

Evaluation & Research Department

E&R Report No.07.08

November 29, 2007

ANALYSIS OF ACHIEVEMENT DATA

The attached spread sheets present information about the performance of students within WCPSS over a three-year period. The presentation allows analysis of student achievement among different racial/ethnic groups and between students eligible for free or reduced-price lunch (FRL) and non-FRL groups. It should be remembered that some groups (i.e., multiracial and American Indian) are quite small when compared to other groups (i.e., Black, Hispanic/Latino, and White). As a consequence, the more detailed analysis below will focus on the four largest ethnic groups within WCPSS. On the whole, Asian and White students perform similarly to one another, but differently from Black and Hispanic/Latino students, taken as groups. Obviously, any given individual within any category may perform in ways that are not representative of or reflective of the performance of the larger group.

It is remarkable that the data patterns presented here show relative stability over time and across tests of the group's performance, regardless of what the group is. That is, FRL-qualified White students tend to perform similarly over time and over tests, and Black non-FRL students do also. A consequence of this observation is that White students and Asian students, whether qualified for FRL or not, have larger percentages at/above grade level over time and over tests, than do Hispanic/Latino or Black students. Indeed, White students who qualify for FRL tend to have larger percentages at/above grade level than do non-FRL Black or Hispanic/Latino students. The same holds true for FRL Asian students when compared with non-FRL Black and Hispanic/Latino students (with the exception of English I).

While a variety of patterns are presented in these data, some of the more salient ones are these:

1. During the past three years, Asian and White students, as groups, have posted very similar records on the Reading EOG tests for grades 3-8. Both groups have high percentages of students reading at/above grade level in both the FRL and not FRL categories. Among Asian and White students who qualify for FRL, the differences are less than 3 percentage points each year. Among students who do not qualify for FRL, the differences in the groups are less than one percentage point.
2. The same pattern is evident for Black and Hispanic/Latino students. Less than 4 percentage points separate the groups of students who qualify for FRL, while performance among Black and Hispanic/Latino students who do not qualify for FRL is within less than 2.5 percentage points for the same period.

Authors

David Holdzkom
Anne-Sylvie Boykin



WAKE COUNTY
PUBLIC SCHOOL SYSTEM

A BRIEF LOOK AT:

3. Differences among Asian or White groups and Black or Hispanic/Latino groups are sizable. In reading, the White-Black gap among students who qualify for FRL has been around 13 percentage points during the last three years, while the gap between White and Hispanic/Latino students has been between 15 and 17 percentage points. Among non-FRL students, White and Black students have been separated by about an 8 percentage point gap, while the gap between White and Hispanic/Latino students has been slightly greater, i.e. about 10 percentage points.
4. The situation in mathematics is similar to the pattern in reading, but is exacerbated by the re-standardization of the mathematics EOGs in 2005-06. Among Asian and White students who qualify for FRL, the percentage of students at/above grade level has been between 69% and 77% for the past two years, with larger percentages of Asian students scoring at/above grade level. The same pattern holds for students who do not qualify for FRL, but in this case, the floor is at the 90% on/above grade level.
5. Among Black and Hispanic/Latino students in mathematics, the pattern seen in reading is reversed for mathematics, with larger percentages of Hispanic/Latino students than Black students scoring at/above grade level. Among students who qualify for FRL, this difference is on the order of 10 percentage points. Among non-FRL Black and Hispanic/Latino students, the difference is about 6 percentage points. It should be noted that in 2004-05, before the State Board set new standards for mathematics, there was a very small gap between the two groups, both for the FRL and the non-FRL sub-groups. However, the fact that fewer than half of the Black FRL group and just over half of the Hispanic/Latino FRL group were performing at/above grade level in mathematics should not be overlooked.
6. While the FRL/not-FRL gaps in reading for all ethnic/racial groups has been between 8 and 15 percentage points, the gaps in mathematics are much larger; on the order of 18 to 28 percentage points or more than twice as large.
7. The same patterns described above may be seen for English I and Algebra I, with some exceptions. It should be remembered that both of these EOC tests were re-standardized in 2006-07, so a drop in percent of students at/above grade level was posted for this year, as compared to the two prior years. This was especially strong in measuring the gap between FRL and non-FRL students. With a few exceptions, the within ethnic/racial group gap attributable to FRL status, was on the order of 10 percentage points in Algebra I. However, in 2006-2007, the within group gap exceeded 10 percentage points for all ethnic/racial groups but one. In English I, the gap within ethnic groups between FRL and non-FRL students was larger than for Algebra I, especially among Asian students.
8. In general, the percentages of Asian and White students who score at/above grade level are similar (with the exception of a difference in English I for FRL Asian students as compared with FRL White students). For non-FRL Asian and White students, the percentage at/above grade level has been very similar for both courses. Both of these groups have fairly consistently had more than 90% of students scoring at/above grade level in these two courses, while a somewhat smaller percentage of FRL qualified students in these two ethnic groups has been at/above grade level.

