, change in various contexts, and other real-world phenomena.

Source: Tennessee Board of Regents, presentation on Tennessee Diploma Project, Nov. 6, 2007.

requirements. Those with a CTE elective focus will be required to complete three units in the same CTE program area or state-approved program of study.[14]

What tests does a high school student have to take to graduate under the new policy?

Goodbye Gateways, hello new end-of-course tests
Beginning with the freshman class of 2009-10, high school students will no longer be required to pass the state's three Gateway exams to receive a diploma. Instead, students will be required to take five new end-of-course (EOC) tests in Algebra I, English I, English II, Biology, and U.S. History. These new tests will be more rigorous than the Gateway exams.

Unlike the Gateways, students will not have to pass these assessments to graduate, but will still have to pass the courses that make up the high school graduation requirements. (See Exhibits 6 and 7.) The EOCs will eventually account for 25 percent of a student's semester grade. The State Board of Education is developing a schedule to phase in the weight of the scores; the current proposed schedule has the EOCs counting for 20 percent of the semester grade for the first two years, and then moving to 25 percent thereafter.[15, 16] Five additional EOC assessments – English III, Geometry, Algebra II, Chemistry, and Physics - "will be brought on board as resources are available."[17] In addition to the EOCs, the ACT's PLAN test will be administered to 10th graders to assess their readiness for the ACT. The 11th grade writing assessment and ACT requirements will remain.[18]

High school students who entered high school prior to 2009 will still have to pass the three Gateways (English II, Algebra I, and Biology I) to graduate.

Exhibit 6: Changes in required courses in Tennessee high schools

Requirements for students beginning high school prior to Fall 2009	Requirements for students beginning high school in Fall 2009 or later
Math: 3 credits Including either Geometry or Algebra II	Math: 4 credits Including Algebra I, II, Geometry, and a fourth higher level math course
Science: 3 credits Including one physical science course and Biology	Science: 3 credits Including Biology; Chemistry or Physics; and a third lab course
English: 4 credits	English: 4 credits
Social Studies: 3 credits	Social Studies: 3 credits
Health, Physical Fitness and Wellness: 1 credit	Health, Physical Fitness and Wellness: 1.5 credits Personal Finance: 0.5 credits
Elective: 6 credits	Foreign Language: 2 Credits Fine Arts: 1 credit May be waived for students not going to a university to expand the elective focus Elective Focus: 3 credits Math and Science, Career and Technical Education, Fine Arts, Humanities, Advanced Placement (AP) or International Baccalaureate (IB)
Total Credits Required: 20	**Total Credits Required: 22**

Source: Tennessee State Board of Education, "High School Policy, 2.103," 4/15/2005 and 1/25/2008.
Notes: 1) The additional 0.5 credit in physical activity under the new requirements could be met by other activities, such as marching band, athletics, intramurals, and JROTC. 2) Course substitutions that have been approved by the State Board of Education can still satisfy requirements.

The EOCs differ from the existing Gateway exams in that the EOCs are not all-or-nothing assessments that students must pass to graduate from high school. Under the previous policy, a student failing a Gateway test had several chances to retake and pass the test. But any student ultimately failing a Gateway test could not receive a high school diploma. The new EOC assessments will contribute to a student's overall semester grade, but a student could still fail an EOC assessment, pass the course, and ultimately graduate from high school.

According to Gary Nixon, Executive Director of the State Board of Education, the EOC assessments will allow students to be tested on the full curriculum for mastery rather than being tested for baseline knowledge, which should provide the student, parents, and schools with more accurate information about students' achievement.[19] In addition, State Board policy and regulation adopted in 2008 require schools and LEAs to intervene when teacher-assigned grades differ significantly from EOC assessment results. If significant differences are found, schools and LEAs must develop strategies to address the problem through the school improvement planning process.[20]

What does the High School Policy require for students with disabilities?

The previous High School Policy, originally adopted in 1993 and modified in 2005, provided no alternative strategies or assessments for students with disabilities.

