



E&R Report No. 09.39

March 2010

THE RELATIONSHIP BETWEEN HIGH SCHOOL COURSE GRADES AND EXAM SCORES

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ABSTRACT

Since the 2006-07 school year, in addition to earning a certain number of course credits, all North Carolina high school students have been required to pass the End of Course test (EOC) in five subjects in order to obtain a high school diploma. This report examines the relationship between EOC test results and course grades for Algebra I and English I, two of the subjects that are part of the new graduation requirements. Analyses are presented for two subsets of students: the students who failed the EOC test but passed the course and the students who passed the EOC test but failed the course. The size of the first subset decreased over the four-year period, while the size of the second one increased. Differences were observed among subgroups, in particular between gender, with female students having a greater chance of passing the course in comparison to male students with similar results on the EOC test.

INTRODUCTION

In recent years, Wake County Public School System (WCPSS) published two studies on WCPSS grading practices at the elementary and middle school level (Paeplov, 2008a, 2008b), which included among other topics, the relationship between class grades and state mandated test scores. The present study is an extension of these studies to two high school subjects: Algebra I and English I. The previous studies came to the conclusion that the relationship between grades and test scores was stronger when the most recent version of the test was considered and also for students with less academic risk factors (Paeplov, 2008b). The fact that some populations of students are given more favorable grades than others (e.g. female, White, and higher Social Economic Status (SES) students) leads to the reflection on grading practices. Do schools just grade students on their mastery of the course content or is there also a “hidden curriculum” such as social and organizational skills which some students are better at navigating? WCPSS board policy on the grading system states that class participation is one of five factors to take into consideration when evaluating student performance (homework, projects, reports, tests, and class

The author would like to acknowledge Brad McMillen and other colleagues for their contribution and support.

participation)¹. Class participation and behavior is one aspect of what some authors describe as “hidden curriculum”. Lavoie (as cited in Bieber, 1994) described the “hidden curriculum” as important social skills that everyone knows, but no one is taught (Smith Myles, 2009). Frank discussions about what should and should not affect a student’s grade have led many school systems to embrace grading approaches that either focus more squarely on students’ mastery of content, or which separate the academic performance components of grading from the behavioral aspects. This helps to ensure that assumed rules, social skills and organization skills do not unduly impact the decision of whether a student is ready to move on to a higher grade. WCPSS implemented such a grading system for elementary schools in 2001-02 with a pilot in five elementary schools, and expanded the practice to all elementary schools in 2006-07. The report card that parents receive for their children has separate rubrics for how well the students mastered the North Carolina Standard Course of Study and for other factors such as work habits or homework completion (Paepflow, 2008a). This gives parents information on the different aspects involved in their student’s learning. These considerations and the fact that in 2006 passing five EOCs became part of the high school graduation requirements led to this study.

BACKGROUND

In 2006, the State Board of Education (SBE) adopted a new policy² dictating that students not only meet certain credit requirements in order to obtain a high school diploma, but also pass five essential EOCs: Algebra I, Biology, English I, Civics and Economics, and US History. The first class impacted by these new requirements is the freshman class of 2006-07. Therefore, up to 2005-06, a student who failed to obtain a level III or IV on the EOC test (which counts as 25% of his/her final grade in the course) but had a high enough class grade, was able to pass the course and receive credit. Starting in 2006-07, the new policy requires students in this situation to take retests and/or go through remediation. The last resort in case of sequential non-proficient scores on the test is for the principal to waive the requirement, based on student circumstances and school work samples. This report focuses on two courses that are part of the new graduation requirements: Algebra I and English I. These courses already were part of the required credit package for a high school diploma, and the majority of students complete them by the end of 9th grade. This study focuses on the relationship between passing the course and succeeding on the exam (EOC test) over a course of four years.

RESEARCH QUESTIONS

The goal of this report is to focus on two groups of students, those who failed the EOC test but passed the course, and those who passed the EOC test, but failed the course, and also make comparisons among subgroups. The following research questions allow an overview of the trends and distribution of these two groups of students over the course of four years.

- What were the trends in the percentage of students who failed the EOC test for Algebra I and English I but passed the course, over a four-year period?
- In the 2006-07 and 2007-08 school years, were there differences between subgroups based on ethnicity, gender, free or reduced-price lunch status (FRL), limited English proficiency (LEP)

¹ <http://www.wcpss.net/policy-files/series/policies/print-friendly/5520-bp.html>

² **Policy ID Number:** GCS-N-003, <http://sbepolicy.dpi.state.nc.us/>

status or disability status (SWD) in the percentage of students failing the EOC test and passing the course?

- What were the trends in the percentage of students who passed the EOC test for Algebra I and English I but failed the course, over a four-year period?
- In the 2006-07 and 2007-08 school years, were there differences among the aforementioned subgroups in the percentage of students who passed the EOC test but still failed the course?
- How does the relationship between course grades and exam scores compare between male and female students?

METHODOLOGY

Algebra I and English I were analyzed separately following a parallel process. All WCPSS students who were in 9th grade in 2004-05, 2005-06, 2006-07 or 2007-08 and had both a course grade and an EOC exam in either Algebra I or English I were included in the analyses. Note that if students repeated the 9th grade, they could be included more than once in the analyses. Course grades were extracted from the NCWISE Student Information System and the exam scores were the official results that the students obtained on their EOC tests. Demographics and other program eligibility data were extracted from the NCWISE Student Information System as well.

In this study, students are said to have passed the course when they obtained the grades of A, B, C or D. They are said to have failed when they obtained an F.

In the 2004-05 and 2005-06 school years, an EOC test was considered passed if the student obtained a level III or IV and failed if the student obtained a level I or II. In 2006-07, the use of the standard error of measurement (SEM) was introduced with regard to whether a student had met the aforementioned graduation requirement. For that reason, in these analyses, students were considered as having “passed” the EOC test if they obtained a score at least greater than the cutoff for a level III minus the SEM, and otherwise they were considered to have failed. In the current North Carolina accountability system, the SEM allowance is only used for graduation policy purposes.

For each subject, the subsets of students displayed in Table 1 were studied, with a particular emphasis on the shaded cells.

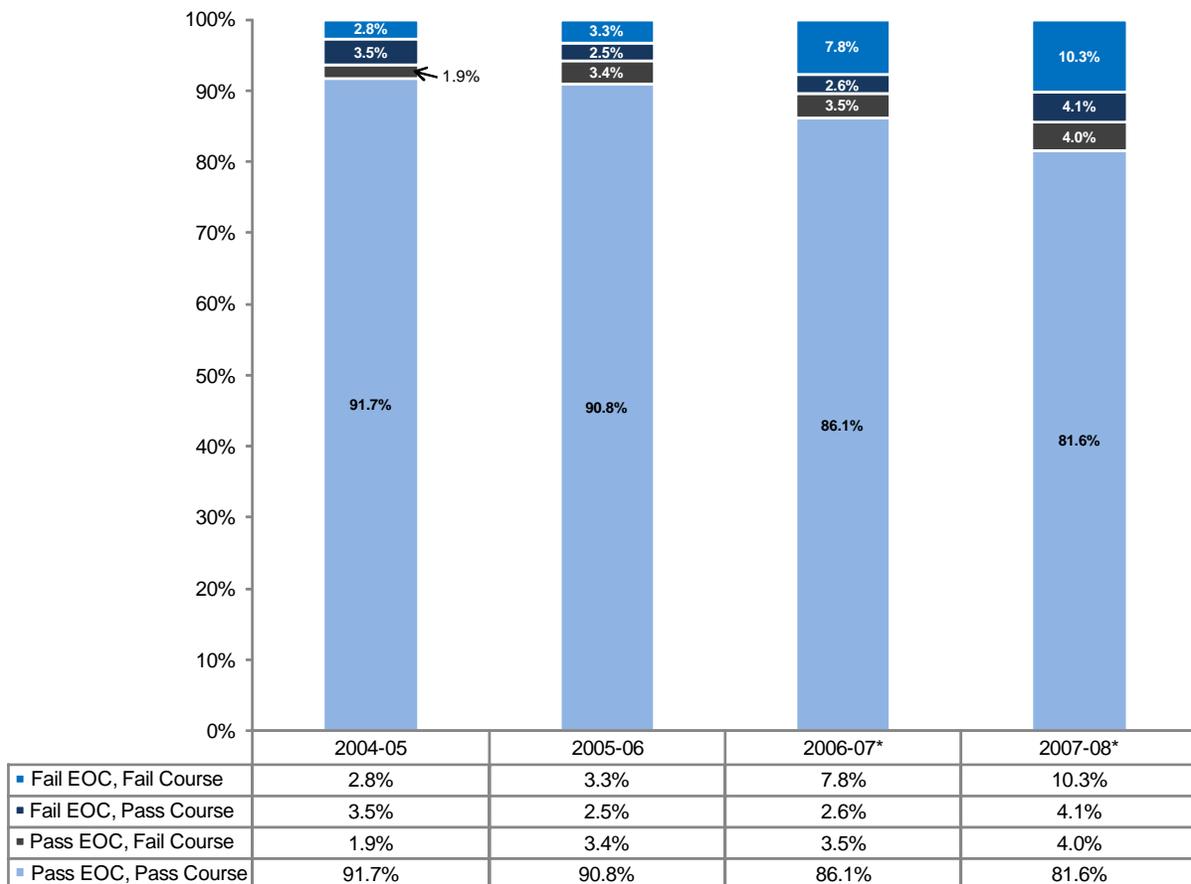
**Table 1
Characteristics of the Study Population**

