



At a Glance

PASS Reading: Individual Student Performance 2009 to 2010, Grades 3 and 4 August 2011

The acquisition of reading skills by grade three is an important benchmark in a child's educational development. The Annie E. Casey Foundation report, *Early Warning: Why Reading by the End of Third Grade Matters*, states that:

Reading proficiently by the end of third grade is a crucial marker in a child's educational development. Failure to read proficiently is linked to higher rates of school dropout, which suppresses individual earning potential as well as the nation's competitiveness and general productivity.

Also reported by the Annie E. Casey Foundation in the report, *Double Jeopardy: How Third-Grade Reading Skills and Poverty Influence High School Graduation*, "one in six children who are not reading proficiently in third grade do not graduate from high school on time, a rate four times greater than that for proficient readers."

RESEARCH QUESTIONS AND METHODOLOGY

Rather than looking at the overall performance of schools and districts, the EOC wanted to look at individual student performance on the Palmetto Achievement of State Standards (PASS) Reading and Research test. These analyses were performed using a matched sample made up of students who took the PASS Reading and Research test as grade 3 students in the Spring of 2009 and as grade 4 students in the Spring of 2010.

When a student takes PASS, he or she receives an absolute scale score which corresponds to one of three student performance levels: Not Met, Met, and Exemplary. By state law, "Not Met" means that the student did not meet the grade level standard. "Met" means the student met grade level standard. And, "Exemplary" signifies the student demonstrated exemplary performance in meeting the grade level standard. For the purpose of determining the school's absolute rating on the state report card (Excellent, Good, Average, Below Average and At-Risk), each student's scale score is assigned a value of 1 to 5 based on the student's performance.

Scores Used for Data Analysis	
PASS Level	Score (Report Card Weight)
Exemplary 5	5
Exemplary 4	4
Met	3
Not Met 2	2
Not Met 1	1

The EOC used these report card weights to determine individual student gains or losses in reading proficiency between grades 3 in 2009 and grade 4 in 2010. To measure the change in each student's performance on Reading and Research, the report card weight assigned to the student in grade 4 was subtracted from the report card weight assigned to the same student in grade 3. A student who received the same report card weight in both grade 3 and grade 4 would have a change of 0 and was determined to have performed similarly in both years. Students who received a higher report card weight in grade 4 would have made positive change in performance. Students who received a lower report card weight in grade 4 would have a negative change in performance.

Associated with each student's testing record is also information that identifies each student as participating in a gifted and talented program, eligible for free or reduced price meals, their racial/ethnic status, and the school/district they were enrolled in at the time of testing. To be included in this study, the testing record for each PASS year must contain information regarding each of these variables. A total of 51,773 students were tested in both years and contained complete information in their testing records.

Using this data set, the EOC was able to address the following questions. First, what percentage of students improved from 2009 to 2010? And, second, did student achievement differ:

- 1) between students identified as gifted and talented and students not identified as gifted and talented?
- 2) between students with non-speech disabilities and students with no disabilities?
- 3) between students by economic status as measured by the federal school lunch program?
- 4) among students by racial/ethnic group?
- 5) by students' transiency status, either at the district or the school level (same school/district or different school/district in each year)?
- 6) among students by state report card absolute report rating of the school (did students in schools with "Excellent" ratings perform differently than students in schools with "At Risk" ratings)?
- 7) among students by the improvement rating of the school?

RESULTS

All Students --Approximately 51 percent of students obtained the same score in Reading and Research in both 2009 and 2010. Approximately one-third of students decreased their performance, and approximately 16 percent of students increased their performance. The mean difference between students' 2009 performance and 2010 performance for the matched sample is -0.24.

Table 1.
Changes in Reading and Research performance for students in the 2009/2010 matched data

	Change (Grade 4 – Grade 3)	Number of Students	Percent of Students
Increase in Performance	4	5	Less than 0.1
	3	73	0.1
	2	1,663	3.2
	1	6,634	12.8
No Change	0	26,462	51.1
Decrease in Performance	-1	11,511	22.2
	-2	5,149	9.9
	-3	250	0.5
	-4	44	0.1

Students served in gifted and talented programs

Students not identified as gifted scored lowest initially, with a mean 2009 Reading and Research performance of 3.33, artistically talented students scored higher (3.96) and academically gifted students scored nearly identically to students identified as both academically and artistically gifted (4.86 and 4.87, respectively). Each gifted and talented group declined in their performance from 2009 to 2010 (Table 2). The smallest decline occurred for students who were identified as both artistically and academically gifted (-0.11). The change in performance for students not identified as gifted is identical to the change in performance for the complete matched sample (-0.24).

Table 2.
Reading and Research performance by Spring 2010 gifted and talented status

Gifted and Talented Status	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Academic	6,334	4.86	4.64	-0.22
Artistic	1,080	3.95	3.67	-0.27
Both	485	4.87	4.76	-0.11
Not Gifted	43,874	3.33	3.08	-0.24

Students with disabilities

Students with no disabilities scored higher initially, with a mean performance of 3.70 while students with a non-speech disability had a mean performance of 2.24. Comparing the change in performance, students with no disabilities had the same change in performance as the entire matched sample, a decline of 0.24. Students with non-speech disabilities experienced a greater decline in performance of 0.33.