Course modifications

As under the previous policy, students with disabilities who complete all required credits will receive a regular diploma. In addition, the new policy allows course requirements to be modified for students with math and reading disabilities.[21] The policy permits these students to achieve the required number of math and science credits through strategies such as increased time, appropriate methodologies, and accommodations determined by the individualized education program (IEP) team.[22]

- For math: A student with a qualifying disability in math that is documented in the student's IEP is required to earn credits for Algebra I and Geometry (or the equivalent). These students may earn mathematics credit for Algebra IA and for Algebra IB, as well as math credit for Geometry A and Geometry B.
- For science: A student with a qualifying disability in reading and/or math as documented in the IEP is required to achieve at least Biology I and two other lab science credits. Only one additional lab course is needed if Biology IA and Biology IB are taken for credit.

Alternative graduation options

The new policy provides additional exit options for students with disabilities. The new policy allows students with disabilities to receive a regular diploma even if they have failed to earn a 70 or above on a course with an EOC. School leaders will determine which students, based on their IEP, may take an alternative assessment. The alternative performance-based assessment will be evaluated using a state-approved rubric.

Exhibit 7: Changes in Tennessee high school test requirements

Tests Required for Students Entering High School prior to 2009	Tests Required for Students Entering High School in 2009 or After
Algebra I Gateway	Algebra I EOC
	Algebra II EOC
	Geometry EOC
English I EOC	English I EOC
English II Gateway	English II EOC
	English III EOC
Biology Gateway	Biology EOC
	Chemistry or Physics EOC
U.S. History EOC	U.S. History EOC
Writing Assessment	Writing Assessment
	PLAN
ACT	ACT

Source: Tennessee Department of Education, Tennessee State Board of Education, Email from Dan Long, Executive Director, Assessment, Evaluation, Research, and e-Learning, Tennessee Department of Education, "Re: Questions on EOCs," Nov. 17, 2008; Tennessee State Board of Education, High School Policy, 2.103, Revised 4/15/2005 and 1/25/08, http://tennessee.gov/sbe/.
Note: All 50 states administer the ACT college entrance exam; 26 states administer the test to more than 50 percent of high school graduates. See "Facts About the ACT" at http://www.act.org/ (accessed Aug. 11, 2009).

Students with disabilities who are not on track for a regular diploma are still eligible for a transition certificate or an IEP certificate. A transition certificate is awarded to students who 1) have taken at least 22 credit units toward a high school diploma; 2) have satisfactorily completed an IEP; and 3) have satisfactory records of attendance and conduct. Under Tennessee law, these students may continue to work towards their high school diploma through the end of the school year in which they turn 22 years of age. An IEP certificate is awarded to students who 1) have satisfactorily completed an IEP; 2) have successfully completed a portfolio; and 3) have satisfactory records of attendance and conduct.[23] The IEP Certificate replaces the Special Education Diploma.[24]

What challenges does the state face in implementing tougher standards and requiring more rigorous work?

Teacher professional development

Training the state's 67,000 educators about the new standards is a significant challenge for TDOE officials. Teachers must apply the new standards to their classroom instruction beginning in Fall 2009. According to Gary Nixon, Executive Director of the State Board of Education:

> I believe that Tennessee's teaching force can deliver better results using the new, more rigorous standards. Will this happen overnight? Probably not — it will more than likely take a few years along with significant professional development for teachers to re-norm their expectation and develop a repertoire of strategies to achieve the desired results.[25]

The Tennessee Department of Education began training teachers in Standards Awareness Workshops held across the state in Summer 2008. Districts were asked to send up to 24 teachers who were then expected to replicate the training for their colleagues. Separate trainings were provided for the Hamilton, Jackson-Madison, Knox, Metro Nashville, Memphis, and Shelby school systems.[26] The standards workshops were filmed and are available online at TDOE's Electronic Learning Center, along with links to all curriculum standards and related information. TDOE has scheduled additional standards training workshops for summer 2009.