	Fail Course	Pass Course
Fail EOC		
Pass EOC		

RESULTS

Figure 1 displays percentages of student who fell into the four categories displayed in Table 1 for Algebra I over a four-year period. During all four years, most students passed both the course and the EOC test, even though the percentage decreased by 11% from 2004-05 to 2007-08. The greatest decline happened in 2006-07, which is the year of introduction of the new graduation requirements, and the first year of the new Algebra I EOC tests. The percentage of students who failed both the test and the course increased from 2.8% in 2004-05 to 10.3% in 2007-08. The two groups that are of special interest in this report are the group of students who failed the EOC and passed the course (dark blue), and the group of students who passed the EOC and failed the course (grey). The first group decreased from 2004-05 to 2006-07 and increased back to 4.1% in 2007-08. The second group increased steadily from 2004-05 to 2007-08 (1.9% to 4.0%). A similar pattern was observed for English I, which also had a new test in 2006-07 (Figure 2).

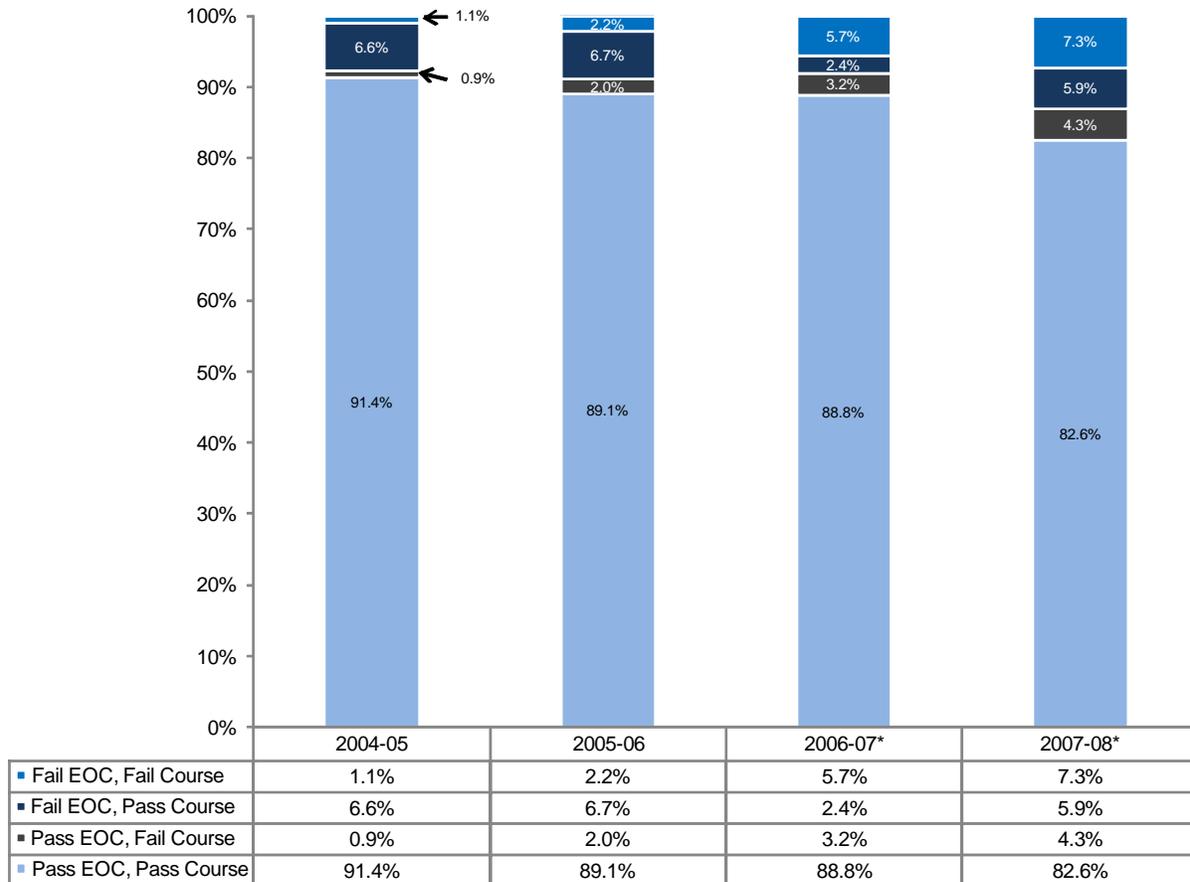
Figure 1
Algebra I: Relationship between Course Grade and Exam Score, 9th Grade Students
2004-05 to 2007-08



* New requirements to graduate

Interpretation example: In 2007-08, among the 9th graders who took the Algebra I EOC, 81.6% passed the test and the course, 4.0% passed the test but failed the course, 4.1% failed the test but passed the course, and 10.3% failed both the test and the course.

Figure 2
English I: Relationship between Course Grade and Exam Score, 9th Grade Students
2004-05 to 2007-08



* New requirements to graduate

Interpretation example: In 2004-05, among the 9th graders who took the English I EOC, 91.4% passed the test and the course, 0.9% passed the test but failed the course, 6.6% failed the test but passed the course, and 1.1% failed both the test and the course.

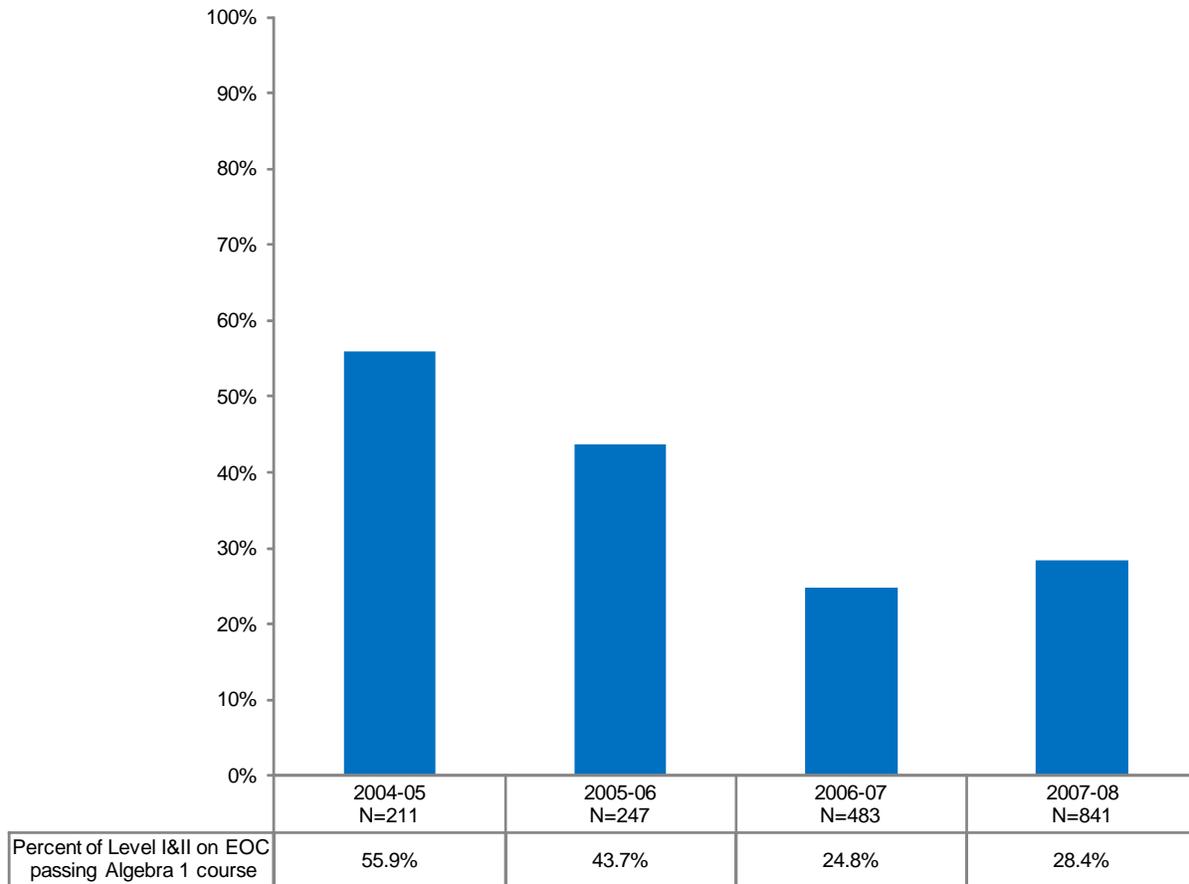
STUDENTS WHO FAILED THE EOC TEST BUT PASSED THE COURSE

Algebra I

This next section (Figures 3 to 5) focuses on students who failed the EOC test in Algebra I but passed the course from 2004-05 to 2007-08. These students, therefore, received a passing grade for the course despite failing what is essentially the comprehensive final exam for the course. As observed earlier (Figure 1), this represents 2.5% to 4.1% of the total population of 9th graders who took Algebra I in the four years under review.

