

CHAPTER 8: TEST SECURITY IN TEXAS

The Texas Education Agency (TEA) has always placed a high priority on test security in all aspects of the Texas assessment program. From the development of test items to the construction of tests, from the distribution and administration of test materials to the delivery of students score reports, special care is given to help ensure test security and confidential integrity. In addition, TEA takes every allegation of cheating very seriously.

Over the years, TEA has taken numerous measures to strengthen test security. It has implemented various administrative procedures to train and support test personnel on ensuring test security. It has also regularly commissioned independent contractors, field experts, and special task forces to review test security and provide recommendations. This chapter summarizes the history of the test security-related activities in the Texas assessment program and describes enhanced security efforts and planned security initiatives for the future.

History of Test Security-Related Activities

Administrative Procedures

Test security for the Texas student assessment programs has historically been supported by an organized set of test administration documents that provide clear and specific information to test personnel. In addition to the Texas administrative rules and code, which are the foundation for test security-related policies and documentation, TEA produces and continually updates district and campus test coordinator manuals and test administrator manuals containing detailed information about appropriate test administration procedures. The manuals provide guidelines on how to ensure a secure testing environment for storing test materials and administering the tests. They also instruct testing personnel about how to report to TEA any testing irregularities that occurred in the classroom, on campus or within the school district. Finally, all education personnel with access to secure test materials are required to sign an Oath of Test Security and Confidential Integrity either prior to each test administration or annually, depending on their job role. The manuals give specific details on the penalties for involved parties if violations are discovered.

Guidelines outlined in the administrative manuals for promoting confidential integrity of testing materials include the following:

- All testing personnel must be trained and sign an oath before handling secure test materials.
- No person may view and discuss the contents of test booklets and other secure documents until those tests are released to public.
- Secure test materials may not be duplicated.
- Districts are not allowed to retain a copy of any student response document.

- Test booklet subsection seals can be broken only by persons authorized by the instructions contained in the administration materials.
- No person may review or discuss student responses during or after test administration.
- No person may change any response or instruct a student to do so.

According to the test administration manuals, each person participating in the testing programs is directly responsible for reporting immediately to the district coordinator any violation or suspected violation of test security or confidential integrity. Also, testing personnel should contact TEA if they are unclear about what constitutes a testing irregularity or whether an incident has occurred. Testing irregularities are any incidents that result in a deviation from documented testing procedures. Some examples of testing irregularities provided in test administration manuals include the following:

- Eligible students were not tested.
- A test administrator left a room unmonitored while secure materials and examinees were present.
- A test administrator did not ensure that examinees were not communicating with one another during testing.
- Testing personnel viewed a test before, during, or after it was administered.
- Testing personnel scored a student test, discussed secure test content or student responses, made a copy of secure materials, tampered with student responses, or revealed confidential student information.

TEA regularly monitors and tracks testing irregularities and reviews all incidents reported from districts and campuses.

Finally, the administration materials state that any person who violates, solicits another to violate, or assists in the violation of test security or confidential integrity, and any person who fails to report such a violation may be penalized as defined with 19 TAC §101.65(e). An educator involved with a testing irregularity may be faced with

- the placement of restrictions on the issuance, renewal, or holding of a Texas teacher certificate, either indefinitely or for a set term;
- issuance of an inscribed or non-inscribed reprimand;
- suspension of a teacher certificate for a set term; or,
- revocation or cancellation of a Texas teacher certificate without opportunity for reapplication for a set term or permanently.

Any students involved in a violation of test security may be faced with the invalidation of their test results.

In addition, the following administrative products and procedures have been developed to ensure test security on the statewide assessments:

- an internal database to allow agency tracking of reported testing irregularities and to report annually on security violations reported to the state
- a plan in collaboration with the testing contractor to more stringently track missing secure test materials after each administration, and the development of a training supplement detailing the plan and other measures districts can implement to ensure the proper handling and return of secure materials
- training materials on test security and test administration procedures for posting to the agency's website

Light Marks Analysis

Since the first operational administration of TAKS in 2003 and on administrations of previous Texas state assessments, an analysis of light marks has been performed on all test documents administered in the paper format. Pearson Educational Measurement currently has scanning capabilities that allow for the detection of 15 levels of shadedness in student responses on scorable documents. During scanning these procedures collect the darkest response for each item and the location of the next darkest response. These multiple shaded responses often, but not always, result from an erasure. Under the assumption that such marks potentially result from an erasure, this information is summarized in the Light Marks Analysis Report.

