Erasure Analysis Process Overview

Updated: January 19, 2016

Prepared by:

THE GOVERNOR'S OFFICE OF
STUDENT ACHIEVEMENT

Executive Summary

The Governor's Office of Student Achievement serves as the reporting and accountability agency for education in Georgia. As such, GOSA is charged by law with inspecting academic records of schools to ensure that education institutions are faithful to performance accountability requirements. Through an academic audit, GOSA reviews student assessment data and other school records reported to the State to confirm accuracy and explore the effectiveness of local school initiatives in improving achievement. Data from the state standardized assessments are intended to assist in making educational policy decisions and provide a measure of students' academic performance as well as the schools' effectiveness and adherence to the State's prescribed standards. The Georgia Department of Education (GaDOE)'s Assessment Division oversees the development and administration of the End of Grade (EOG) for grades 3 to 8 and End of Course (EOC) assessments in eight high school courses. The State's testing vendor, Data Recognition Corporation (DRC) is responsible for scoring the exams and reporting the results to the Local Education Agency (LEA).

Given the importance of these assessments GOSA, as part of its statutory role, partners with DRC to conduct a comprehensive examination of all statewide answer documents for all EOG and EOC assessments. The analysis focuses on identifying classrooms and schools where the number of wrong answers that have been changed to right answers on individual student answer sheets is well above the state average. It is conducted in English-Language Arts, Mathematics, Science, and Social Studies in grades 3 through 8 and following eight high school courses: Ninth Grade Literature and Composition, American Literature and Composition, Coordinate Algebra, Analytic Geometry, Physical Science, Biology, U.S. History, and Economics. It is important to note that 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 conduct this analysis, DRC psychometricians scan answer documents to identify total erasures and wrong-to-right erasures per classroom.[1] Using the DRC Erasure Analysis and accompanying data file, GOSA flags schools for an internal desktop audit based on the following criteria:[2]

EOG (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.

[1] Currently, the analysis only includes paper-and-pencil tests. As part of its FY16 contract, DRC is developing pilot analysis of wrong-to-right answer changes from online testing. In addition, due to the technology in online testing, it is also providing pilot response similarity and response time analyses that may strengthen GOSA's auditing efforts in future years.

[2] In prior years, GOSA placed schools into four categories based on the percentage of classrooms flagged within each school: Clear of concern; Minimal concern; Moderate concern; and Severe concern. As a result, schools with a classroom flagged with a high standard deviation were not identified for a desktop audit if less than 5% of the classrooms in a school were flagged. With this in mind, GOSA has adjusted the standard deviation levels for EOG and EOC and added a criterion that automatically flags classrooms with greater than 7 standard deviations.

EOC (Grades 9-12)

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

With identified schools, GOSA conducts a desktop audit to determine a possible explanation for the flag that would remove the need for further inquiry. By narrowing the number of flagged schools, this review allows the state to focus limited monitoring and auditing resources on schools with greatest concern. In this analysis, many school-level factors, outlined in Table 1 in Phase II of this process document, are reviewed holistically and discussed as a team before any determinations are made. Schools are placed in one of two categories: "further inquiry needed," or "no further inquiry needed." Schools requiring further inquiry are included in recommendations to the SBOE for inquiry, monitoring, and auditing.

GOSA presents the findings, along with recommendations, annually to the State Board of Education (SBOE). These recommendations, which the SBOE votes to approve, range from requiring local Superintendents to conduct internal investigations to determine the causes of testing irregularities to requiring that schools rotate teachers during test administration so that they administer the test to students they have not taught. In addition, state monitors are placed in flagged schools during the subsequent spring's test administration.

GOSA reviews the LEA explanations provided and determines appropriate next steps. When an LEA is cleared of concern, GOSA sends a letter to notify the superintendent. For schools that have not been cleared after full investigation, a referral to the Georgia Professional Standards Commission is made by either the LEA or GOSA. The Georgia Professional Standards Commission (GaPSC) is statutorily responsible for regulating professional employees in Georgia's public schools by investigating allegations of educator misconduct and providing recommendations for disciplinary actions. Once this step is complete, the annual erasure analysis process is complete.

The following report provides a more in-depth overview of GOSA's erasure analysis processes, from assessment administration through the closeout of investigations from that administration.