TDOE's 2009 School Counseling Institute focused on the new standards and provided training for administrators and guidance counselors to collaborate on use of the new curriculum standards and student assessment results. The conference provided workshops on helping students develop six-year plans, graduation requirements for the special education population, and how career technical education integrates with the new graduation requirements.[27]

Teacher recruitment needs

Tennessee has a shortage of qualified math and science teachers for grades 7 through 12, which presents a problem for the state's LEAs in hiring additional teachers to meet the increased math and science requirements.[28] At its January 30, 2009, meeting, the Tennessee State Board of Education reported teacher shortages in biology, chemistry, physics, and mathematics. Further, from 2001 through 2006 (the year for which the most recent data is available), the state has produced fewer than 10 physics teachers each year.[29]

Education officials say that the state will need to produce 192 high school math teachers annually to fill vacancies created by the demand for courses and a 10 percent attrition rate.[30] To address the math teacher shortage and the increase in required math credits, the State Board of Education changed a rule to expand the Algebra I teaching pool. This rule change preceded the increase to four math credits for graduation, but was implemented principally because officials reasoned that many current math teachers would be reassigned to teach upper level mathematics, thus creating a shortage in other areas, such as Algebra.[31]

The new rule allows middle school math teachers to teach Algebra I if they:

- have a professional teaching license,
- have an endorsement to teach through at least grade 8,
- pass the middle school math PRAXIS assessment, and
- attend the state-approved, five-day Algebra I training (specifically developed to provide training and support for these teachers).

The first five-day trainings for this purpose are scheduled for June 2009. Three sets of up to 35 teachers can participate.

The state has additional recruitment efforts, most notably the Teach Tennessee Initiative. Teach Tennessee began in 2005 and has produced 167 teachers, 90 percent of whom are in math or science.[32] In addition, many districts have developed their own recruiting programs, some supplemented by private efforts. In east Tennessee, the Distinguished Professionals Education Institute, established in 2005 by Knox County Schools and Pro2Serve Professional Project Services, Inc. of Oak Ridge, provides professionals with subject area expertise to teach courses in critical shortage areas in high schools. The State Board of Education approved the program in 2005. Professionals qualify to teach with a Master's or Bachelor's degree, 24 semester hours of credit in teaching or a related field, and at least 10 years' work experience in the field they wish to teach. Applicants also must complete 50 contact hours of pre-service preparation and pass a screening process.[33]

Higher education institutions will be partly responsible for increasing and developing the state's supply of math and science teachers, and will need to ensure that these and existing teachers are prepared to teach the more rigorous standards. Tennessee's continuing participation in a $450 million competitive grant program through the National Science Foundation addresses some of those concerns (at least through the 2009-10 school year, as Congress has not yet appropriated funds for subsequent years).[34] The Mathematics and Science Partnership Grants create a three-year relationship between a university's Department of Mathematics, Engineering, or Science and high-need area school systems.[35] Partnership goals include:[36]

- Training K-12 math and science teachers to implement the new Tennessee state standards.
- Providing teacher training that leads to teacher endorsements in mathematics, chemistry, and physics.
- Modeling research-based instructional strategies that lead to improved student achievement.
- Bringing math and science teachers together with scientists, mathematicians, and engineers to increase subject matter knowledge and to improve instructional skills through the use of sophisticated laboratory equipment, computing facilities, libraries, and other resources available at the state's higher education institutions.
- Developing math and science instructional materials that are rigorous and precisely aligned with state and local academic content standards to better prepare students for entry and success in the postsecondary study of engineering, mathematics, and science.

Since 2003-04, the first school year that Tennessee participated in the grant, more than two-thirds of the state's 136 LEAs have participated in partnerships with postsecondary institutions.[37]

Initial test results likely to be lower

The Department of Education is expecting test results to be lower once the new end-of-course assessments are rolled out:

> The change of definition from minimal proficiency to mastery will definitely make a difference. We also believe that graduation rates may go down based on the new curriculum implementation, more credits required for graduation, and the change in the assessment system. We have also seen scores go down when changes have been made to the test itself. Once systems, schools, and teachers have aligned instruction to the new curriculum standards, [there] are dramatic improvements in student scores on the aligned assessments. However, this upward turn usually takes two years to happen in most school settings.[38]

Gary Nixon, Executive Director of the State Board of Education, stresses that "this potential drop is not a signal of weaker student achievement" but rather should provide a more accurate picture of student achievement – essentially the state will be improving its "Truth in Advertising."[39]

The Department has not yet finalized cut scores, i.e. proficiency levels, for the new assessments.[40] Education Sector, an independent education policy think tank, suggests that states should "make the score setting process and the results more transparent and

accessible," by explaining the process used to establish the cut scores.[41]

The High School Policy includes a provision for extra support to meet student needs: "Students entering 9th grade unprepared for rigorous high school work and/or students who are anticipated to experience difficulty in passing the state end-of-course assessments will be given extra help and extra time so they can perform at grade level."[42] The ACT EXPLORE test, a diagnostic assessment given to all 8th grade students, will be used, in conjunction with other assessments, to determine which students are not on track to meet the new standards.

