



# INFORMATION CAPSULE

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Dale Romanik, Director

### WHAT WE KNOW ABOUT END-OF-COURSE ASSESSMENTS

#### At A Glance

*The effects of end of course (EOC) tests varied across the different school districts examined. A district's experience with EOC testing depends on a number of factors including why and how they are used, as well as whether the district is in the process of phasing their testing program in or has been making important decisions about students' lives using EOC tests for years. Additionally, the level at which cutoff scores are set can determine whether the EOC process is a source of stress for students and teachers or just another inconsequential hurdle for prospective graduates to confront. Differential teacher pay initiatives based on EOC tests as used in North Carolina are also discussed.*

The Center on Education Policy (2006) reported that 22 states required students to pass some type of assessment in order to graduate high school. The students attending school in these states in 2006 comprised approximately 65 percent of the country's public high school students. By 2012, this number was projected to increase to 25 states and it was estimated these assessments would impact more than three-quarters of the minority public school students in grades 9-12.

All states requiring high school exit exams assess students in English or language arts and mathematics. Between 2006 and 2012, the number of states mandating assessments in science is expected to increase from 11 to 19 and the number assessing social science will increase from 9 to 13.

These assessments include three types of exams. Minimum Competency Exams (MCE) emphasize basic skills below the high school level. Standard-Based Exams (SBE) are aligned to high-school level standards such as the FCAT. End-of-Course Exams (EOC) measure the extent to which students master the content of specific academic courses. It is this latter type of assessment in which this report is concerned.

Of the 22 states mandating high school exit exams in 2006, only six used some form of EOC assessment. These states included Mississippi, New York, North Carolina, Oklahoma, Tennessee, and Virginia. This report will summarize EOC testing and teacher pay for performance in North Carolina. It will also briefly summarize the effects of EOC testing in two of the above-mentioned states (Virginia and Mississippi) and a third (Maryland) not discussed in the 2006 report published by the Center on Education Policy.

## Cautionary Note

This report primarily examines what other states and school districts have achieved with regard to EOC exams and how they are used as outcome measures in the decision-making process. No effort has been made to review the existing literature regarding the efficacy of end-of-course tests. Although such research is very limited, it is a topic for another report.

## What are End-of-Course Tests?

EOC tests measure the acquisition of specific course content covered in a single academic course. These tests are subject to the same advantages and disadvantages as other forms of high-stakes assessments. Proponents of such exams contend the emphasis on preparing students to pass the tests contributes to students and teachers taking education more seriously. Opponents contend there are unintended consequences of the tests which outweigh their advantages. For example, instructional content can become too narrowly focused and exclude important learning activities that are not as conducive to multiple-choice question formats.

At the present time, construction of the majority of these tests is accomplished at the state rather than the district level similar to FCAT in Florida. Additionally, the states using EOC tests as a requirement to attain a high school diploma have developed a very limited number of these tests for specific core courses. These senior high courses include but are not limited to Algebra I, Geometry, Chemistry, Biology, English I, and U.S. History.

This literature review failed to uncover a single state in the entire country that either had or contemplated developing EOC tests for a large number of courses across the full range of the curriculum and educational levels as currently proposed in the State of Florida's Merit Award Program (MAP). When done appropriately, test construction is a very complicated and arduous task. A number of technical aspects of educational assessment must be considered including validity, reliability, equating, standard setting, scoring, and test security. To attempt to complete widespread EOC test development, pilot testing, and implementation in a short period of time is not

only a disservice to students and staff, it is also an unrealistic goal. In fact, the test development process used in North Carolina to develop a single test consists of six phases and takes approximately four years (i.e., from 44 to 49 months).

## End-of-Course Tests and Pay for Performance in North Carolina

Beginning in 1996, North Carolina introduced a comprehensive program of educational testing called the ABCs of Public Education. Students enrolled in the following courses were required to take EOC tests: Algebra I, Algebra II, Chemistry, Biology, English I, Geometry, Physical Science, Physics, U.S. History, and Civics and Economics. For the interested reader, a copy of the North Carolina 2003 Testing Program Multiple-Choice Test Development Process Flow Chart and supporting documentation can be obtained by contacting Research Services. Perusal of this material provides a realistic impression of the scope, issues, challenges, and time involved in crafting EOC tests.