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Phase I: Data Collection and Analysis: May through September

Test Administration

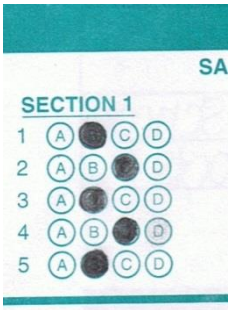
The main administration for the Milestones EOG occurs in the spring each year. Local Education Agencies submit a ten-day window to administer the test to the Georgia Department of Education's Assessment Division. The window must fall within a six-week period starting with the last week of March through the first week of May. All testing must be completed during this window. The Milestones EOC has a main administration during the fall, spring, and summer semesters. LEAs must submit testing windows for the high school assessment to GaDOE's Assessment Division.

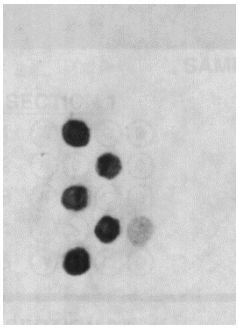
Data Collection[3]

The scoring process begins with accurate scanning. The GA Milestones answer documents are processed using high speed 5000i optical scanners, which reliably capture document images and optically mark read data. The software reviews the integrity of each batch of documents scanned according to pre-defined guidelines and services.

The software then identifies erasures in multiple-choice items where two or more responses have been made with specified intensity. When a student erases a bubble on a test form, the erasure is never complete, especially to the infrared eye of an optical scanner, which does not see the other ink on the page—only the graphite of the pencil marks. As an example, the image on the left of Figure 1 is how the sheet looks to the human eye. The image on the right is how the same sheet looks to an infrared scanner. Notice that the erasure in bubble 'D' of item 4 is much more apparent without the artwork.

FIGURE 1: Scanner examples





When a sheet is scanned, the OMR software assigns a darkness value between 0 and 15 to every bubble, 0 being the lightest and 15 being the darkest. A level of 5 or above is considered to be a valid mark, and if there are no conflicts with other marks (multiple marks), it will become the student's response. Levels of 0, 1 and 2 are likely to be nothing more than paper color and are therefore considered meaningless and not

[3] Much of the data collection and analysis descriptions in this report are extracted from text submitted by CTB/McGraw-Hill and Data Recognition Corporation in their erasure analysis reports from 2010 through 2015.

reported in the output file of the scanner. Levels 3 and 4 are reported but are too light to be a student response, and therefore only have meaning for erasure analysis purposes. After a valid response bubble is determined through mark resolution logic, any remaining lighter bubble of darkness level 3 or above is reported as a possible erasure.

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.

The analysis applies a statistical test of the null hypothesis (H_0) that the mean number of erasures for a class constitutes a random sample from the state distribution of erasures. The hypothesis is tested against the (right-sided) alternative (H_1) that the mean number is too high to be explained by random sampling. Classes for which H_0 has to be rejected are flagged for further scrutiny. The central limit theorem in statistics indicates that the sampling distribution of mean number of erasures for class i (m_i) is asymptotically normal with mean and standard deviation (SD) defined as the following:

$$\text{mean}(m_i) = \mu \tag{1}$$

$$\text{SD}(m_i) = \frac{\sigma}{\sqrt{n_i}} \tag{2}$$

where n_i and m_i denote the size and mean number of erasures for class i, respectively. In addition, μ and σ denote the mean and the SD of the distribution of the number of erasures of the population of individual students in the state of Georgia.

Milestones EOG

Classes are flagged if their m_i is larger than $\mu + 4\frac{\sigma}{\sqrt{n_i}}$. Statistically, the flagging criterion set at or above 4 SDs is conservative.[4] The standard normal table shows that under random sampling the (asymptotic) probability of a sample mean being more than four SDs above the population mean is around 0.00003. However, rejection of H_0 only indicates that the observed mean number of erasures is unlikely to be the result of random sampling.

The formula above adjusts the flagging criterion for the number of test takers in a classroom. For example, if the state mean and SD of erasure count are 1.73 and 2.11, respectively, the flagging criterion for a class size of 20 is adjusted to 3.62 ($1.73 + 4\frac{2.11}{\sqrt{20}} = 3.62$).

[4] For 2013-2014 and prior, the analysis used three SDs as the threshold for flags. Classrooms between three and four SDs at the elementary and middle school level generally were not of concern once other indicators were reviewed. As such, in consultation with DRC psychometricians, GOSA raised the threshold to four SDs for the 2014-2015 test administration in order to focus auditing efforts on schools with greatest concern.