9. Black and Hispanic/Latino students, as groups, whether qualified for FRL or not, have been especially impacted negatively by the re-standardization of the Algebra I and English I tests. However, the FRL Black and Hispanic/Latino groups have fewer than 60% of students meeting the criteria for at/above grade level work in these tests. The gaps between FRL and non FRL students in these two groups is not as great as the gap for some other comparable groups, notably the Algebra I gap for Asian and for White students or for Asian students in English I. The remarkable fact is the increase in the gap for FRL and non-FRL groups of all ethnicities following the re-standardization of these tests.
10. The same patterns described above may be seen for biology, U.S. History, and Civics & Economics performance. While gaps between ethnic/racial groups are consistent, the gaps between FRL and non-FRL qualified groups are also significant.
11. Finally, it is interesting to observe the relative stability of the gap between FRL and non-FRL students within each ethnic/racial group. That is, while the gap may vary from ethnic group to ethnic group when comparing performance of FRL/non-FRL students, over time, the gap changes very little. In some cases, the gaps may be small, as is true for reading by Asian students. The gap between FRL Asian and non-FRL Asian students in reading is just under 10 percentage points. In other cases, the gap is relatively larger. Again, using Asian students as an example; there is a 19 percentage point gap between FRL and non-FRL Asian students in math in grades 3-8. However, the gaps in these two areas were essentially the same in 2005-06 and 2006-07.

Percent of Students Proficient

	FRL							Not FRL						
	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
2006-07														
Asian	87.9	75.8	77.0	63.0	68.5	65.1	67.7	97.5	95.0	94.0	92.2	90.5	85.5	90.2
Black	75.4	43.2	42.0	52.4	40.4	40.3	42.1	88.6	64.2	55.0	70.6	51.7	55.5	61.1
Hispanic	72.3	53.0	56.6	48.5	47.4	51.8	46.9	88.0	71.3	66.1	68.6	63.1	66.3	61.6
Am Indian	85.2	57.4	75.0	100.0	66.7	50.0	33.3	93.3	84.8	85.7	100.0	91.3	72.2	82.1
Multi	83.4	58.9	66.2	66.7	64.3	64.3	63.3	94.7	83.9	77.9	87.2	82.4	77.0	84.4
White	88.5	71.1	75.1	78.9	68.5	69.7	67.9	97.0	90.6	90.2	94.0	89.5	86.2	89.6
White-Black Gap	13.1	27.9	33.1	26.5	28.1	29.4	25.8	8.4	26.4	35.2	23.4	37.8	30.7	28.5
White-Hispanic Gap	16.2	18.1	18.5	30.4	21.1	17.9	21.0	9.0	19.3	24.1	25.4	26.4	19.9	28.0