Figure 3 displays the relative proportions of students who passed the Algebra I course as a subset of students who had failed the EOC test. Of the students who failed the EOC test in 2004-05, more than half were still successful in passing the course (55.9%). This percentage declined over time until 2006-07 (24.8%). It increased again by 3.6 percentage points from 2006-07 to 2007-08.

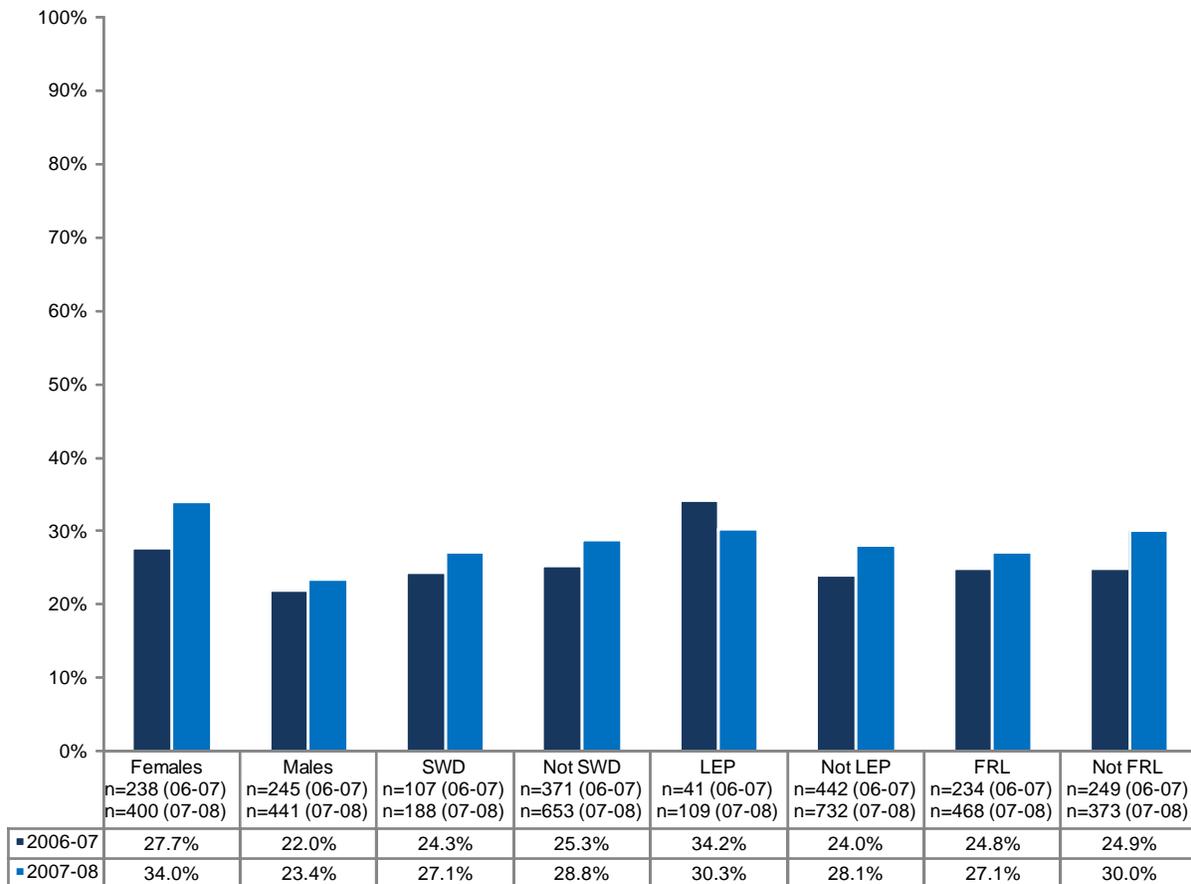
Figure 3
Percentage of Students who failed the Algebra I EOC test but passed the Course,
2004-05 to 2007-08



Interpretation example: In 2006-07, 24.8% of the students (or 120 out of 483 students) who failed the Algebra I EOC test passed the Algebra I course.

Figure 4 compares the percentages by gender and by academic risk factors, such as FRL, LEP, and SWD. The percentage of students passing the Algebra I course, as a subset of the students who failed the Algebra I EOC test was higher in 2007-08 than in 2006-07 for all subgroups, except for the LEP subgroup, where it decreased by 3.9 percentage points. Male students had a lesser frequency of passing the Algebra I course when they had failed the EOC test than female students for both years (by 5.7 percentage points in 2006-07 and 10.6 percentage points in 2007-08). There were only minor differences in passing rates between SWD students and Not SWD students both years. The difference between FRL and Not FRL Students was minimal in 2006-07. However, there was 2.9 percentage points difference between FRL students and Not FRL students in 2007-08, with a greater rate of passing for Not FRL students. LEP students who failed the EOC test passed the course more frequently than Not LEP students in 2006-07 by 10.2 percentage points. This gap decreased to 2.2 percentage points in 2007-08. In conclusion, except for the gender differences, there was little evidence of consistent differences between complementary subgroups.

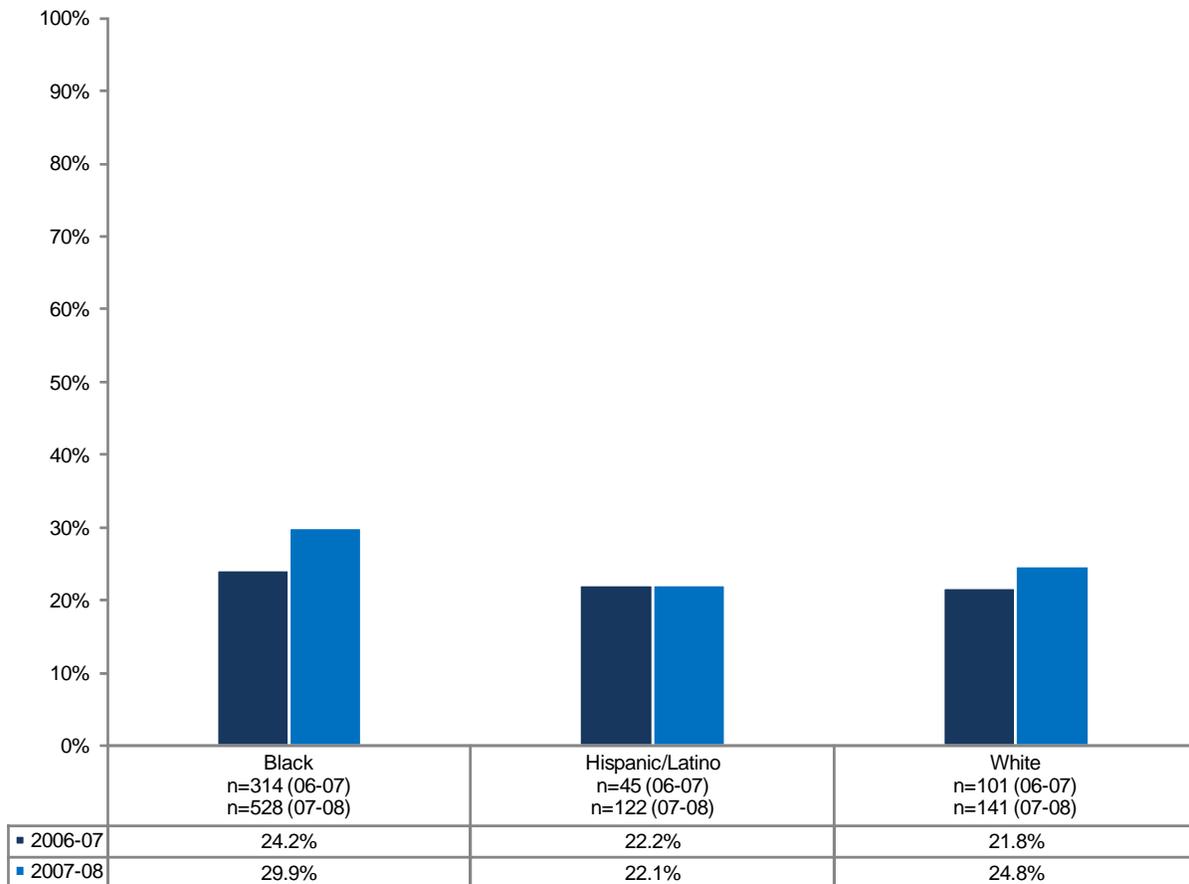
Figure 4
Percentage of Algebra I Students who Failed the EOC Test but Passed the Course, by Subgroup, 2006-07 and 2007-08



Interpretation example: In 2007-08, 30.3% of LEP students who failed the Algebra I EOC test passed the Algebra I course.