This adjustment ensures that the flagging criterion is equally stringent for classes with considerably different numbers of test takers. In addition, it minimizes the probability of false positive (Type I) errors in the statistical test.

Milestones EOC

Classes are flagged if their m_i is larger than $\mu + 5\frac{\sigma}{\sqrt{n_i}}$. Statistically, the flagging criterion set at or above 5 SDs is conservative.[5] The standard normal table shows that under random sampling the (asymptotic) probability of a sample mean being more than five SDs above the population mean is around 0.0000003. However, rejection of H_0 only indicates that the observed mean number of erasures is unlikely to be the result of random sampling.

The formula above adjusts the flagging criterion for the number of test takers in a classroom. For example, if the state mean and SD of erasure count are 1.73 and 2.11, respectively, the flagging criterion for a class size of 20 is adjusted to 4.11 ($1.73 + 5\frac{2.11}{\sqrt{20}} = 4.11$).

As with the EOG, this adjustment ensures that the flagging criterion is equally stringent for classes with considerably different numbers of test takers and minimizes the probability of false positive (Type I) errors.

[5] For 2013-2014 and prior, the analysis used three SDs as the threshold for flags. Classrooms between three and five SDs generally were not of concern once other indicators were reviewed. In addition, high school students generally erase fewer times than elementary or middle students, which makes the count of erasures between standard deviations narrower. As such, in consultation with DRC psychometricians, GOSA raised the threshold to five SDs for the 2014-2015 test administration in order to focus auditing efforts on schools with greatest concern.

Phase II: Data Review, School Identification, and Desktop Audit: December through January

Data Receipt and Review

For the first year of the Georgia Milestones, GOSA received classroom- and student-level data from DRC at the beginning of December, first for the EOG, and then two weeks later the EOC. In future years, GOSA will receive data two months earlier. DRC also submitted a methodology paper that summarizes the data for each analysis.

Schools with flagged classrooms that have a large number of students (n>50) are analyzed to determine if the flag possibly exists due class size. In many cases, GOSA requests that the LEA resubmit classroom data sorted by homeroom teacher or test administrator to allow for accurate classroom assignments. These data are processed and reanalyzed by the testing vendor, and the new results are included in the updated school- and classroom-level data files. Appendix A provides further information and explanation concerning the data in each file.[6] These updated files are sorted by system and categorized by the number of flagged classrooms within each school and moved into the desktop audit phase.

School Identification for Desktop Audit

Using the DRC Erasure Analysis and accompanying data file, GOSA flags schools for an internal desktop audit based on the following criteria:

EOG (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.[7]

EOC (Grades 9-12)

- One classroom is flagged at five standard deviations or greater.[8]

Desktop Audit

With identified schools, GOSA conducts a desktop audit to determine a possible explanation for the flag that would remove the need for further inquiry. By narrowing the number of flagged schools, this review allows the state to focus limited monitoring and auditing resources on schools with greatest concern. In this analysis, many school-level factors, outlined in Table 1, are reviewed holistically and discussed as a

[6] The delayed timeline in 2014-2015 due to the first year of Georgia Milestones prevented this step from occurring. As a result, GOSA evaluated these classrooms more closely at the student level as part of its desktop audit discussed in the next subsection.

[7] In prior years, schools with a classroom flagged with a high standard deviation were not identified for a desktop audit if less than 5% of the classrooms in a school were flagged. This added criterion ensures that these schools are reviewed in the desktop audit.

[8] The EOC Erasure Analysis has flagged classrooms instead of schools by percentage of classrooms since it began due to the smaller number of high school classrooms and because high school students have significantly fewer erasures per student than EOG test-takers.

team before any determinations are made. Schools are placed in one of two categories: "further inquiry needed," or "no further inquiry needed."

For the desktop audit, schools with more than four classrooms flagged or that have a test administrator flagged across three subject areas are placed automatically in the "further inquiry needed" category.