FRL-Not FRL Gap						
Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
9.6	19.2	17.0	29.2	22.0	20.4	22.5
13.2	21.0	13.0	18.2	11.3	15.2	19.0
15.7	18.3	9.5	20.1	15.7	14.5	14.7
8.1	27.4	10.7	0.0	24.6	22.2	48.8
11.3	25.0	11.7	20.5	18.1	12.7	21.1
8.5	19.5	15.1	15.1	21.0	16.5	21.7

	FRL							Not FRL						
	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
2005-06														
Asian	88.6	75.6	96.3	79.2	78.8	55.6	63.3	96.8	93.7	98.6	96.7	90.5	81.6	84.3
Black	74.4	40.6	75.1	69.8	34.1	33.9	38.1	88.9	62.0	82.1	80.9	54.0	48.0	54.6
Hispanic	72.3	50.2	80.7	57.4	49.3	44.8	45.2	86.4	67.5	85.2	71.3	60.1	63.3	59.9
Am Indian	75.6	55.6	100.0	80.0	100.0	66.7	100.0	95.2	74.8	92.6	87.0	65.0	82.6	79.0
Multi	85.5	56.1	87.5	87.5	71.1	64.7	75.0	94.8	82.4	94.7	95.2	88.5	76	85.1
White	87.5	68.6	91.7	85.3	70.6	57.0	65.4	97.3	89.6	97.1	96.9	87.7	81.4	86.7
White-Black Gap	13.1	28.0	16.6	15.5	36.5	23.1	27.3	8.4	27.6	15.0	16.0	33.7	33.4	32.1
White-Hispanic Gap	15.2	18.4	11.0	27.9	21.3	12.2	20.2	10.9	22.1	11.9	25.6	27.6	18.1	26.8

FRL-Not FRL Gap						
Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
8.2	18.1	2.3	17.5	11.7	26.0	21.0
14.5	21.4	7.0	11.1	19.9	14.1	16.5
14.1	17.3	4.5	13.9	10.8	18.5	14.7
19.6	19.2	-7.4	7.0	-35.0	15.9	-21.0
9.3	26.3	7.2	7.7	17.4	11.3	10.1
9.8	21.0	5.4	11.6	17.1	24.4	21.3

	FRL							Not FRL						
	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics	Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
2004-05														
Asian	90.0	92.0	86.7	64.4	70.0			96.5	97.4	95.6	94.6	88.2		
Black	73.7	75.3	70.1	63	38.2			87.9	87.9	77.8	80.7	50.7		
Hispanic	70.2	76.3	74.5	51.7	45.6			87.6	87.7	82.8	69.4	59.1		
Am Indian	86.1	86.1	60.0	87.5	80.0			96.0	95.1	83.3	80.0	78.3		
Multi	83.3	85.0	72.5	88.4	62.2			95.0	95.3	92.0	92.8	79.1		
White	87.6	90.3	84.4	78.1	64.3			97.1	97.7	94.5	95.7	87.8		
White-Black Gap	13.9	15.0	14.3	15.1	26.1			9.2	9.8	16.7	15.0	37.1		
White-Hispanic Gap	17.4	14.0	9.9	26.4	18.7			9.5	10.0	11.7	26.3	28.7		

FRL-Not FRL Gap						
Read EOG	Math EOG	Alg I	Eng I	Bio	US Hist	Civics
6.5	5.4	8.9	30.2	18.2		
14.2	12.6	7.7	17.7	12.5		
17.4	11.4	8.3	17.7	13.5		
9.9	9.0	23.3	-7.5	-1.7		
11.7	10.3	19.5	4.4	16.9		
9.5	7.4	10.1	17.6	23.5		

- NOTES**
- Caution should be observed when comparing the Math EOG results from 2004-05 and 2005-06 or 2006-07, because the results for 2005-06 and 06-07 are based on a new test and new standards.
 - US History and Civics & Economics EOC tests were new in 2005-06; English I and Algebra I were new in 2006-07.
 - Data for Am Indian and Multi subgroups should be interpreted with caution, as they may be based on very small numbers of tested students.