The Light Marks Analysis Report displays any header group whose average wrong-to-right erasures is greater than three standard deviations above the statewide average for each of the subjects within each grade tested. Each header group represents a testing unit. Districts determine the composition of these header groups by how they complete the "Return Batch Header." Assuming the distribution of the mean wrong-to-right erasures for header groups is normally distributed, fewer than 1% of the header groups will be flagged.

Information and descriptive statistics for each flagged header group can be found in the report. The information types and what they represent include the following:

- County-District—The six-digit number representing the code for the county and the district number
- State Summary—This line provides the average number (and standard deviation) of wrong-to-right erasures made on this test statewide
- Campus—The three-digit number and name of the campus
- Header Group—The name of the header group
- # of Students—The number of students within the header group
- All Items—The average number of total erasures for the students in the group

- **Wrong-to-Right**—The average number (and percentage) of erasures from incorrect to correct answers. The number of erasures that went from wrong to right may be the primary area of interest in the report.
- **Right-to-Wrong**—The average number of erasures from correct-to-incorrect answers
- **Wrong-to-Wrong**—The average number of erasures from one incorrect answer choice to another incorrect answer choice

In addition, statewide statistics for the test are reported, including the average erasures of any type, the average and standard deviation of wrong-to-right erasures, and the average right-to-wrong and wrong-to-wrong erasures.

The Light Marks Analysis Report has two parts. The first part of the report presents the results of header groups ranked by average number of wrong-to-right erasures. The second part of the report, known as the district summary report, presents the same results grouped by county/district code.

It should be stressed that these statistical analyses serve only to identify an extreme number of light marks or erasures. These procedures serve as a screening device and provide no insight into the reason for excessive erasures. A student could, for example, have an extremely high number of erasures if he or she began bubbling on the wrong line and had to erase and re-enter the answers. A student could just be particularly indecisive and second-guess his or her answer selections. By themselves, data from light marks analyses cannot provide evidence of inappropriate testing behaviors.

A sample Light Marks Analysis Report for a TAKS grade 3 mathematics test is provided in Appendix A. All identifying information has been removed to preserve confidential integrity.

Test Security Analysis

In 2005, TEA hired Caveon, LLC, a test security firm, to conduct a pilot set of statistical analyses on test security using data from the spring 2005 TAKS administration. The purpose of the analyses was to identify anomalous data in the test administration results that might be suggestive of testing irregularities. The analyses identified four types of anomalous data:

- patterns of *very similar responses* across student results that would have a low probability of occurring by chance
- extreme numbers of *multiple marks* (or erasures) on answer sheets
- *large score gains* in TAKS scores compared with prior years
- *aberrant or unusual score patterns*, such as students missing very easy questions while answering the difficult questions correctly

Caveon summarized its analyses at the classroom and campus levels. It identified a small number of classrooms (about 1%) and campuses (about 8%) within which anomalous results were detected for at least one of the above indicators. Grade levels within campuses for which anomalous results were found for one or more indicators were also flagged. It should be emphasized that the results of Caveon’s analysis did not imply that testing irregularities had occurred in a classroom, grade level or campus. Analysis results merely identified unusual or unexpected patterns in test data.

Caveon made several recommendations based on their findings. TEA took action based on these recommendations by disseminating the analysis results to districts and campuses and comparing these results with the irregularity reports TEA had received during the spring 2005 TAKS administration.

Task Force on Test Integrity

In 2006, the Commissioner of Education in Texas convened a task force on test integrity. The goal of the task force was to examine the actions taken by TEA during the past school year to strengthen test security in the statewide assessment programs and provide recommendations to the commissioner and TEA. Ten recommendations resulted from the work of the task force:

- Develop, implement, and evaluate transparent statistical procedures for identifying potential instances of test security violations.
- Assemble a panel of educators and public representatives to review and make recommendations regarding test-related practices and statistical procedures.
- Develop criteria for triggering on-site investigation of districts, a standardized protocol used for on-site investigation, and criteria for referring investigations to the Office of the Inspector General.
- Develop standards and procedures to ensure rapid follow-up and resolution of suspected test security violations.
- Enhance, to the extent allowable by law, avenues for confidential reporting of test security incidents directly to the agency.
- Develop and implement a system of random audits of school districts.
- Develop a model policy on test integrity and test security procedures for dissemination and adoption by local districts.
- Require districts to maintain test security materials and signed security oaths for five years following a test administration.
- Ensure that investigations, sanctions, and corrective actions are conducted in a fair, expeditious, and equitable manner.
- Incorporate a measure of test security into the state’s school accountability rating system.

