

CRCT Erasure Analysis and Ongoing Remediation Update

This document summarizes:

- External (Georgia State University) study of impacts related to the 2009 cheating;
- Internal 2014-2015 data analysis for current APS students who may have been impacted;
- Past APS intervention efforts and remedial programs;
- 2014-2015 global interventions and programs in reading and math; and
- Possible next steps for supporting students through graduation.

Summary of Georgia State CRCT Study

Under a contract with the Atlanta Public Schools (APS), Dr. Tim R. Sass,¹ Distinguished University Professor in the Andrew Young School of Policy Studies at Georgia State University, has completed a study of *The Long-Run Effects of Teacher Cheating on Student Outcomes*. According to the authors, the study was designed to control for “multiple student characteristics” (e.g., gender, race/ethnicity, free/reduced-price lunch status, gifted status, limited English proficiency, disability status, school attended, and the students’ subsequent 2009-2010 test scores).² However, the study did not control for teacher variables such as years of experience or teacher effectiveness.

As noted by the authors, “Much effort has been devoted to identifying the teachers and administrators responsible for manipulating test scores in APS and bringing those responsible to justice. At the same time little is known about the victims of the cheating. This report represents the first attempt to rigorously analyze the impact of teacher cheating on the long-run outcomes of students.”

The findings suggest that the potential long-term negative effects are moderate and “not uniform across students in classrooms identified as having irregular wrong-to-right (WtR) test item changes in the spring of 2009.” Based on the spring 2014 state assessment results,³ the evidence suggests differential effects related to the number of WtR changes made.

To define “cheated” student, the researchers used the “number of WtR erasures in 2009 that exceeds the 95th percentile.” In non-statistical terms, the 95th percentile is roughly equivalent to 5 or more WtR erasures. In mathematics, the report states that for a student with WtR changes “a negative impact was found for grades 1 and 2 (in 2008-2009). The effects range from -0.06 to -0.10 standard deviations and are fairly constant over time. This is on par with the effect of having a rookie teacher rather than one with five years of experience (Clotfelter, et al., 2006).” However, for the other grades the researchers found smaller effects. “Alternatively, the effect is equivalent to 18 to 29 percent of the average annual learning gain in math for middle school students of 0.34 (standard deviation)... results for students who were in grades 3-6 in 2008/09 are quite different. Save for one positive and significant coefficient, the remaining 11 estimates are all insignificantly different from zero. When all students are grouped together, the point

¹ *The Long-Run Effects of Teacher Cheating on Student Outcomes*; Sass, Tim R., Apperson, J., Bueno, C. (May 5, 2015). Dr. Sass is a Distinguished University Professor in the Andrew Young School of Policy Studies at Georgia State University, and senior researcher with the Center for Analysis of Longitudinal Data in Education Research.

² The report states, “We take a number of steps to minimize any bias associated with the non-random exposure of students to teacher cheating. First, we control for a variety of observable student characteristics, including gender, race/ethnicity, free/reduced-price lunch status, gifted status, limited English proficiency and disability status. In addition, in some specifications we also control for the school attended in 2008/09, thereby comparing cheated students to other students in the same school. Finally, in some specifications we also control for the student’s test score in 2009/10, when cheating was largely eliminated.” (*The Long-Run Effects of Teacher Cheating on Student Outcomes*; Sass, Tim R et al.)

³ CRCT or EOCT depending on the grade level in 2014.

estimates are all negative, but only estimates for 2013/2014 are significantly different from zero across all three (grade) specifications.”

In contrast to math, in reading and ELA the researcher found that “being cheated had negative consequences for later student performance... The estimated impacts are in the range of one-fourth to one-half of the average annual achievement gain for a middle school student. This is equivalent to one to two times the difference between having a rookie teacher and one with 5 or more years of experience in a single year... There is little evidence that teacher cheating had any deleterious effects on subsequent student attendance or student behavior. Any impacts that may have occurred were very small.”

According to the study, 3,728 of the students whose results were affected by at least 5 WtR changes in spring 2009 are still enrolled in APS. (1,825 of the students had 10 or more erasures.) The table below details the grade distribution for the 3,728 students. As can be seen, the majority of the students are currently in grades 7-10.

Grade Level Distribution

Grade Level	Number of Students with 5 or More Erasures	Number of Students with 10 or More Erasures
5	3	0
6	123	49
7	674	220
8	639	232
9	1149	658
10	594	341
11	412	262
12	134	63
Total	3,728	1,825

Analysis of Current Students Who May Have Been Impacted

Findings from *The Long-Run Effects of Teacher Cheating on Student Outcomes*⁴, a study by Dr. Tim R. Sass at the Andrew Young School of Policy Studies at Georgia State University, suggest that potential long-term negative effects of the 2009 Atlanta Public Schools (APS) cheating are moderate and “not uniform across students in classrooms identified as having irregular wrong-to-right (WtR) test item changes in the spring of 2009.” There are, however, differential effects related to the number of WtR changes made (based on 2014 spring state test results).