TABLE 1: Desktop Audit Indicators Reviewed

Desktop Audit Indicators Reviewed
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. Classrooms where more than 50% of students in a classroom have zero erasures and/or w-t-r erasures reduce the likelihood of systematic or widespread changes in answers from wrong to right.
The severity of the individual flagged classroom (i.e. the standard deviation value or how far from what is considered normal behavior is the class positioned). EOG flags between 4.0 and 5.0 SDs are of less concern than those over 5.0 SDs.
Percentage of total classroom erasures changed from w-t-r.
The number of students in each classroom. (Example: Extremes in classroom populations on both ends of the distribution can skew post-calculation metrics and in turn cause flagged classrooms.).
Classroom percentile ranks of wrong-to-right erasures by student to observe the distribution of erasures in a classroom and compare that distribution to the state distribution. For example, comparing a classroom's 50th and 90th percentile with the state 50th and 90th percentiles can identify whether abnormal distributions and/or outliers.
The type of school (i.e. state charter school, high transient population, alternative education program, residential treatment facilities, etc.).
School demographics and groups (ELL population, gifted, magnet, students with disabilities, etc.).
Variance in performance level data from previous years (not applicable in 2014-2015 due to Georgia Milestones transition).
History as a school of concern.
Prior test monitoring and/or an on-site audit by state personnel.
District personnel and/or policies currently implemented to support test security.
Review of state monitor notes and/or forms.

One week later, the evaluation process is repeated with all flagged schools a second time using the same determinants listed in Table 1. This one week time lapse between round 1 and round 2 is implemented as a quality assurance conformity check. A report is then developed for GOSA leadership to review before a final list of inquiry schools is determined. Schools requiring no further inquiry after the final review are removed from the flagged list.

Examples of two schools requiring no further inquiry[9]

Cooper Elementary School (Hamilton 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.

Happy Middle School (Wood County):

- Four classrooms (8th grade-Science, English, Math, Social Studies) were flagged w-t-r at 8.79SD, 6.44SD, 7.77SD, and 7.10SD.
- The same student was the only student in each class.
- The student's w-t-r answers to total erasures were 11 w-t-r of 59 erasures (19% w-t-r), 10 w-t-r of 26 erasures (38% w-t-r), 10 w-t-r of 39 erasures (26% w-t-r), and 11 w-t-r of 59 erasures (19% w-t-r). The low percentage of w-t-r suggests that systematic cheating was unlikely.

Examples of two schools requiring further inquiry[10]

John Doe Elementary School (Nowhere County):

- Two classrooms (5th grade-Science and Math) taught by the same teacher were flagged w-t-r at 4.75SD and 5.04SD.
- The classroom had 22 students.
- Science classroom had 55 w-t-r out of 72 total erasures (76% of erasures were w-t-r).
- Math classroom had 52 w-t-r out of 74 total erasures (70% of erasures were w-t-r)
- The school has not been flagged in prior years.

Jane Doe Elementary School (Homestead County):

- Four classrooms (4th[th] grade-three Math and one English) were flagged w-t-r at 6.80SD, 5.00SD, 4.76SD, and 4.63SD.
- All classrooms had approximately 22 students.
- Math 1 had 59 w-t-r out of 78 total erasures (76% of erasures were w-t-r).
- Math 2 had 49 w-t-r out of 61 total erasures (80% of erasures were w-t-r).
- Math 3 had 51 w-t-r out of 78 total erasures (65% of erasures were w-t-r).
- English had 50 w-t-r out of 85 total erasures (59% of erasures were w-t-r).
- The school was flagged in 2014 and has not been monitored.

[9] The actual names of schools have been replaced. The desktop audit inquiry list includes a description like the example provided for all cleared schools.
[10] The actual names of schools have been replaced. The desktop audit inquiry list includes a description like the example provided for all cleared schools.

Phase III: SBOE Recommendations and Interventions: January through June

Recommendations to SBOE

Once the list of schools requiring further inquiry is finalized, GOSA makes recommendations to the SBOE for appropriate monitoring, inquiry, and interventions in flagged schools during the spring administration of the Georgia Milestones. At a minimum, these steps include the following for all remaining schools:

- Submission of an inquiry form to GOSA describing the reasoning for the flag and steps taken to reduce the likelihood for future flags (Form included as Appendix II),
- 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.

GOSA reserves the right to request full investigations and on-site audits as deemed necessary. In addition, GOSA may select random schools to send an on-site monitor or conduct an on-site audit.

The report to the SBOE includes a summary report and presentation for the EOG and EOC that identifies flagged schools, schools to be monitored during testing, schools to be required to submit inquiry forms, and schools identified for on-site audits. Prior to sharing with the SBOE, GOSA provides the results to the GaDOE Assessment and Policy divisions. If requested, GOSA briefs the state school superintendent, who makes the determination on whether GOSA will present to the Policy Committee or to the full SBOE. The SBOE votes on these recommendations.