Conclusion

Despite the challenges, the High School Policy establishes more rigorous expectations for the state's students that could translate into these outcomes:

- students requiring less remedial coursework in college,
- reduced discrepancy between state assessment scores and national assessment scores, and
- over time, a significant increase in the number of Tennesseans earning postsecondary degrees and skill certificates.

The new standards and tests by themselves will not result in improved student achievement. The success will depend on what happens in the classroom as a result of these new expectations. The ultimate measures of the new policy's impact will be whether students are academically proficient and prepared for college and employment in the modern world.

Endnotes

1 National Center for Education Statistics, "Mapping 2005 State Proficiency Standards Onto the NAEP Scales," Jun. 2007, pp. 12-15, http://nces.ed.gov/ (accessed May 8, 2009). The source used the National Longitudinal School-Level State Assessment, which provides an estimate of the proportion of students meeting the state standard in each school. Some states were not in the database, which is why Exhibit 2 contains only 33 states.

2 National Center for Education Statistics, "Mapping 2005 State Proficiency Standards Onto the NAEP Scales," Jun. 2007, pp. 12-15, http://nces.ed.gov/ (accessed May 8, 2009).

3 "Title I—Improving the Academic Achievement of the Disadvantaged; Final Rule," *Federal Register* 73:210 (October 29, 2008) p. 64508, http://www.ed.gov/ (accessed Feb. 9, 2009).

4 Public Chapter 273, 2007.

5 ACT, "Educational Planning and Assessment," http://www.act.org/epas (accessed Aug. 6, 2009).

6 Tennessee Board of Regents, PowerPoint presentation at ECS Annual Forum, July 2007. See http://www.ecs.org.

7 Alene Russell, Enhancing College Student Success Through Developmental Education, American Association of State College and Universities, Aug. 2008, p. 3, http://www.aascu.org/ (accessed Feb. 10, 2009).

8 Tennessee Diploma Project, *Taking Inventory: Job Skills in the Tennessee Workforce*, Oct. 2007, pp. 45-46, http://www.tbroundtable.org/ (accessed April 29, 2009).

9 Tennessee Board of Regents, Postsecondary Education Policy Series, "Focus on Access," Vol.1, No. 1, no date, p. 13, http://www.tbr.state.tn.us/ (accessed May 5, 2009).

10 NCES Common Core of Data, 2002, as cited in Tennessee Board of Regents PowerPoint on remedial education in Tennessee at http://www.ecs.org/.

11 Anthony P. Carnevale and Donna M. Desrochers, *Standards for What? The Economic Roots of K-16 Reform*, Educational Testing Service, 2003, p. 7, http://www.learndoearn.org/ (accessed April 16, 2009).

12 Mark Forget and Gene Bottoms, *Academic and Vocational Teachers Can Improve the Reading Achievement of Male Career-Bound Students*, Southern Regional Education Board, not dated, p. 7, http://www.sreb.org/ (accessed Feb. 11, 2009).

13 Tennessee State Board of Education, "High School Transition Policy, Rule," Jan. 25, 2008, http://tennessee.gov/sbe/ (accessed May 5, 2009).

14 Tennessee Department of Education, 'High School Transition Policy Frequently Asked Questions,' revised March 4, 2009, p. 6, http://www.tennessee.gov/education/ (accessed May 5, 2009).

15 Gary Nixon, Executive Director, State Board of Education, e-mail, Dec. 18, 2008.

16 Tennessee State Board of Education, High School Policy, 2.103, Revised 1/25/08, http://tennessee.gov/sbe/.

17 Dan Long, Executive Director, Assessment, Evaluation, Research, and e-Learning, Tennessee Department of Education, e-mail, Nov. 17, 2008.

18 Tennessee State Board of Education, High School Policy, 2.103, Revised 1/25/08, http://tennessee.gov/sbe/.

19 Gary Nixon, State Board of Education, e-mail, Aug. 3, 2009.

[20] Tennessee State Board of Education, High School Policy 2.103, p. 10, http://tennessee.gov/sbe/ (accessed Aug. 6, 2009); Rules of the State Board of Education, Chapter 0520-1-3-.06 (2)(d), http://state.tn.us/sos/ (accessed Aug. 6, 2009).