In addition to the above EOC tests, North Carolina also uses End-of-Grade (EOG) Tests in grades 3-8 and 10. These tests were designed to measure student performance objectives and grade-level competencies specified in the North Carolina Standard Course of Study. Results from both EOC and EOG tests are used to distribute performance pay to schools.

Performance Pay Measures. North Carolina has initiated one of the most well developed teachers' pay-for-performance systems in the nation. Three measures are used to evaluate schools and to allocate performance pay. These measures include; 1) the percentage of test scores in the school at or above Achievement Level III, 2) extent to which students achieved a year of growth for a year of instruction, and 3) AYP status or extent to which schools met the performance standards set by the state. Results are analyzed at the school level only and are not calculated for individual teachers. Performance from these three measures are used to distribute financial incentives to staff based on whether they are judged to be an Honor School of Excellence (highest special award), School of Excellence,

School of Distinction or a School of Progress (lowest special award).

Amount of Incentives. The North Carolina pay-for-performance program distributes financial incentives to teachers, principals, and other certified school-based staff. For schools evaluated at the high growth level, certified staff each receive up to \$1,500 and teacher assistants receive up to \$500. In schools evaluated at the expected growth level, certified staff each receive up to \$750 and teacher assistants receive up to \$375. In 2004-05, the state allocated \$94 million for incentive awards. In 2004-05, 490 schools or 22 percent of the public schools in North Carolina earned the highest distinction and 674 or 12 percent of schools statewide were evaluated as No Recognition schools.

Teacher Signing Bonus. The Charlotte-Mecklenburg School District initiated an incentive program in 2006-07 called the High School Challenge EOC Signing Bonus Program. The purpose of the program was to attract teachers to high schools located in three cities in North Carolina. One of the requirements for eligible employees included demonstrating High Academic Change EOC data from their home school as determined by the North Carolina Assessment Department. These data were analyzed on an individual teacher basis for the signing bonus and a \$10,000 one-time bonus was paid to qualifying teachers. The award will be prorated for teachers that do not remain at the school through the end of the 2008-09 school year. Teachers receiving signing bonuses are still eligible for incentives the school receives via the ABC's Program.

## **How Have EOC Exams Changed Schools?**

### Virginia and Maryland

In June 2005, the Center on Education Policy published findings from a case study which examined how EOC tests impacted two school districts. This report was based on interviews with students, teachers, principals, counselors, testing coordinators, and district administrators at two school districts. One of these districts was located in Virginia and the other in Maryland. Both districts remained anonymous for purposes of the study.

The district in Virginia required the class of 2004 to pass a series of end-of-course exams to graduate high school. Students were to pass two exams in English (multiple-choice and writing prompt) and any 4 of 10 exams in mathematics, science, and history/social science. The graduating class of 2009 in the Maryland district will be required to pass end-of-course assessments in English II, algebra, biology, and government prior to being granted a diploma. These latter exams will consist of multiple-choice, short answer, and writing prompt/essay questions.

Results from the case study indicated that EOC tests resulted in important changes in both districts. These changes centered around the areas of instructional content, instructional methods, staffing patterns, school climate, and allocation of financial resources. A summary of these findings can be found below.

- Staffing patterns were changed to place the most effective teachers into courses governed by EOC tests. In some instances, staff resources were taken from other school areas to cover the costs of the EOC tests.
- Teachers revised instruction to include topics that were likely to appear on the EOC exams and taught test-taking strategies as EOC testing approached.
- Some teachers and students complained that instruction became too narrowly focused on particular facts that were likely to be on the EOC tests and in-depth discussion or creative lessons were eliminated.
- Some students were left behind their classmates as teachers rushed through topics in an effort to cover all the material likely to be on the EOC exams.
- Some teachers complained that “non-tested content” such as literature and foreign language was being neglected in favor of “tested content.”
- Teachers adjusted their in-class assessments to more closely resemble

those of the EOC tests such as including questions using multiple-choice formats more frequently.

