
Comprehensive 2015 Georgia Milestones Erasure Analysis

Analysis, Results and Recommendations

Governor's Office of Student Achievement

Prepared for State Board of Education

February 18, 2016

Presentation Overview

- Academic Auditing Overview
- Erasure Analysis Overview
- End of Grade (EOG) Erasure Analysis Results
- End of Course (EOC) Erasure Analysis Results
- SBOE Recommendations

Academic Auditing Overview

- The Governor's Office of Student Achievement is charged under O.C.G.A § 20-14-35 with inspecting academic records of schools to ensure that education institutions are faithful to performance accountability requirements.
- O.C.G.A § 20-14-36 calls for GOSA to recommend and the State Board of Education adopt written procedures for audits.
- Since 2009, GOSA has conducted an annual erasure analysis of state assessments to ensure that assessments are administered with fidelity. The results of this analysis are presented to the SBOE each February.
- In 2015, GOSA expanded the auditing program in collaboration with GaDOE Data Collections to audit student enrollment records submitted by LEAs to ensure accuracy.

Erasure Analysis Overview

- GOSA contracts with the state testing vendor (currently Data Recognition Corporation) to conduct an erasure analysis of Georgia Milestones assessments in all grade levels and subject areas.
- The analysis identifies classrooms and schools with an unusually high number of wrong-to-right erasure changes that warrant further inquiry.
- The results of the erasure analysis are used as an initial flag to spur further investigation of many indicators to determine if any cheating occurred. The results do not indicate that cheating necessarily occurred.
- To date, the analysis has only included paper and pencil.
- Part of GOSA's FY16 contract with DRC includes pilot research projects with online administration that will examine answer changes, response similarity, and response time.

Erasure Analysis Overview

DRC Erasure Analysis

- The erasure analysis counts test items where an answer choice was erased and replaced with another answer choice. Two sets of erasures are analyzed—all erasures and wrong-to-right erasures where an incorrect answer choice was erased and replaced with the correct answer choice.
- All test items, including embedded field-test items, are included.

EOG Flagging Criteria (Grades 3-8)

- Five percent or more of classrooms in a school are flagged at four standard deviations or greater, OR
- One classroom is flagged at seven standard deviations or greater.

EOC Flagging Criterion (Grades 7-12)

- One classroom is flagged at five standard deviations or greater.

Erasure Analysis Overview

GOSA Desktop Audit

- GOSA conducts a desktop audit to determine a possible explanation for the flag that would remove the need for further inquiry using indicators that include but are not limited to:
 - Number of classrooms flagged in each school and whether the flagged classrooms had different test administrators;
 - Total erasures and number of wrong-to-right (w-t-r) at the classroom level, including student-level data to determine whether erasures are concentrated in a small number of students;
 - The severity of the flag (how high the standard deviations are above the threshold);
 - Percentage of total classroom erasures changed from w-t-r;
 - Type of school; and
 - History as a school of concern and previous monitoring/auditing visits.

Erasure Analysis Overview

After analysis, GOSA staff make one of two determinations:

- Supplementary data reviewed sufficiently explains the reason for the flag. No further inquiry is required.
- Supplementary data reviewed does not sufficiently explain the reason for the flag. Further inquiry is required, and the school is moved to the next phase.

Erasure Analysis Overview

Example of a “no further inquiry” school:

- *Test Elementary School (Nowhere County):*
 - One classroom (5th grade-Math) was flagged w-t-r with a standard deviation (SD) of 6.7 SD
 - The classroom had 22 students.
 - 81% of classroom erasures were w-t-r (90 w-t-r erasures out of 111 total erasures).
 - One student had 59 w-t-r erasures out of 67 erasures.
 - Only 38% of classroom erasures for other 21 students were w-t-r.
 - One student was responsible for two-thirds of classroom w-t-r erasures resulting in classroom flagged status, suggesting that systematic cheating was unlikely.

Erasure Analysis Overview

Schools Requiring Further Inquiry

- GOSA makes recommendations to the SBOE concerning schools requiring further inquiry that include one or more of the following:
 - Submission of an inquiry form to GOSA describing the reasoning for the flag and steps taken to reduce the likelihood for future flags,
 - Rotation of teachers during test administration so that teachers are not administering test to students they are currently teaching, and
 - The possibility of a visit from a state monitor during spring administration of the Georgia Milestones for one or more days.