[21] Federal regulations also permit states to include in AYP determinations the proficient and advanced scores from alternate assessments based on modified academic achievement standards. This is subject to a two percent cap based on the number of students enrolled in the tested grades for which there is such an assessment. In alternate assessments based on modified academic achievement standards, the content standards are not modified, but the achievement expectations are less difficult than those on the general assessment – meaning that the same content is covered but with less difficult questions overall. See http://www.ed.gov/.

[22] Tennessee Department of Education, "High School Transition Policy Frequently Asked Questions,'" revised March 4, 2009, p. 10, http://www.tennessee.gov/education/ (accessed May 5, 2009).

[23] Tennessee State Board of Education, High School Policy 2.103, Revised 1/25/08.

[24] Tennessee Department of Education, 'High School Transition Policy Frequently Asked Questions."

[25] Gary Nixon, "Use all yardsticks to measure progress," *The Tennessean*, Jan. 13, 2009.

[26] Tennessee Department of Education, "Summer Study Abounds in Tennessee," *Apple Bites*, April 2008, p. 1.

[27] Tennessee Department of Education, "Administrators, Counselors Focus on Tennessee School Reform Efforts," Media Release, Feb. 6, 2008.

[28] U.S. Department of Education, Office of Postsecondary Education, Policy and Budget Development Staff, "Teacher Shortage Areas Nationwide Listing 1990-91 through 2009-10," March 2009, p. 69.

[29] Tennessee State Board of Education, January 30, 2009, "Report on Student, Teacher, and School Performance," p. 9, http://tennessee.gov/sbe/ (accessed Feb. 28, 2009).

[30] Rich Haglund and Fielding Rolston, "Math for all, even if they don't go to college right away," *Chattanooga Times Free Press*, April 12, 2009.

[31] Tennessee State Board of Education, Algebra I Employment Standards, Rule, Final Reading, Jan. 25, 2008.

[32] Teach Tennessee Brochure, http://www.tennessee.gov/education (accessed May 20, 2009); Tennessee Department of Education press release, "Sixth Teach Tennessee Class Commences Training," June 5, 2008.

[33] Distinguished Professionals Education Institute, "About Us," http://www.dpteach.com (accessed Aug. 6, 2009).

[34] Tennessee Department of Education, Mathematics and Science Partnership Grant, Tennessee Program Guidance and Application Process for 2009-2010, p. 9.

[35] The grant proposal defines "high need LEA" as one that serves no fewer than 10,000 children from families with incomes below the poverty line or a school district for which 20 percent of the children are from families with incomes below the poverty line; and that have a high percentage of teachers not teaching in the academic subjects or grade levels that the teachers were trained to teach or that have a high percentage of teachers with emergency, provisional, or temporary licensing when compared to other districts in the state.

[36] Tennessee Department of Education, Mathematics and Science Partnership Grant, Tennessee Program Guidance and Application Process for 2009-2010, pp. 1-2.

[37] Scott Eddins, Mathematics Consultant, Tennessee Department of Education, e-mail and attachment, April 7, 2009.

[38] Dan Long, Executive Director, Assessment, Evaluation, Research, and e-Learning, Tennessee Department of Education, e-mail, Nov. 17, 2008.

[39] Gary Nixon, State Board of Education, e-mail, Aug. 3, 2009.

[40] The State Board of Education amended State Board Policy 2.100 on July 31, 2009, to create new performance measures, which will be used in developing specific definitions for each content area and grade. The new achievement levels are below basic, basic, proficient, and advanced.

[41] Andrew J. Rotherham, "Making the Cut: How States Set Passing Scores on Standardized Tests," Education Sector, July 2006, p. 8, http://www.educationsector.org/ (accessed May 5, 2009).

[42] State Board of Education, High School Policy 2.103, Revised 1/25/08.

Katie Cour, former Senior Legislative Research Analyst, coauthored this report.

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Offices of Research and Education Accountability
Phillip Doss, Director
Suite 1700, James K. Polk Building ▪ 505 Deaderick Street
Nashville, Tennessee 37243 ▪ (615) 401-7911
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