The difference in the rates of students passing the Algebra I course, even though they failed the EOC test among ethnic groups was the largest between White and Black/African American students in 2006-07 (21.8% versus 24.2%) and the largest between Hispanic/Latino and Black/African American students in 2007-08 (22.1% versus 29.9%) as can be observed in Figure 5. In both years, the Black/African American students had a slightly higher rate of passing the Algebra I course even though they had failed the EOC test than the other ethnic groups (24.2% in 2006-07 and 29.9% in 2007-08). The other ethnic subgroups (Asian, Native American and Multiracial) had sample sizes too small to be included in this analysis.

Figure 5
Percentage of Algebra I Students who Failed the EOC Test but Passed the Course, by Ethnicity, 2006-07 and 2007-08



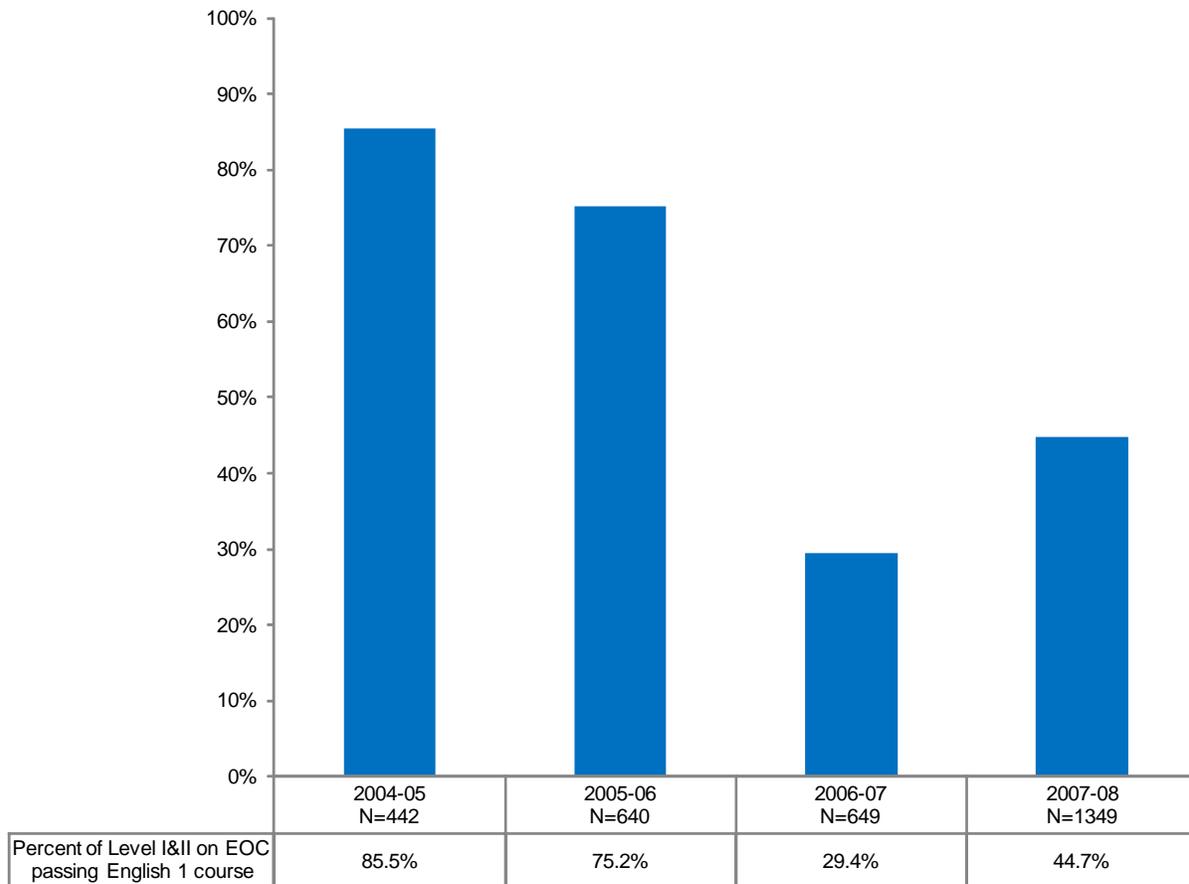
Interpretation example: In 2006-07, 22.2% of Hispanic/Latino students who did not pass the Algebra I EOC passed the Algebra I course.

English I

The focus of this section is the group of students who failed the English I EOC, but succeeded in passing the course. This represents a percentage that ranges from 2.4% to 6.7%, over the four-year period, out of the entire population of students who took English I in 9th grade (see Figure 2).

Figures 6 to 8 show the relative proportion of students who passed the English I course, out of the group of students who failed the EOC for English I in 9th grade. Figure 6 displays the percentages of students who passed the English I course out of the students who had failed their EOC test. In 2004-05, 85.5% of students who failed the English I EOC test succeeded in passing the course. This rate decreased over time to a low of 29.4% in 2006-07, the year the new test was introduced, which represented a drop of 45.8 percentage points from the previous year. The rate increased to 44.7% in 2007-08.

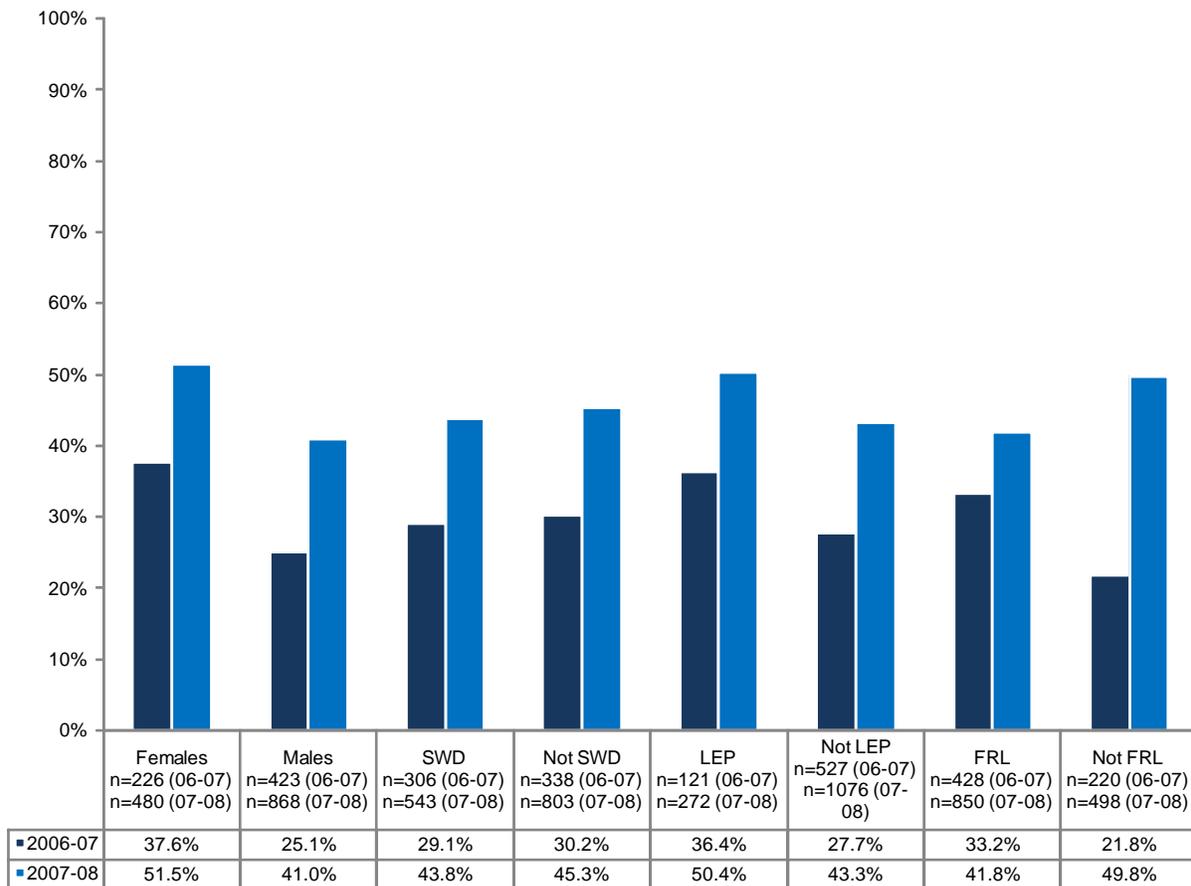
Figure 6
Percentage of English I Students who Failed the EOC Test but Passed the Course
2004-05 to 2007-08



Interpretation example: In 2007-08, 44.7% (or 603 students) of students who failed the English I EOC passed the course.