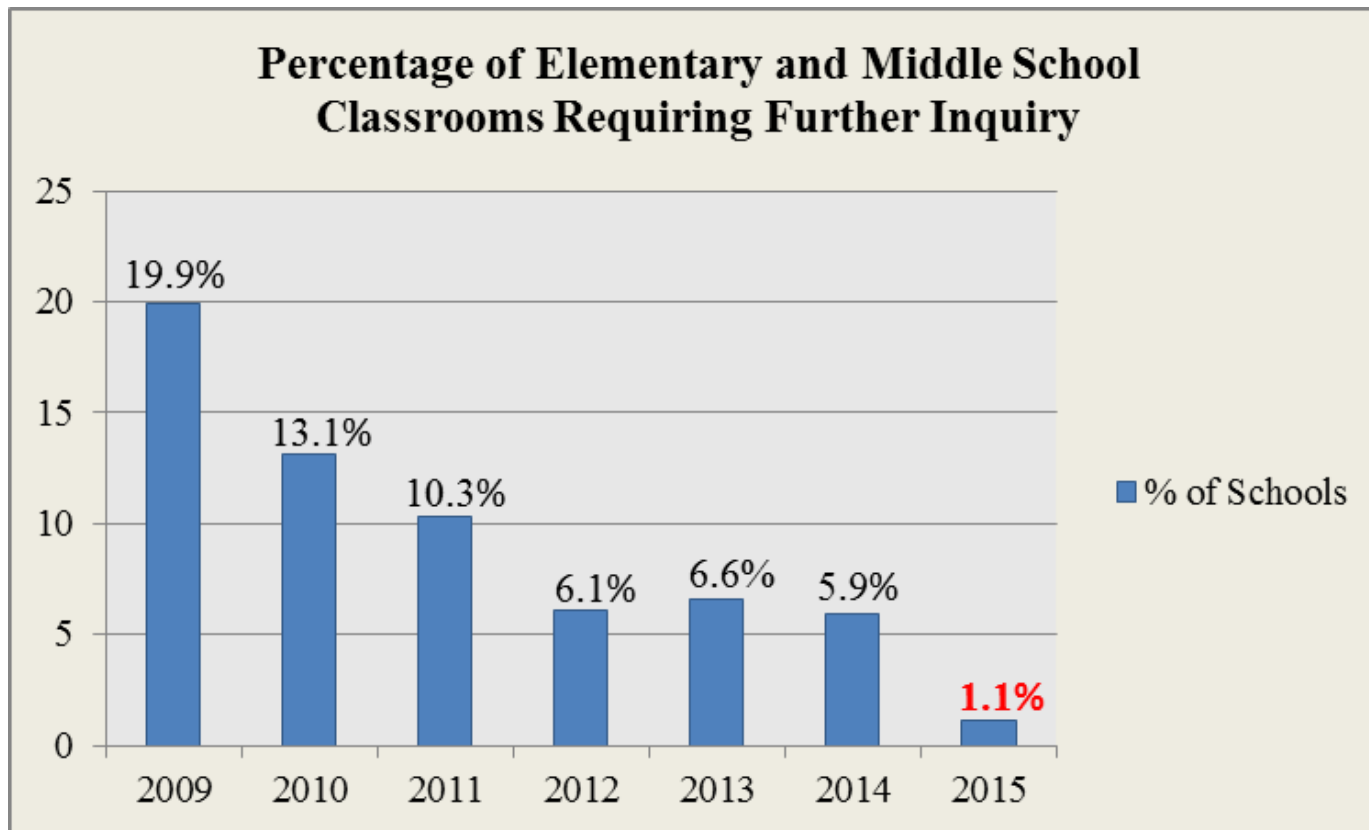
The full erasure analysis investigation process is available on the GOSA website.

EOG Erasure Analysis Results

The erasure analysis was performed on all paper and pencil answer documents grades 3-8 for English/Language Arts, Science, Social Studies, and Mathematics tests.

- 546,287 answer documents were scanned for the spring 2015 administration.
- 70% of EOGs were paper and pencil in spring 2015.
- Flagging Criteria (Grades 3-8) are as follows:
 - Five percent or more of classrooms in a school are flagged at four standard deviations or greater, OR
 - One classroom is flagged at seven standard deviations or greater.
- 94 classrooms in 40 schools in 23 LEAs were flagged for a desktop audit.
- After desktop audit, 63 classrooms in 19 schools in 12 LEAs require further inquiry and will be monitored.

EOG Erasure Analysis Results



The reduction in 2015 is largely due to the increased standard deviation threshold, more robust desktop auditing procedures, and additional schools transitioning to online testing.