As a result of the study by Dr. Sass, the APS Accountability team examined current data for students with 5-9 and 10 or more WtR changes that are still enrolled at APS (2014-15). Table 1 shows the demographic

⁴ *The Long-Run Effects of Teacher Cheating on Student Outcomes*; Sass, Tim R., Apperson, J., Bueno, C. (May 5, 2015). Dr. Sass is a Distinguished University Professor in the Andrew Young School of Policy Studies at Georgia State University, and senior researcher with the Center for Analysis of Longitudinal Data in Education Research. He completed the study under a contract with APS. The study was designed to control for “multiple student characteristics” (e.g. gender, race/ethnicity, free/reduced-price lunch status), but does not control for teacher variables (e.g. experience, effectiveness).

breakout of affected students. The percentage of black students affected is much higher than the overall district percentage of black students (76%).

Table 1: Demographics (Percentage)

Erasure Counts	Student Count	Black	Other Race/Ethnicity	Special Ed	504
5-9	1911	97%	3%	9%	1%
10+	1829	98%	2%	11%	1%

Table 2 shows the grade breakout of affected students. The majority of students in the 5-9 WtR group are currently in 7th, 8th and 9th grade, whereas the majority of students in the 10 or more WtR group are in 9th, 10th and 11th grade.

Table 2: Percentages by Grade

Erasure Counts	Student Count	6 th Grade	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade
5-9	1911	4%	24%	21%	25%	14%	8%	4%
10+	1829	3%	12%	13%	34%	19%	15%	4%

Table 3 shows the percent affected students in high school who are considered “off-track for graduation.” Twenty-five percent (25%) of affected students with 10 plus erasures are currently off-track compared to 21 percent of affected students with 5-9 erasures, and 17% of all APS high school students.

A student considered **Off Track** if they are behind their cohort by one or more grade level. A student is assigned a cohort based on the year they first enter ninth grade. For example, a student who entered ninth grade in school year 2011-12 should currently be in the 12th grade. If they are not in 12th grade they are off track.

Table 3: Off-track for Graduation

Erasure Counts	Student Count (high school)	Percent off track
5-9	969	21%
10+	1326	25%

Table 4 presents the data for secondary students concerning performance on the state 9th Grade Literature and the Algebra tests in spring 2014. 80% of the students whose results were less impacted (i.e., 5-9 erasures) met or exceeded the state standard on the 9th Grade Literature test compared to a 79% pass rate for the district overall. However, the pass rate for those students where there were 10 or more erasures was somewhat lower at 67%.

However, the results were much lower for all groups on the state Algebra test (both for APS students and statewide). For example, only 10% of those students where there were 10 or more erasures met the state standard in Algebra in 2014 compared to a 28% pass rate for students districtwide.

Table 4: School Year 2014 EOCT

	Student Count 9 th Grade Literature	Meets/Exceeds 9 th Grade Literature	Student Count Coordinate Algebra	Meets/Exceeds Coordinate Algebra
5-9 Erasures	321	80%	320	20%
10+ Erasures	363	67%	376	10%
District	3416	79%	3507	28%

Source: APS 2014 EOCT Dashboard

Table 5 shows the percent of students meeting or exceeding on the Math, ELA and Reading 2014 state CRCT (grades 6-8). As can be seen, while relatively small differences were found for the ELA and Reading tests, the percentage of students meeting the standards in math varied from 57% (for students with 10 or more erasures) to 74% for the district overall.

Table 5: School Year 2014 CRCT

	Student Count Math	Meets/Exc eeds Math	Student Count ELA	Meets/Exc eeds ELA	Student Count Reading	Meets/Exc eeds Reading
5-9 Erasures	1139	69%	1141	87%	1145	92%
10+ Erasures	862	57%	870	84%	878	88%
All Students (6th-8 th)	9990	74%	10,043	89%	10,056	94%

Source: APS 2014 CRCT Dashboard

Tables 6 and 7 show results from the 2015 winter administration of the Computer Adaptive Assessment System (CAAS) for grades 6-10. CAAS data are broken out into above average, high average, low average and below average based on national quartiles provided by the Scantron, the CAAS vendor. Again, in both reading and math, the student group with the highest percentage in the below average quartile is for the group with the highest number of erasures (10 or more). In reading, 66% of the students in this group scored in the lowest quartile (below average). Similarly, in math 65% of the students in this group scored in the lowest quartile (below average)