- Teachers complained that once students took the EOC exam they were less motivated to learn in class and performed at a lower level on subsequent in-class final exams. Administering the EOC tests before classroom final exams was necessary because EOC test results were required for graduation purposes.
- Additional funding was required to cover the costs associated with the EOC tests. These costs included transportation for students taking retests and instructional time lost due to the extra testing and retesting.
- In Virginia, where EOC tests were already a graduation requirement, students reported feeling “high stress levels” and teachers felt their jobs were on the line. There was less stress experienced during the “phase in” process in Maryland.
- In classes governed by EOC exams, students described the atmosphere as “intense” and referred to the fast pace of instruction.
- Teachers were of the opinion they received too little feedback regarding student strengths and weaknesses once the EOC tests were scored.
- Teachers were pleased with the professional development they received and with the remedial courses available to assist students in passing the EOC exams.
- EOC exams encouraged educators to discuss student performance more and increased the cooperation among teachers.
- In Maryland, teachers felt greater trust in the system partly because they were involved in scoring the EOC exams.

- Some teachers felt they too were learning new skills as they prepared students for the EOC exams.
- Teachers were generally in agreement with the need for EOC tests and felt they knew what content was to be covered on the exams.

As seen from the above findings, EOC exams significantly impact schools in both positive and negative ways. Also made clear from these results is the realization that EOC exams need be included in only a small number of key or core courses.

### Mississippi

A more recent report published by the Center on Education Policy (2007) provided similar data from two additional school districts including Jackson, Mississippi and Austin, Texas. This case study was interested again in determining the effects of EOC tests on high school students. The portion of this study concerning the affect of the Mississippi Subject Area Testing Program (SATP) will be discussed in this report.

The Mississippi Subject Area Testing Program (SATP) includes EOC tests for the following subjects: Algebra I, Biology I, English II, and U.S. History from 1877. Students must pass the exams to graduate from high school. Remediation and retesting are available for students who fail the exams. Exams are administered in the first week of April and again in the Fall for students completing course work in the Fall term. Harcourt Educational Measurement was selected as the test vendor for the Mississippi EOC tests.

The phasing in of the EOC tests as a requirement for graduation began with the 2001-02 school year. These subject-area tests were aligned with the Mississippi Curriculum Framework which is similar to Florida’s Sunshine State Standards. The Algebra I test contains a total of 53 multiple-choice items in addition to one open-ended item worth four points. The Biology and U.S. History exams contain 70 multiple-choice items plus one four-point open-ended question. The English II assessment contains two components including

70 multiple-choice items and a writing component with two four-point writing prompts.

New test forms are constructed for each Fall and Spring administration. Equating studies are conducted and new raw score to scale score conversion tables are prepared to ensure test score consistency from one administration to the next.

Results of the case study interviews indicated the following intended and unintended impact of EOC testing in the Mississippi school district which remained anonymous for purposes of the study.

- Instructional time was increased in courses involving EOC tests which tended to decrease flexibility in core courses and electives taken by students.
- Teachers were more accountable for the curriculum they taught and they tended to more closely teach the state-mandated curriculum.
- Interim assessments were developed to align with state exit exams.
- Students received a “double dose” of the curriculum or remediation when tests were failed.
- Instruction in test-taking strategies was common during regular class hours.
- Students were able to retake the exams a number of times before finalization of graduation decisions.
- Students did not perceive the EOC exams to be high-stakes tests and therefore they did not appear to be a significant factor in students’ decision to drop out of school.

- Administrators and teachers reported that students took courses with EOC assessments more seriously and gave more effort to them. However, respondents also reported that the EOC tests have “little if any affect on students’ high school completion.”
- Although passing rates varied based upon subject area and school, the majority of students pass the EOC exams on the first try. On the English II test, the 2005-06 initial passing rates ranged from 62% to 75%. Passing rates ranged from the high 80s to the mid 90’s in writing, Biology I, and U.S. History. The greatest variability among schools occurred on the Algebra I test, as passing rates varied from 79% to 92%.

In conclusion, the effects of EOC tests varied across the different school districts examined. A district’s experience with EOC testing depends on a number of factors including why and how they are used, as well as whether the district is in the process of phasing their testing program in or has been making important decisions about students’ lives using EOC tests for years. Additionally, the level at which cutoff scores are set can determine whether the EOC process is a source of stress for students and teachers or just another inconsequential hurdle for prospective graduates to confront. However, this review failed to find a system at either the state or district level that could shed light on how EOC tests can be developed for non-academic or non-FCAT related courses en masse and gains determined for individual teachers as required by the Florida MAP Program.

*All reports distributed by Research Services can be accessed at <http://drs.dadeschools.net> by selecting “Research Briefs” or “Information Capsules” under the “Current Publications” menu.*



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