EOG Erasure Analysis Results

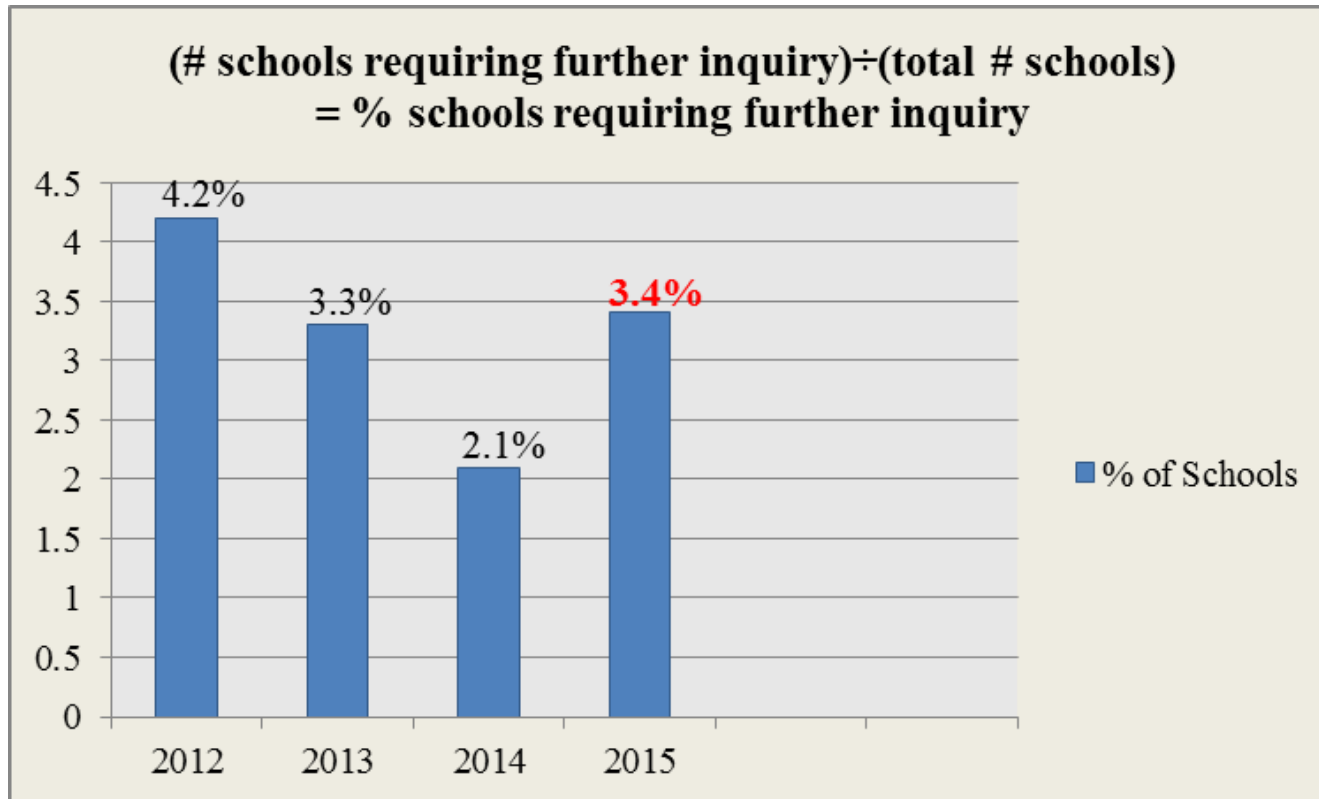
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|------|------|------|------|------|------|------|
| Number of schools audited | 1857 | 1889 | 1834 | 1833 | 1825 | 1811 | 1721 |
| Number of schools requiring further inquiry | 369 | 248 | 188 | 112 | 121 | 107 | 19 |
| Number of schools monitored by State | 97 | 51 | 52 | 34 | 40 | 42 | 19 |

EOC Erasure Analysis Results

The erasure analysis was performed on all paper and pencil answer documents grades 7-12 for 9th Grade Literature, American Literature, Economics, US History, Analytic Geometry, Coordinate Algebra, Physical Science, and Biology.

- 231,507 answer documents were scanned for the spring 2015 administration.
- Only 30.1% of EOCs were paper and pencil.
- Flagging Criterion (Grades 7-12) for EOC is as follows:
 - One classroom is flagged at five standard deviations or greater.
- 32 classrooms in 23 schools in 12 LEAs were flagged for a desktop audit.
- After desktop audit, 22 classrooms in 14 schools in 10 LEAs require further inquiry and will be monitored.

EOC Erasure Analysis Results



- Despite the higher flagging threshold, the number of schools requiring further inquiry increased from 9 (2.1%) to 14 (3.4%).
- This fluctuation from year to year is expected given the small number of schools flagged and the desktop audit review process.

EOC Erasure Analysis Results

| | 2012 | 2013 | 2014 | 2015 |
|---|------|------|------|------|
| Number of schools audited | 593 | 451 | 430 | 416 |
| Number of schools requiring further inquiry | 25 | 15 | 9 | 14 |
| Number of schools monitored by State | 7 | 5 | 9 | 14 |

Recommendations to the SBOE

- State monitors will observe and inspect schools requiring further inquiry for the 2016 Georgia Milestones test administration (EOG and EOC tests).
- Schools must rotate teachers in schools requiring further inquiry for the 2016 Georgia Milestones (EOG tests).
- GOSA will share data files with superintendents to facilitate:
 - LEA investigation of reason(s) for flags
 - Submission of online inquiry form to GOSA with results of investigation and an explanation of testing protocols in place.
- GOSA will conduct on-site audits as necessary.

Questions?

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