For all subgroups, the percentage of students who passed the English I course as a subset of the groups of students who had failed the EOC increased from 2006-07 to 2007-08 (Figure 7). As was observed for Algebra I, female students who failed the English I EOC test had a greater likelihood of passing the course than male students (by 12.5 percentage points in 2006-07 and 10.5 percentage points in 2007-08). LEP students also had a greater rate of passing the course than the Not LEP students. The difference was greater in 2006-07 than in 2007-08 (8.7 percentage points versus 7.1 percentage points). FRL students had a greater likelihood of passing than the Not FRL students in 2006-07 by 11.4 percentage points, however, the order changed in 2007-08, with 19.1% more Not FRL students passing than FRL students. There were essentially no major differences between SWD students and Not SWD students.

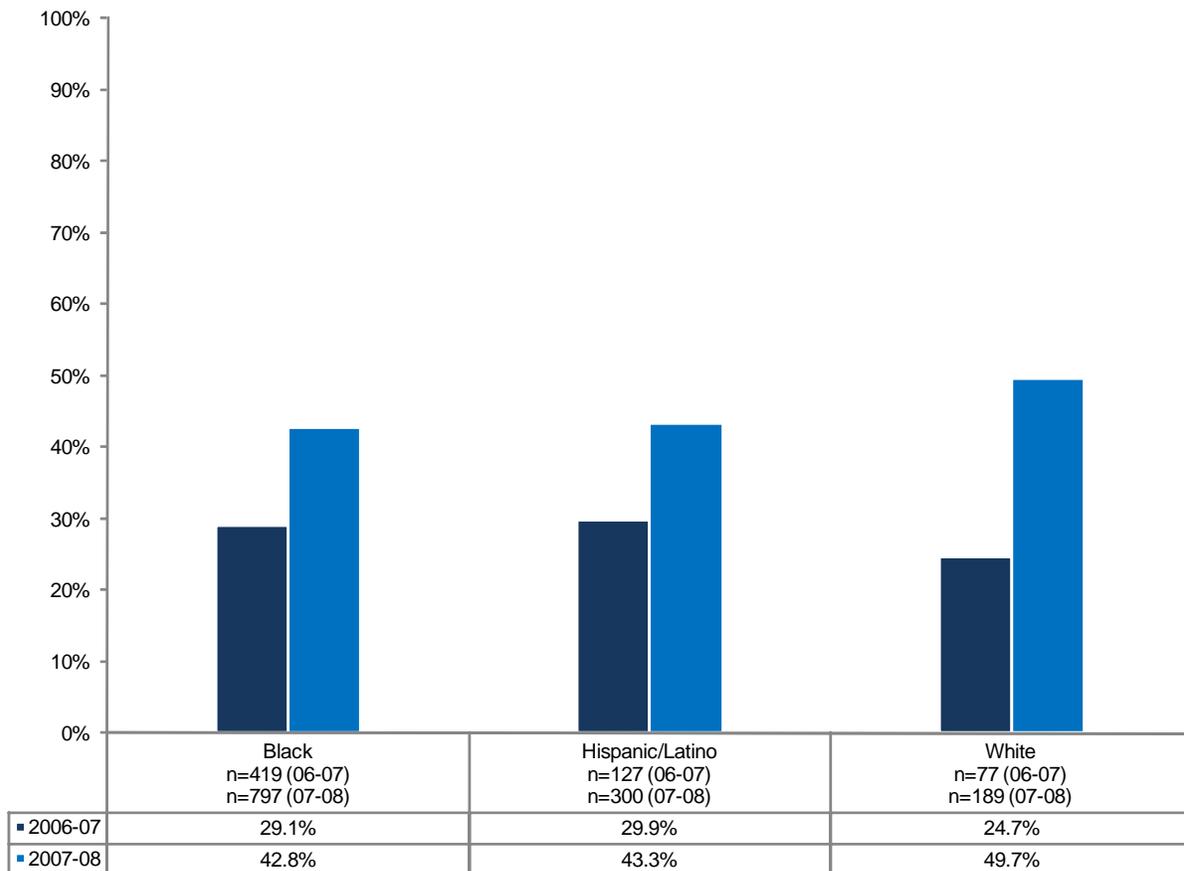
Figure 7
Percentage of English I Students who Failed the EOC Test but Passed the Course, by Subgroup, 2006-07 and 2007-08



Interpretation example: In 2006-07, 37.6% of girls who did not pass the English I EOC test passed the course.

When comparing ethnic groups each year, the percentage of students who passed the English I course even though they had failed the EOC were very similar among Black/African American, Hispanic/Latino, and White students (Figure 8). The rate for Black/African American and Hispanic/Latino students increased in a similar way from 2006-07 to 2007-08 (from 29.1% to 42.8% for Black/African American students, and from 29.9% to 43.3% for Hispanic/Latino students). In 2007-08, however, White students had a greater increase (from 24.7% to 49.7%). The other ethnic groups' sample sizes were too small to be reported. In 2006-07, White students had a lower percentage passing with 4.4 and 5.2 percentage points less than the other ethnic groups. In 2007-08, they had the higher percentage, with 6.9 and 6.4 percentage points more than the other ethnic groups, which means that White students passed the English I course even though they failed the test more often than the other two ethnic groups that year.

Figure 8
Percentage of English I Students who Failed the EOC Test but Passed the Course, by Ethnicity, 2006-07 and 2007-08



Interpretation example: In 2007-08, 42.8% of Black/African American students who failed the English I EOC test passed the English I course.

In summary, when looking at students who passed the Algebra I or English I course even though they had failed the EOC test, the largest and most consistent difference can be found when comparing male and female students. Other differences exist but are not as prominent. The overall proportion of students failing the test but passing the course was also larger for English I than for Algebra I.