Prior to the SBOE meeting, GOSA also emails high-level information to district superintendents who have identified schools to notify them that further directions will come following the SBOE meeting.

Inquiry Forms, Monitoring, and On-Site Audits

Once the SBOE approves GOSA's recommendations, GOSA releases relevant data to LEAs with flagged schools and classrooms. Classroom data are sent via email along with instructions for LEAs to complete inquiry forms and other required steps to ensure test security during the upcoming test administration. Student data is sent via FedEx on CDs. All data files are password protected before being sent. Three components of the system investigation phase are described below:

School Inquiry Form: Each LEA is required to submit an online school inquiry form for every flagged school and/or flagged classroom. Appendix I includes the template for the communications with LEAs concerning the inquiry form, and Appendix II includes the questions included in the inquiry form. GOSA provides in person and/or online training for school and district test coordinators to outline the investigation process and the reports they are required to submit. In addition, teleconferences with flagged schools are routinely scheduled to answer questions. Once submitted, GOSA reviews the information provided to determine whether the cause of the flag is clearly determined and if no further inquiry is needed. If a form lacks evidence of a thorough and rigorous analysis, GOSA may request for additional information and/or a full investigation from the LEA. A template of the School Inquiry form

can be found in the Appendix II, and additional information can be found on the auditing page of the GOSA website. A sample GOSA letter response to LEAs is included in Appendix III.

Test Monitoring: GOSA conducts random, unannounced monitoring visits in flagged and unflagged schools during test administrations to oversee test administration practices. Test monitors are state employees of GOSA. GOSA may require LEAs to place central office monitors in flagged schools where determined necessary. Test monitors are trained in person or via webinar each year to ensure consistency and thoroughness when making monitoring visits.

On-Site Audits: GOSA reserves the right to conduct an on-site audit of schools flagged for wrong-to-right erasures or at random to ensure compliance with test security best practices. Audits usually occur before spring testing but may also carry into the following school year depending upon evidence sought to clear the school(s) in question. Schools identified as a school of concern for multiple years may be given priority for an on-site audit. An on-site audit examines aspects of the test administration, including test administrator training, access to secure test materials, and the variance in erasure data. Once an audit has been conducted, an audit report is developed and delivered to the system superintendent. Appendix IV provides the template for communication with LEAs concerning on-site audits, and Appendix V includes the template for audit reports

Audit Completion

Receive and review system investigation reports: Systems return online inquiry forms and full investigation reports to GOSA from late March into early May, depending upon the number of schools flagged within the system. Reviews are done on a rolling basis by the auditing team as reports come in. GOSA communicates with the LEA throughout the process until the State's concerns have been satisfied.

Close Investigations/Audits: When an LEA is cleared of concern, GOSA sends a letter to notify the superintendent. For schools that have not been cleared after full investigation, a referral to the Georgia Professional Standards Commission is made either by the LEA or GOSA. The Georgia Professional Standards Commission (GaPSC) is statutorily responsible for regulating professional employees in Georgia's public schools by investigating allegations of educator misconduct and providing recommendations for disciplinary actions.

Appendix I: Sample First Contact Inquiry Email

Good afternoon, Superintendent:

The Governor's Office of Student Achievement, GOSA, has completed a statewide analysis of the 2015 Spring Milestones EOG and EOC answer documents. As in previous years, GOSA has partnered with the state's testing vendor in charge of developing and scoring statewide exams to conduct a comprehensive examination of all answer documents for grades 3 through 12. We have finished preparing the data from the analysis for your schools and would like to share the results with you prior to sharing this information with the State Board of Education on _____.

The same analysis and methodology were used to examine student answer sheets for all test-takers in the state and identified classrooms where wrong answers were changed to right answers at above-average rates. As a result of the analysis, GOSA has identified the following schools with classrooms of concern:

<Schools Listed>

Please find attached one data file for your school system. The file contains classroom level information, including classrooms flagged for an usually high number of erasures and changes made from wrong-to-right. A separate email containing your passwords for classroom-level data files will immediately follow this email. A separate data file containing encrypted student-level information will be sent this week via FedEx to your attention.