The commissioner accepted all ten recommendations by the task force, with modifications made to four of them. The response to the task force and the modifications made to the four recommendations can be found online http://www.tea.state.tx.us/student.assessment/atoz/Commissioners_response_to_task_force_recommendations_4_04_3_rh_tagged.pdf. Timelines were set for TEA to act on these recommendations in the coming school years.

Enhanced Security Efforts in 2006–2007

In response to concerns over test security and as follow-up on recommendations from the task force, TEA has taken the following measures to enhance security for 2006–2007. These efforts include

- creation of an inspector general's office to in part investigate test irregularity allegations,
- development of an online incident reporting process,
- development and publication of the *Test Security Supplement*,
- development and publication of the *Secure Materials Supplement*,
- creation of a new and more detailed Oath of Test Security and Confidential Integrity,
- expansion of the test security section of the *2007 District and Campus Coordinator Manual*,
- addition of a new section on active monitoring to the *2007 District and Campus Coordinator Manual*,
- providing information about the security risks posed by testing irregularities,
- providing training at the annual Texas Assessment Conference specifically addressing the topic of active monitoring, and
- improvement of efforts to collect detailed documentation for submitted testing irregularities.

This section will provide a general overview of each of these activities.

Office of the Inspector General

To facilitate the investigation of test security incidents, the Office of the Inspector General (OIG) was formed to examine security issues and oversee investigations of campuses and districts with testing irregularities. This office consists of a staff of internal investigators and enlists external investigators as necessary. The OIG conducts on-site investigations to determine if the administration of state tests is conducted in accordance with established state policies. Evidence of irregularities that indicate improper action on the part of district staff will be referred by this office to the Educator Certification and Standards Division for disciplinary action.

Online Incident Reporting Process

Each person participating in the Texas Student Assessment Program is directly responsible for reporting immediately to the district testing coordinator any violation or suspected violation of test security or confidential integrity. The district testing coordinator then immediately reports to TEA all violations or suspected violations of test security or confidential integrity. To make this process less burdensome, an online incident reporting process was developed to provide district testing coordinators or their designees an easy and efficient means by which to fulfill the district's reporting requirements for testing irregularities. This form can be found online at <http://www.tea.state.tx.us/student.assessment/admin/incidents/index.html>.

Test Security Supplement

One of the most important components of TEA's test security program is its emphasis on comprehensive training for all personnel involved in the administration of statewide assessments. TEA has continued to focus more resources on expanding training and developing tools in an effort to assist coordinators with practices that promote a secure testing program. As a part of this effort TEA developed the *Test Security Supplement*, a publication that examines issues a district testing coordinator might encounter before, during, and after a test administration and that provides guidance on how required tasks can be addressed effectively. This document covers key changes in test security, provides check lists to aid coordinators in making programs more secure, details common testing irregularities and how to avoid them, and provides tips for proper incident reporting. The security supplement can be found online at http://www.tea.state.tx.us/student.assessment/admin/security/2006TestSecuritySupplement_FINAL_v2.pdf.

Secure Materials Supplement

To promote increased security of the state's testing program, TEA developed the *Secure Materials Supplement* to provide districts with guidance and tips from the field relating to the proper accounting of secure test materials. Because the loss or late return of secure materials has the potential to compromise confidential test content, steps have been taken to ensure the successful return of all secure materials distributed to school districts. The supplement offers additional information to test coordinators and explains the steps TEA has taken to increase communication with districts. Also included are tips about what to consider before, during, and after a test administration and common errors to avoid. This supplement has been

provided to testing personnel in an effort to achieve a 100% return rate for secure test materials. The supplement can be found online at http://www.tea.state.tx.us/student.assessment/admin/security/2006_Secure_Materials_Supplement.pdf.

Oath of Test Security and Confidential Integrity

In 2007 TEA developed a more detailed Oath of Test Security and Confidential Integrity to better reflect the changes implemented through the increased focus on test security. The new oath requires administrators to, among other things, recognize their obligation to actively monitor test administrations and acknowledge their understanding of the obligations surrounding test security and the consequences for not following proper procedures. This document serves as another reminder of TEA's commitment to test security and the commitment the agency asks of test administrators.

2007 District and Campus Coordinator Manual

The *2007 District and Campus Coordinator Manual* was updated for 2007 with an expanded test security section to provide detailed information about all of the recently implemented test security measures. Major modifications to this manual include the addition of the revised Oath of Test Security and Confidential Integrity, the inclusion of a separate section on active monitoring, and a discussion of the security risks posed by testing irregularities. Although some of this information is covered in other publications, the coordinator manual is the primary resource for test administration procedures and protocol. As such, it was important that this document fully reflect the increased effort devoted to test security. The manual can be found online at http://k12testing.tx.ncspearson.com/tx_dist_guides.htm#DCCoordManual.