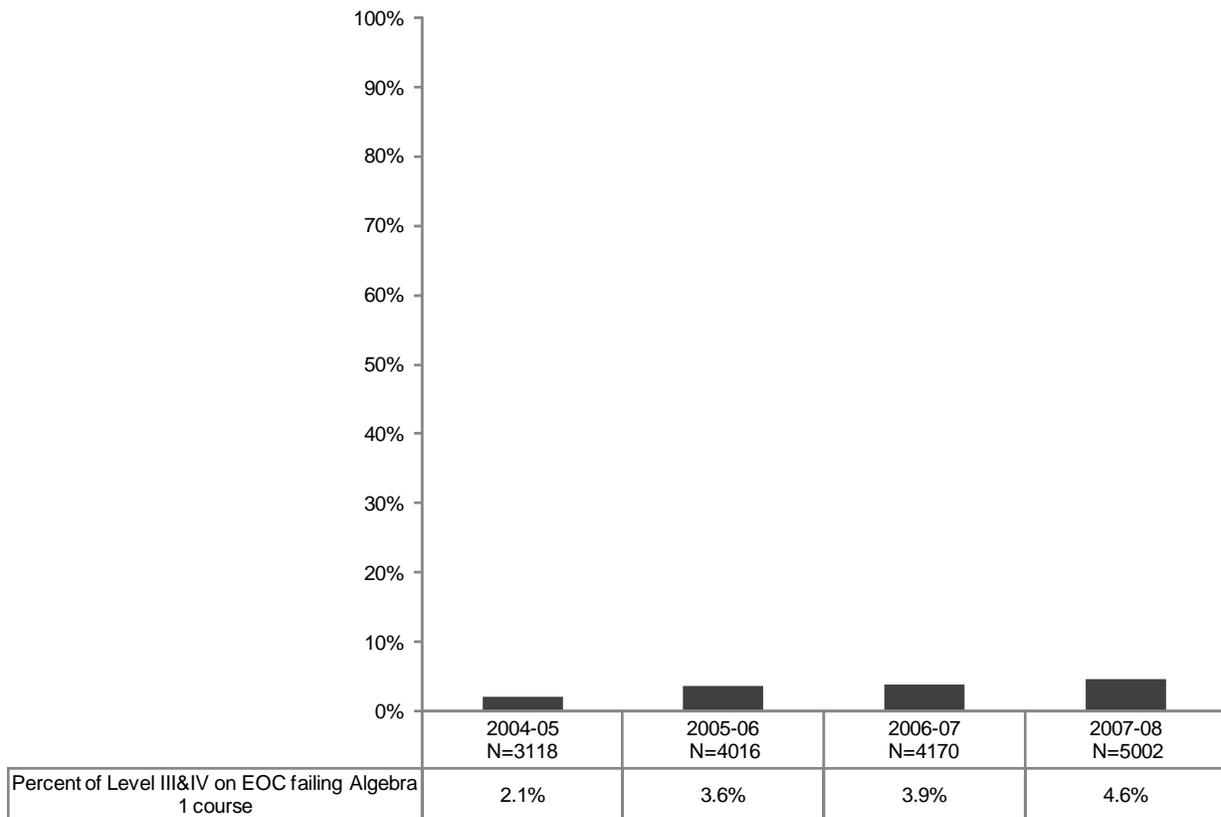
STUDENTS WHO PASSED THE EOC TEST BUT FAILED THE COURSE

Algebra I

This section focuses on the group of students who passed the Algebra I EOC test but still failed the course. These are students, therefore, who appear to have mastered the academic content of the course, but for other reasons, did not earn a passing grade from their teacher. This group represents a proportion that ranges from 1.9% to 4.0% of the total population of students who took Algebra I in 9th grade across the four-year period (see Figure 1).

Figure 9 displays the relative percentages of students who did not pass the Algebra I course, out of the group of students who had obtained a passing score on the EOC. These percentages range from 2.1% in 2004-05 to 4.6% in 2007-08. This means that close to 5% of students who passed the EOC test in 2007-08, still obtained an F for the course. Note that this particular outcome is less likely than the opposite situation discussed previously. Although the percentage here is small, it has increased steadily since 2004-05.

Figure 9
Percentage of Students who Passed the Algebra I EOC Test but Failed the Course, 2004-05 to 2007-08



Interpretation example: In 2007-08, among the students who passed the Algebra I EOC test, 4.6%, or 232 students out of 5002, failed the course.

In Table 2, a closer look is taken at the group of students who failed the Algebra I course, even though they passed the EOC test. For each year, the number of students, as well as the proportion they represent in their subgroup that passed the Algebra I EOC, are displayed in the first column. The second column displays the average scale score for these students. In both years, more male students than female students failed Algebra I, even though they had passed the EOC. Their average scale scores were very similar though, dismissing the hypothesis that the male students' failure rate was due to lower overall test performance, since the EOC counts as 25% of the final course grade. There were also large differences among ethnic groups. In particular, Black/African American and Hispanic/Latino students had a higher occurrence of

failing the course than White students. The average of the EOC scale scores that Black/African American, Hispanic/Latino, and White obtained all corresponded to a D grade when converted to the 100-point scale, showing that the EOC performance of these groups of students were very similar. Another pair of subgroups with a great difference was the FRL and Not FRL students. FRL students were about three times more likely than Not FRL students to fail the course, even though they passed the test. Again, the average scale scores for those two groups differed by less than one scale score point.

Table 2
Number and Percent of Students who passed the Algebra I EOC test but failed the course, 2006-07 and 2007-08

Algebra 1	2006-07			2007-08		
Subgroup	Number and Percentage of students who passed the EOC but failed the course	Group Average scale score	100-point scale	Number and Percentage of students who passed the EOC but failed the course	Group Average scale score	100-point scale
Male	84 (4.3%)	150.3	75	129 (5.1%)	149.8	75
Female	78 (3.5%)	149.7	75	103 (4.1%)	149.8	75
Asian	1 (0.8%)	155.0	85	0 (0.0%)	N/A	N/A
Black	79 (7.4%)	148.6	74	90 (6.8%)	148.4	73
Hispanic/Latino	14 (5.3%)	151.3	76	29 (8.0%)	149.4	74
Multiracial	8 (6.5%)	149.4	74	11 (6.4%)	148.6	74
White	59 (2.3%)	151.5	77	101 (3.4%)	151.3	76
FRL	65 (7.9%)	149.6	75	82 (7.8%)	149.0	74
Not FRL	97 (2.9%)	150.3	75	150 (3.8%)	150.2	75
LEP	4 (3.0%)	150.0	75	13 (6.0%)	148.5	74
Not LEP	158 (3.9%)	150.0	75	219 (4.6%)	149.9	75
AG	16 (2.1%)	152.4	77	8 (0.9%)	153.4	80
Non- AG	145 (4.3%)	149.7	75	224 (5.4%)	149.7	75
SWD	24 (5.4%)	149.4	74	35 (7.2%)	149.2	74
Not SWD	137 (3.7%)	150.1	75	197 (4.4%)	149.9	75

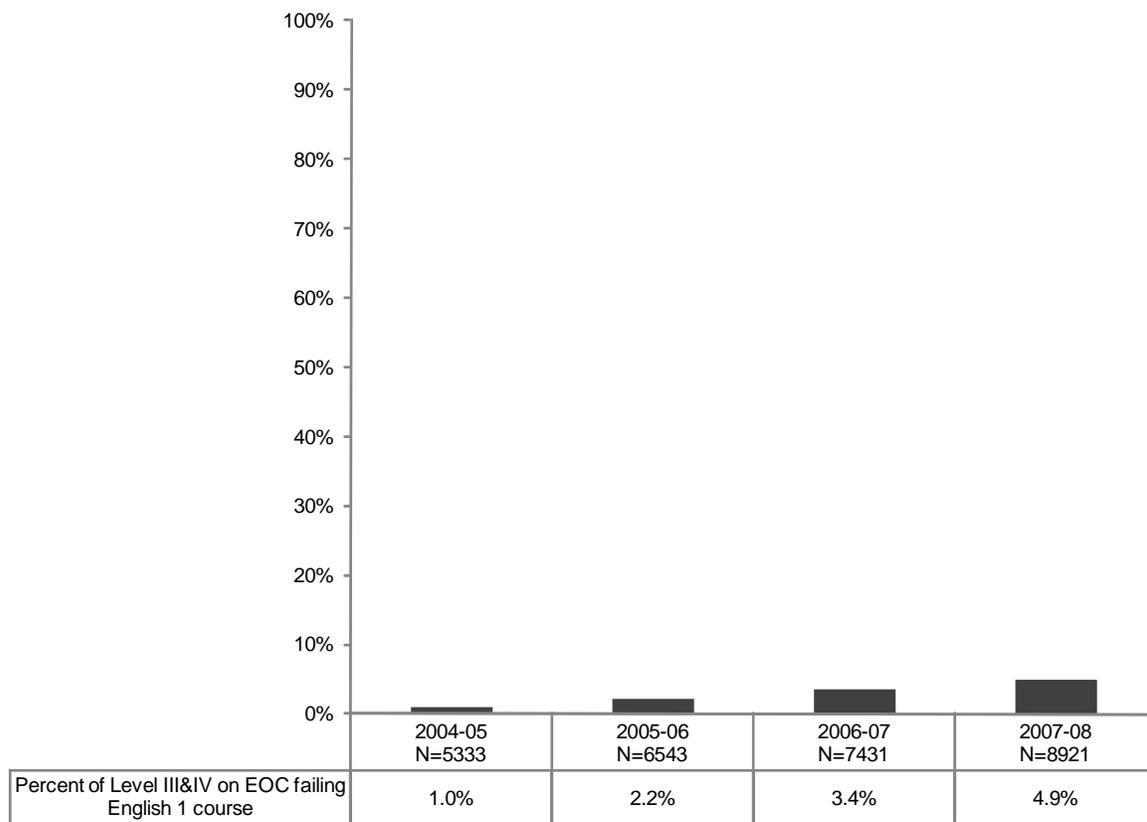
Interpretation example: In 2006-07, 84 male students failed the Algebra I course, even though they had passed the EOC test. They represent 4.3% of all the 9th grade male students who passed the Algebra I EOC test in 2006-07.

Note: The minimum scale score for level III in Algebra I is 148, the SEM is 3, which means that the lowest scale score for passing the Algebra I EOC is 145. Note that all average scores are greater than 148.

English I

This section focuses on the group of students who passed the English I EOC, but received a failing grade for the course. They represent a proportion of the total population who took the English I course in 9th grade varying from almost 0.9% to 4.3% during the period from 2004-05 to 2007-08 (see Figure 2). These are students, therefore, who appear to have mastered the academic content of the course since they passed the EOC, but for other reasons, did not earn a passing grade from their teacher. Figure 10 displays these students as a proportion of the group of students who passed the English I EOC. This proportion increased steadily over the 4-year period from 1.0% to 4.9%.