Table 6: 2015 Winter CAAS Reading (Grades 6-10)

	Student Count	Percent Above Average	Percent High Average	Percent Low Average	Percent Below Average
5-9 Erasures	1238	6%	15%	24%	55%
10+ Erasures	1130	4%	9%	21%	66%
All Students	13,395	17%	15%	22%	45%

Table 7: 2015 Winter CAAS Math (Grades 6-10)

Erasure Counts	Student Count	Percent Above Average	Percent High Average	Percent Low Average	Percent Below Average
5-9 Erasures	1269	6%	13%	26%	54%
10+ Erasures	1161	3%	10%	22%	65%
All Students	13,674	15%	15%	24%	46%

Table 8 shows the percent of affected students currently participating in selected APS' academic support programs. This is not an exhaustive list of APS support programs; it only includes those for which data

could be identified from APS central computer systems (i.e., either the district’s student information system, Infinite Campus, or the specific program’s data system. The “Any Support” category includes any student who was participating in at least one of the included programs. (A brief description of each program is provided below.)

As can be seen, 61% of the students in the group with the highest number of erasures (10 or more) participated in some type of “support” program in 2014-2015.

Table 8: Current Academic Support

Erasure Counts	2014-15 Students	Remedial Course	Support Course	Atlanta Virtual Academy	FLP	Edgenuity	Reading Plus	Aleks Math	Any Support
5-9	1911	30%	24%	5%	7%	6%	15%	17%	52%
10+	1829	34%	35%	7%	9%	9%	24%	26%	61%

Remedial Courses are identified in Infinite Campus with a “1” in the FTE code position. This indicates the student is identified as a participant in an Early Intervention Program (EIP) or a Remedial Education Program (REP). REP students are in 6-12 and have identified deficiencies in reading, writing and/or math.

Support Courses are identified by “support” or “enrichment” being in the course name, or as course code 23.081 (ninth grade ELA support). These courses are typically taken in conjunction with a core math or reading course and focus on increasing literacy and numeracy skills.

FLP Courses fall under the Flexible Learning Program (FLP), an alternative supplemental academic intervention that is required for Priority and Focus Schools. They are identified by and “FL” in course number in Infinite Campus.

Atlanta Virtual Academy Courses are identified in Infinite Campus by a “3” in the FTE code position. These courses are often taken as credit recovery.

Reading Plus/Aleks are computer adaptive programs that allows for support to be customized to the needs of the students enrolled in reading or math support classes. For 2014-15 it was required for the lowest performing 35 percent of students at each high school.

Summary

The study clearly shows that the cheating disproportionately impacted black students. For example, while 75% of APS students are black, 98% of the students identified as having the largest number of erasures on their answer documents (10 or more) are black. The data also shows that the performance of students in this group is lower than the district as a whole and the student group with less erasures (5-9). In general, only small differences were found between the student group less impacted by the cheating (5-9 erasures) and the district as a whole.

However, it should be noted that it is difficult from these data to assign causes for the differences. For example, this summary did not attempt to control for other important variables such as teacher experience, teacher quality, and other school climate and culture variables that may well have impacted students in these schools.

Summary of APS Interventions

2010-2012 Interventions and Programs

According to APS documents,⁵ during the 2009-2010 school year recommendations were made to provide additional support to students who were negatively affected by the cheating. The district followed this recommendation by implementing a 12-week accelerated academic recovery program for students who scored below proficient on the spring 2010 state CRCT at the 58 schools identified by the Governor's Office of Student Achievement (GOSA).

The recovery programs served 5,423 students. The programs used were *Reading Triumphs* from Macmillan McGraw-Hill, *After the Bell Reading* from Scholastic, and *Mathematics Navigator* by Pearson. By providing remediation for all students who were not proficient, it was believed that the negative impacts on students would be addressed. According to the McGraw-Hill and Pearson assessment results, 74.5% of mathematics students and 72.1% of reading students showed growth during the program.

To try to restore credibility to the district's student achievement data and provide reliable information to better serve students, in spring 2011 APS also implemented an online nationally-normed, computer adaptive assessment system. This program provides timely progress and formative data, and provides independent validation of state and local test results.

This system, Performance Series by Scantron, was administered for the first time in spring of 2011. Since 2011, it has been administered to students two or three times each year (depending on the grade level). The Performance Series assessments provide normed-reference measures of students' performance, and identify specific standards students have mastered and those remaining to be mastered. Using this assessment tool, schools can target instructional interventions based on students' strengths and needs.