If this is your first time conducting an investigation, please expect a call from David Greenstein, Academic Auditor, to personally walk you or the System Test Coordinator through the Excel file. If you are familiar with the data files and simply need a refresher, please access the online resources link provided: http://gosa.georgia.gov/academic-auditing

The information contained in this email is embargoed until presented to the State Board of Education on _____. As always, our office is here to assist with any questions you may have in regards to this analysis. Should you require additional assistance, please don't hesitate to call. If you should have any questions or require clarification, please contact:

Dave Greenstein
Academic Auditor
404-844-8534
dgreenstein@georgia.gov

Thank you and your personnel in advance for your cooperation in this matter.

Sincerely,

Martha Ann Todd
Executive Director

Appendix II: Erasure Analysis School Inquiry Form

Erasure Analysis School Inquiry Form
(Please fill out a separate online form for each school)

The Governor's Office of Student Achievement has identified schools with classrooms of concern through the erasure analysis of the 2015 Georgia Milestones Test. This form is to be used for district feedback of individual schools of concern identified in the Governor's Office of Student Achievement's findings for the 2015 Milestones EOG and 2015 Spring EOC comprehensive analysis. This form provides LEAs with schools of concern an opportunity to explain the reasons for why specific classrooms were flagged for wrong-to-right (w-t-r) erasures. The form should be filled out and submitted by district level personnel.

Forms must be submitted by _____ at 5:00 PM. Please fill out a separate form for each identified school. All answers must be entered in one session, so it is recommended that whoever enters the LEA response gather answers to all questions prior to entering information into the form.

Once received, GOSA will review it in conjunction with relevant state-level data to determine whether the inquiry can be closed or if further information is required, which may include a document/records request, full investigation, or an on-site audit. GOSA will notify the LEA superintendent and Director of Assessments by email of closure or next steps within 30 days of form submission.

Form responses are confidential. Only GOSA Academic Auditing and GaDOE Assessment Division are able to view submissions.

LEA Number:

LEA Name:

School Name:

District Director of Assessments Name:

District Director of Assessments Phone Number:

District Director of Assessments Email:

Principal Name:

School Testing Coordinator Name:

Questions

1. During the 2015 test administration, did the school have a test security plan in place? Discuss, in detail, how the plan followed with fidelity.

2. Please attach a copy of the test security plan.

3. Describe the 2015 test administration training at the school. Was differentiated training provided for the different test formats (paper and pencil, online, small group, accommodations, etc.)?

4. How was the test administration delivered for each subject and grade level (paper and pencil, online, or combination of both)?

5. Did teachers administer tests to students in their current classrooms? Describe how proctors were used during test administration.

6. Describe how tests were distributed and collected at the school daily (central location, by cart, etc.).

7. Describe any irregularities that occurred during testing.

8. Describe the location where secure test materials were stored. List, by name and title, the individuals with access to secure test materials.

9. Why did the flagged classrooms' erasure data vary significantly from the State norm? Discuss what the district learned about the test administration in the school's flagged classrooms.

10. Describe test policies implemented during the 2015 test administration at the flagged school. What new policies, if any, will be implemented as a result of this inquiry?

    Name:*
    Title:*

Appendix III: Sample Erasure Analysis Inquiry Form Response To LEA

<<Date>>

Dear Superintendent <<Name>>:

Thank you very much for the work done by your district to determine why some classrooms' wrong-to-right erasure data varied significantly from the rest of the state's testing population on the 2015 Milestones EOG and/or EOC.

The Governor's Office of Student Achievement (GOSA) has read your inquiry form in relation to the guidelines that specify the minimum required components of an inquiry investigation. The following table summarizes the feedback for your LEA investigation, including any additional information needed by GOSA to classify the investigation as final.

Required Component	Complete	Need More Info.	Additional Information
1. During the 2015 test administration, did the school have a test security plan in place? Discuss, in detail, how the plan followed with fidelity.			
2. Please attach a copy of the test security plan.			
3. Describe the 2014 test administration training at the school. Was differentiated training provided for the different test formats (paper and pencil, online, small group, accommodations, etc.)?			
4. How was the test administration delivered for each subject and grade level (paper and pencil, online, combination of both)?			
5. Did teachers administer tests to students in their current classrooms? Describe how proctors were used during test administration.			
6. Describe how tests were distributed and collected at the school daily (central location, by cart, etc.).			
7. Describe any irregularities that occurred during testing.			
8. Describe the location where secure test materials were stored. List, by name and title, the individuals with access to secure test materials.			