Table 3.
Reading and Research performance by non-speech disability status

Disability Status	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Not Disabled	46,285	3.70	3.46	-0.24
Non-speech Disability	4,376	2.24	1.91	-0.33

Student race/ethnicity

White students make up the largest group of students, and their initial mean performance was 3.89 while the initial performance of African-American (3.09) and Hispanic (3.16) students was lower. The differences in change of performance, however, were comparable.

Table 4.
Reading and Research performance by racial/ethnic group

Race/Ethnicity	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
African-American	19,744	3.09	2.82	-0.27
Hispanic	2,947	3.16	2.93	-0.23
Other	1,246	3.92	3.74	-0.18
White	27,595	3.89	3.66	-0.23

Student eligibility for free or reduced price lunch

There were differences among the initial performance levels of students based on their participation in the federal student lunch program. Students eligible for free lunch had the lowest initial performance (3.07) while the mean performance for students eligible for a reduced price lunch was 3.58. The change in performance across these three student groups were consistently either -0.24 or -0.25.

Table 5.
Reading and Research performance by federal lunch program status

Student Group	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Free Lunch	23,334	3.07	2.83	-0.24
Reduced Price	1,890	3.58	3.32	-0.25
Full Pay	19,338	4.13	3.89	-0.24

Student mobility across districts

Students were identified as either testing in the same district for both the 2009 and 2010 PASS administrations, or testing in different districts. Students who changed districts scored in 2009 on average 0.3 points lower than did students who remained in the same district. However, for both 2009, and in 2010, the initial mean performance of students who changed districts was 0.3 lower than the initial mean performance of students who remained in the same district. Between 2009 and 2010 the changes in performance were the same with both groups, a decline of 0.24.

Table 6.
Reading and Research performance by student mobility across districts.

District Mobility	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Changed District	2,500	3.25	3.01	-0.24
Same District	49,220	3.55	3.31	-0.24

Does student economic status as reflected by federal school lunch program status impact student mobility and student performance? While only 2.0% of students who paid for meals changed districts, 5.5% of students receiving subsidized meals changed districts from 2009 to 2010. With respect to changes in performance from 2009 to 2010, the mean performance of students who changed districts and received subsidized meals was a decline of 0.23 as compared to a decline of 0.25 for full-pay students who changed districts.

Table 7.
Reading and Research performance by student mobility across districts and federal lunch program status

Lunch Status	District Status	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Free/Reduced	Changed District	1,547	3.05	2.82	-0.23
	Same District	26,510	3.14	2.90	-0.25
Full Pay	Changed District	396	3.94	3.69	-0.25
	Same District	18,912	4.14	3.90	-0.24

Student mobility across schools within the same district

Analyses were performed to compare students who changed schools but remained in the same district from 2009 to 2010 to students who remained in the same school for both academic years. A larger percentage of students changed schools from 2009 to 2010 than changed districts (13.4% vs. 4.8%, respectively). The initial mean performance for students who remained in the same school and district was 0.21 greater than for students who changed schools. The mean performance of students who changed schools declined by 0.26 from 2009 to 2010 as compared to a decline of 0.24 for students who remained in the same school.

Table 9.
Reading and Research performance by student mobility across schools

School Mobility	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Changed School	6,486	3.38	3.12	-0.26
Same School	41,947	3.59	3.35	-0.24

Student enrollment in schools by absolute report card rating

The initial performance of students on the Reading and Research portion of PASS decreased as the school rating decreased; the initial performance of students in schools with an absolute rating of Excellent was 4.09 and of students in schools with an absolute rating of At-Risk, 2.68. Across all absolute report ratings, the decline in performance on Reading and Research between third and fourth grade varied between 0.22 and 0.26.

Table 10.
Reading and Research performance by absolute school rating

Absolute Rating	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Excellent	11,520	4.09	3.85	-0.25
Good	9,431	3.75	3.49	-0.26
Average	23,968	3.38	3.14	-0.24
Below Average	5,061	2.99	2.77	-0.22
At Risk	1,777	2.68	2.43	-0.25

Student enrollment in schools by improvement rating

Similar to the pattern for absolute ratings, the initial performance of students on the Reading and Research assessment generally declined as the improvement rating declined. Between 2009 and 2010, the change in performance ranged from a decline of 0.23 to a decline of 0.29.

Table 11.
Reading and Research performance by improvement rating

Improvement Rating	N	Mean Performance 2009	Mean Performance 2010	Change in Performance (2010-2009)
Excellent	6,796	4.06	3.82	-0.23
Good	11,238	3.79	3.55	-0.23
Average	26,596	3.40	3.16	-0.24
Below Average	2,923	3.13	2.87	-0.26
At Risk	4,085	3.26	2.98	-0.29

ADDITIONAL INFORMATION

For additional information, contact the EOC at (803) 734-6148. A complete copy of the report, "PASS Reading: A First Look at Student Progress for a Matched Cohort." can be found online at www.eoc.sc.gov.