After 2010, additional programs and interventions were implemented to try to meet the needs of students who may have been impacted by the cheating. During the 2011-12 school year, APS extended the support program from 2010-11 through the Accelerated Intervention Plan (AIP). AIP consisted of four components: 1) Mandatory School Day component, 2) Afterschool enrichment, 3) Saturday Academy, and 4) Parent Workshops. AIP focused on students in grades 3 – 10. Instructional support materials included unit and lesson plans based on *Mathematics Navigator*, literacy unit and lesson plans based on MacMillan McGraw-Hill, and support using Read 180. The APS Research and Evaluation team are currently researching more specific detail around the number of students served and the outcome of the program overall and each component.

While parents were notified about programs and interventions that were being offered and the findings of the Governor's Office of Student Achievement (GOSA) report were referenced in the communications, the programs were apparently made available to all students (e.g., Saturday Academies that began in January 2012).

⁵ Project Status Report: BRC Recommendations (2010); Comprehensive Intervention Program Achieves Results, Janet Peeler, PFI Global Partners, Inc., June 6, 2011; and Preliminary Results from 12-Week Accelerated Academic Recovery Program, APS Department of Research, Planning, and Accountability, December 3, 2010.

[2014-2015 APS Global Supports and Interventions](#)

Data for specific students impacted by the teacher cheating (e.g., altering of student answer documents) were not available at the beginning of the 2014-2015 school year. However, APS did implement intervention programs in reading and mathematics. As in prior efforts, these programs focused on lower-performing students in general.

At grades 6-12, APS implemented a Unit Recovery program using GradPoint (grades 6-8) and Edgenuity (grades 9-12). These programs focused on students that have been identified by their teachers as needing assistance, and students who are failing courses, are placed in these supplemental computer-based programs to address their specific achievement gaps.

In addition, at the high school level, students scoring in the lowest third (35%), based on standardized achievement results, are placed in Reading Plus and/or ALEKS Mathematics. In both Reading Plus and ALEKS Mathematics, there is an initial diagnostic assessment. The assessment allows the programs to build individual learning pathways for students. Short formative assessments are built into the courses to assess students' learning and retention of learned content as they progress through the curriculum. A second diagnostic is given mid-year to assess growth and to adjust the learning pathway for each student. A final diagnostic is administered at the end of the year to assess overall growth and to build a continuation pathway for summer programs and the next school year.

In addition, in 2014-2015 APS expanded programs for students district-wide who need out-of-school and flexible scheduling options. While these programs are designed for any student who is already out of school or at risk of dropping out, it should also assist those students who may have been impacted by the cheating. The expansions include: a large increase in students participating in Atlanta Virtual Academy (AVA) courses; mandatory credit recovery periods during the school day at every high school; expansion of evening credit recovery opportunities to more schools; and implementation of dropout recovery plans for students who have left school. The dropout recovery plans include options such as returning to school, night programs, CRIM, GED, and Job Corp programs.

[Possible Next Steps and Planning for 2015-2016](#)

In fall 2015, the district will receive additional state performance data that will provide current information about students' progress and academic needs. Utilizing these data, in 2015-2016 APS will continue the Reading Plus and ALEKS Mathematics programs and the Edgenuity unit recovery program (outlined above).

In addition, in 2015-2016 APS will continue to expand social-emotional programs to better serve the mental health needs of students, improve school climates and safety, improve student behavior, and reduce disciplinary incidents. Major components of this effort will be through the expansion of the Positive Behavior Interventions and Supports (PBIS) framework and the No Place for Hate initiative, and teacher training in cultural competencies, de-escalation techniques, character education, and other tools.

However, now that the district has identified specific students who may have been impacted by the cheating (i.e., alteration of student answer documents in 2009), APS is examining the programs and data for those students to determine the services that may still be require to assist them through graduation.

For example, district staff are working with all middle schools as they assist 8th grade students in the development of their Individual Graduation Plans (IGPs) – i.e., their high school course schedules and programs. For those students scoring in the lowest 35% on state ELA/reading and/or math tests, a

mandatory “support” course is also included in the students’ 9th grade schedules. In addition, APS staff are working with all high schools to review the IGPs of current high school students who were impacted. While all students will develop IGPs, it will be particularly important for schools to monitor the progress of the specific students who may have been impacted by the cheating to ensure that they receive the services they need.

To assist with planning and tracking student progress, the APS Office of Accountability and Information is providing data for individual students and will continue to provide regular progress reports for these students as they complete courses, local formative assessment, and state achievement tests. This information includes: on-track to graduate data, state and local test results, and participation in support and remedial programs such as reading plus and ALEKS math programs.