Figure 10
Percentage of Students who Passed the English I EOC Test but Failed the Course, 2004-05 to 2007-08.



Interpretation example: In 2007-08, among the students who passed the English I EOC test, 4.9% or 440 students out of 8,921, failed the course.

Table 3 displays the number and percentage of students who failed the English I test as a subset of the group of students who passed the EOC test, as well as their average scale score. The proportion of FRL students failing the English I course even though they passed the EOC test was approximately 4 times greater than the proportion for Not FRL students. Their average scale scores all fell in the range of a D grade (with a 1.5 scale score point difference). Similarly, LEP students had a proportion almost twice their Not LEP counterparts. Among ethnic groups, Hispanic/Latino and Black/African American students had also about a four times greater likelihood of failing the course than white students. Male students failed the course with a frequency of almost twice the girls' in 2006-07. The gap was smaller in 2007-08. Their average scale score were equal in 2006-07 and had a 1 scale score point difference in 2007-08. (Note here that the pattern was the same as Algebra I).

Table 3
Number and Percent of Students who passed the English I EOC test but failed the course, 2006-07 and 2007-08

English I Subgroup	2006-07			2007-08		
	Number and Percentage of students who passed the EOC but failed the course	Group Average scale score	100-point scale	Number and Percentage of students who passed the EOC but failed the course	Group Average scale score	100-point scale
Male	161 (4.5%)	148.8	76	261 (5.8%)	147.7	75
Female	95 (2.5%)	148.8	76	179 (4.0%)	148.6	76
Asian	1 (0.3%)	147.0	74	6 (1.4%)	146.7	74
Black	140 (7.4%)	147.9	75	218 (9.3%)	146.9	74
Hispanic/Latino	28 (6.9%)	148.3	75	62 (10.5%)	147.5	75
Multiracial	4 (2.0%)	148.3	75	20 (6.4%)	148.1	75
White	83 (1.8%)	150.5	79	134 (2.6%)	150.2	77
FRL	122 (8.4%)	148.0	75	231 (12.3%)	147.4	74
Not FRL	134 (2.2%)	149.5	77	209 (3.0%)	148.7	76
LEP	11 (6.0%)	146.8	74	35 (11.0%)	146.3	73
Not LEP	245 (3.4%)	148.9	76	405 (4.7%)	148.2	75
AG	14 (0.6%)	156.6	88	8 (0.3%)	154.3	85
Not AG	240 (4.6%)	148.3	75	432 (6.7%)	147.9	75
SWD	51 (6.2%)	148.0	75	72 (8.2%)	146.9	74
Not SWD	203 (3.1%)	149.0	76	368 (4.6%)	148.3	75

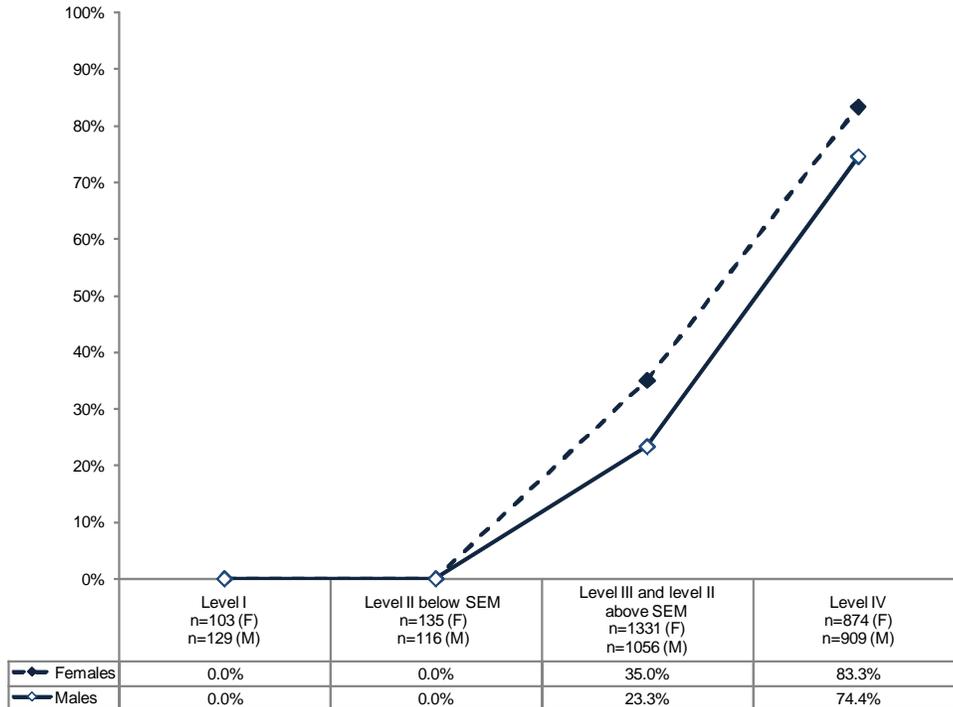
Interpretation example: In 2007-08, 179 female students failed the English I course, even though they had passed the EOC test. They represent 4% of all the 9th grade female students who passed the English I EOC test in 2007-08.

Note: The minimum scale score for level III on English I is 146; the SEM is 3, which means that the lowest score for passing the English I EOC is 143. All 2006-07 averages are greater than the 2007-08 averages and all are greater than 146.

COMPARISON BETWEEN MALE AND FEMALE STUDENTS

Figures 11 to 14 are a further comparison of the course success rates between male and female students, in Algebra I and English I as a function of the corresponding EOC test achievement levels for 2006-07 and 2007-08. Even though the relationship between achievement level and course grades were explored for all course grades, the definition of success used in these analyses was more stringent than the definition of passing the course used in the other sections of this study. Success was defined as obtaining an A or a B for the course, because it was where the differences between male and female students were the most consistent. The same pattern occurred for both subjects and both years. The proportions of students in Level I and II below SEM who obtained a high grade in the course were basically the same for male and female students, except for English I in 2006-07, where female students who obtained a level II below SEM were successful with a higher rate than male students (4.4% versus 0%). When female students scored high enough to meet the graduation requirement for the test (i.e. a level II above SEM, level III or IV), they consistently obtained a higher course grade than male students for both subjects and both years. As it can be observed in the charts, the dotted line (females) is consistently higher than the solid line (males). The difference between male and female students in the occurrence of obtaining an A or a B for the course was the most compelling for students who scored a level III or level II above SEM. These female students were more successful (according to our definition of success) than their male counterparts by 11.7% in 2006-07 and 10.2% in 2007-08 for Algebra I and 8.8% in 2006-07 and 9.7% in 2007-08 for English I.

Figure 11
Percentage of Students who obtained an A or a B in the Algebra I course grade, by Achievement Level and Gender, 2006-07



Interpretation example: In 2006-07, 35% of the female students who obtained a level III or II above the SEM obtained a course grade of A or B, in comparison to 23.3% of male students.

Figure 12
Percentage of Students who obtained an A or a B in the Algebra I course grade, by Achievement Level and Gender, 2007-08

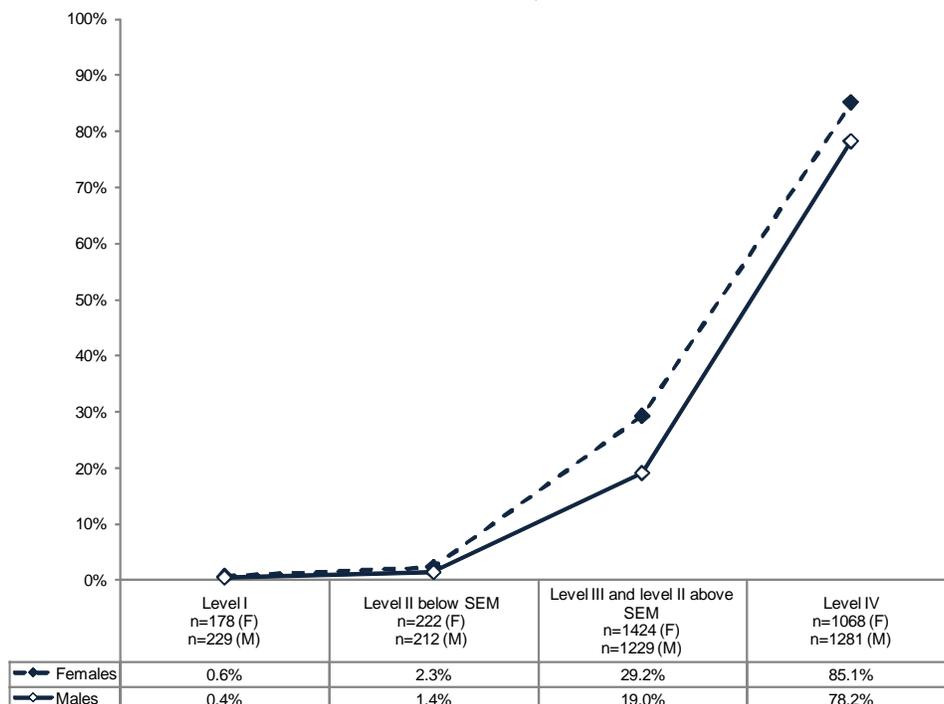


Figure 13
Percentage of Students who obtained an A or a B in the English I course grade, by Achievement Level and Gender, 2006-07