Active Monitoring of Test Administrations

During the 2005–2006 school year, more than 800 incidents were reported to the Student Assessment Security Task Force involving monitoring irregularities or situations that potentially could have been corrected during testing. To prevent such incidents, TEA has enacted a policy of encouraging active monitoring. Active monitoring requires test administrators to be actively engaged during testing and places a greater emphasis on moving about the room so they can be more aware of students' actions during an assessment. This topic is discussed in other literature (e.g., the *Test Security Supplement*), but TEA has highlighted the topic in the *2007 District and Campus Coordinator Manual* by devoting a separate section to the subject. This section provides the most detailed information available on active monitoring during test administrations.

Security Risks Posed by Testing Irregularities

In addition to training test administrators in methods for avoiding testing irregularities, TEA has also taken steps to inform them of the security risks commonly associated with such irregularities. Such training has and will help administrators understand the importance of taking these new protocols seriously and will, ultimately, lead to greater involvement in the test security process. Information about security risks stemming from testing irregularities can

be found in the *2007 District and Campus Coordinator Manual*, the *Test Security Supplement*, and in the *Secure Materials Supplement*.

Active Monitoring Training at the Annual Texas Assessment Conference

TEA has made it a priority to emphasize the importance of active monitoring during test administration. This topic is discussed in both the *Test Security Supplement* and the *2007 District and Campus Coordinator Manual*. To further impress upon test administrators the importance of this activity, TEA also provided specific active monitoring training during the annual Texas Assessment Conference. During this training TEA explained the concept and importance of active monitoring, provided evidence to show how proper monitoring can decrease testing irregularities, provided tips on promoting active monitoring, and explained the process for handling the testing irregularities that will inevitably arise.

Documenting Testing Irregularities

Despite the efforts that have been made to improve test security procedures, testing irregularities are an inevitable occurrence, given the complexity of the assessment program. TEA recognizes this fact and has made efforts to improve the documentation of these irregularities. TEA has noted the importance of having procedures in place to help ensure that all necessary information is gathered to enable student assessment staff to make a determination about what occurred. TEA has continued to streamline its procedures to help simplify the gathering and reporting of testing irregularities. The *Test Security Supplement* contains a large section on reporting testing irregularities. This document contains a set of checklists to aid test coordinators in collecting all of the details necessary to file a comprehensive incident report. This information, along with that contained in the *2007 District and Campus Coordinator Manual* and the online incident reporting process, will allow coordinators to more easily provide TEA all of the necessary information to investigate testing irregularities.

Planned Future Security Enhancements

In the 2006–2007 school year, TEA not only enacted many important security enhancements for the school year, but also made plans for improving security measures for Texas’ high-stakes testing program. In June 2007, after obtaining input and guidance from the Texas Technical Advisory Committee, the Commissioner of Education announced a comprehensive 14-point prevention and detection plan. The plan demonstrates TEA’s dedication to protecting the integrity of the testing program and producing sound test results. According to the plan, TEA will implement the following initiatives:

1. Analyze scrambled blocks of test questions to detect answer copying
2. Assign independent test monitors to campuses based on evidence of testing irregularities and make unannounced visits to additional campuses on test days
3. Require school districts to implement seating charts for use during all state assessment administrations

4. Develop a transparent method to annually identify statistically irregular patterns of test answers that may indicate cheating to augment many other detection methods already in use
5. Contract with a national expert for independent review and advice on statistical cheating detection
6. Require school districts to provide information that links test administrators to students
7. Require students in certain grades to sign a grade-appropriate honor statement immediately prior to taking a state assessment, just as all test administrators are required to sign a security oath prior to each administration
8. Add to the list of sanctions for cheating, lowering a school district's rating
9. Provide additional information in test administration manuals related to consequences for educators and students if cheating occurs
10. Require school districts to report to TEA any investigatory and disciplinary actions taken against educators and students locally
11. Require school districts to maintain test security materials, signed security oaths, and seating charts for five years following a test administration
12. Develop a model policy on test integrity and test security procedures for adoption by local school boards
13. Ensure that state investigations, sanctions, and corrective actions are conducted in a fair, expeditious, and equitable manner
14. Require test administrators to participate in a standardized online training program that addresses mandatory test security procedures

The full implementation of these activities will occur over the next few years, beginning with the 2007–2008 school year.