Required Component	Complete	Need More Info.	Additional Information
9. Why did the flagged classrooms' erasure data vary significantly from the State norm? Discuss what the district learned about the test administration in the school's flagged classrooms.			
10. Describe test policies implemented during the 2015 test administration at the flagged school. What new policies, if any, will be implemented as a result of this inquiry?			
Other:			

Regards,

Martha Ann Todd
Executive Director

Appendix IV: On-Site Audit Notification Email Template

Dear Superintendent Person,

The Governor's Office of Student Achievement will be conducting an on-site erasure analysis audit at <<*Insert School Name*>> on <<Date>>. This audit was deemed necessary to gain further information about testing procedures at <<School Name>> during 2015 Milestones testing beyond what was provided in the inquiry form that your Director of Assessments provided on <<Insert Date>>. We will begin the visit at the district central office to speak with the district's Director of Assessments, before moving on to the school where we will speak with appropriate personnel regarding 2015 Milestones testing.

The Governor's Office of Student Achievement would like to thank you and your personnel in advance for your cooperation in this matter.

Sincerely,

Martha Ann Todd
Executive Director
Governor's Office of Student Achievement

Appendix V: Sample On-Site Audit Report Format

Conducted by:
Dave Greenstein, Academic Auditor
Governor's Office of Student Achievement

Background:

The Governor's Office of Student Achievement (GOSA) conducts academic audits and investigations to maximize the integrity of student achievement data and to ensure the LEAs implement Georgia Department of Education (GaDOE) assessment policies and procedures with fidelity, so that achievement data can be utilized in making critical decisions and reporting of student outcomes.

Through an erasure analysis audit, GOSA reviews testing data and information provided by the state's testing vendor and LEAs to understand why classrooms were flagged for wrong-to-right erasures. This process helps to ensure that LEAs and schools are following all GaDOE and LEA policies and procedures with fidelity.

Authority:

GOSA conducts erasure analysis audits at the direction of the State Board of Education, pursuant to the Official Code of Georgia Annotated as set forth in Section 20-14-26 (a)(2):

> *To audit and inspect or cause to be audited or inspected for the purpose of verification, research, analysis, reporting, or for other purposes related to the performance of its powers and duties as provided in this article and for the purposes of auditing pre-kindergarten, elementary, middle grades, and secondary education, postsecondary education, and education work force programs and schools, local school systems, institutes, colleges, universities, regional education service agencies, and other public education programs and entities as defined by the council.*

Audit Objective and Methodology:

GOSA flagged classrooms for w-t-r erasures at <<School Name>> for the <<School Year>>. <<School Name>> had the following classrooms flagged for w-t-r erasures:

School Name	Classroom	Standard Deviation

GOSA initially requested information regarding the flagged classroom(s) and testing procedures through an online inquiry form. <LEA Name> submitted this form on <<Date>>.

After review of the form, GOSA determined it was necessary to make a site visit to <<School Name>> in <<LEA Name>> to gain more information through an erasure analysis audit. The intent of this audit is to determine the reason for the flagged classroom(s) and gain insight into how testing is conducted at the school.

On <<Insert Date>>, GOSA visited <<School Name>> to collect information via interviews of administrators, teachers, and students at the district and school level. In addition, documents were reviewed at the school level regarding the test administration in question. GOSA has reviewed the information collected during this audit in conjunction with the LEA's inquiry form. It has the following findings:

Findings:

- Bulleted points will lay out the factual findings of the audit.
- All findings will be factual in nature.

Conclusion and Recommendations:

After the findings section, the conclusion section will detail what was learned from the findings. Either one of two things will be concluded.

1. Based upon a review of the personnel and student interviews, records, and documentation, the reasons for the flagged classrooms are easily explained and occurred because of <<Insert Reason>>. No further action is required by <<School Name>> or <<LEA Name>>.

   For future Milestones test administrations, it is recommended that <<School Name>> take the following steps….

   The State's concern has been satisfied and this audit is considered closed.

2. Based upon a review of the personnel and student interviews, records, and documentation provided by <<School Name>> the audit team recommends that an investigation be conducted into the testing procedures utilized by <<School Name>> for the following reasons (e.g., potential fraud, possible cheating, information relayed in interviews, etc.):

GOSA Point of Contact:

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