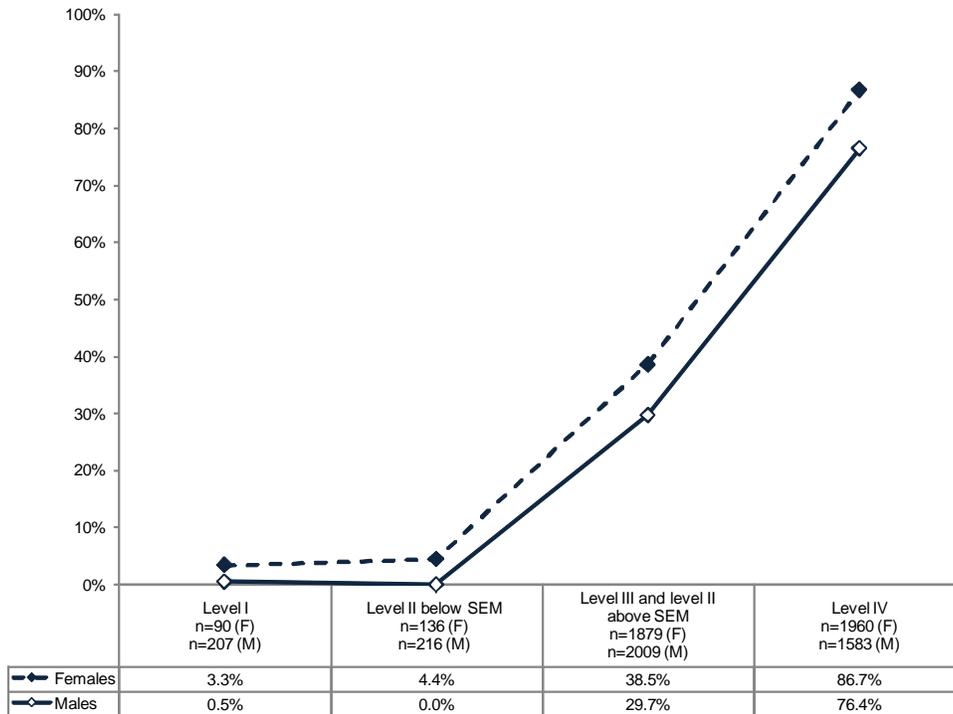
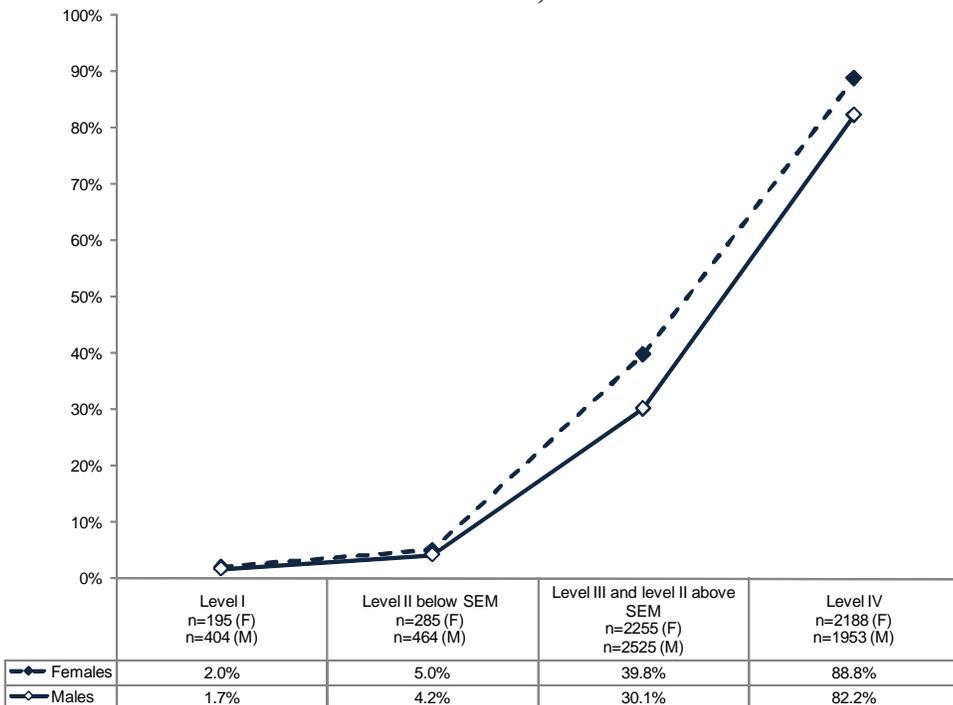


Figure 14
Percentage of Students who obtained an A or a B in the English I course grade, by Achievement Level and Gender, 2007-08



DISCUSSION

If course grades in English I and Algebra I mapped perfectly onto EOC performance, the distribution of course grades by scale scores would be identical or at least similar for all groups of students. The analyses conducted in this study show that this is generally not the case. First, there was a difference between the two subjects, which were purposely chosen from the domains of mathematics and language arts. The alignment between the EOC performance and course grades was stronger for Algebra I than for English I. Students had a higher likelihood of passing English I with a failing EOC test than was true for Algebra I. Knowing that the test grade counts as 25% of the student's final grade, teachers clearly have some latitude as to who will or will not pass the course.

The relationship between course grade and exam grade evolved over the years in the four-year period that was studied. The relationship became stronger over time in one aspect, with fewer students failing the test while passing the course. At the same time, however, the opposite trend was observed for students passing the test and failing the course. North Carolina state tests are designed to be aligned to the curriculum, which leads one to believe that there should be a strong correspondence between test score and course grade. As a new test was introduced in 2006-07 in both English I and Algebra I, the likelihood of a failing test score and a passing course grade was at its lowest, but then it increased again in the following year. This may indicate that the EOC test faithfully measures the curriculum on the year that it is designed but that they may drift apart in the following years.

The study of subgroup differences was restricted to the last two years used in this study: 2006-07 and 2007-08, which were the first two years under the new EOC graduation requirement. In both years, it was observed that there were differences between some subgroups. The relationship between course grade and test scores was generally stronger for White students than for Black/African American and Hispanic/Latino students. The same was observed when comparing FRL to Not FRL students and LEP to Not LEP students. There was no detectable difference between SWD students and Not SWD students, though.

One of the most consistent results of this study was the comparison between female and male students. Female students who failed the EOC test passed the course more often than male students who failed the EOC. Female students were also less prone to fail a course when they showed proficiency in the material taught by evidence of a passing EOC score. These differences were also observed in the study of the relationship between EOC test achievement level and obtaining a course grade of an A or B. When female and male students both passed the EOC test, female students had a higher likelihood of obtaining a course grade of an A or B than male students.

These results raise the question of how much factors such as student attitude, behavior, following the teacher's rules, homework completion, and the quality of student work in the classroom, are (or should be) taken into consideration when computing a student's final course grade. They also raise the question of whether standard-based grading or the separation of the "hidden curriculum" from curriculum knowledge might be a more informative way to grade student performance.

This study only opened a crack in the window of opportunities in the examination of the relationship between EOC exam scores and course grades. Further research could pertain to, for instance, whether male students' classroom behavior and work habits lead them to obtain lower grades than female students, even when they have passed the EOC test for the course; or whether in general female students are just more compliant than male students. The question of what happens in this relationship when a new curriculum and a new EOC test are introduced, as discussed above also could be examined more closely. Finally, only the students who took the Algebra I course in 9th grade were selected in this study. However, in WCPSS and other districts, many students take Algebra I in 8th grade. This study could be extended by examining the relationship between Algebra I exam scores and course grades when including 8th graders, or studying 8th graders only.

In the view of the new graduation requirements, which require students to pass those two EOC tests in order to graduate, the fact that a non-negligible proportion of students passed the course but failed the EOC test leads to some interesting questions. According to their course grade, the students have mastered the material required for passing the course, but according to the state mandated standardized test, they have not mastered the material. Ensuring that students are prepared to move on to the next grade or next course with a reasonable chance of success requires grading practices that clearly measure those things which are most closely tied to future success. Ensuring that those practices are implemented in a valid, reliable way for all students helps students, parents, and teachers get a complete picture of performance that will lead to good decision making and better outcomes for all.

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