

White Paper

Developing District Test Security Protocols

by
Sarah M. Estrada, Ph.D.
John Robert Bergan, Ph.D.
Christine G. Burnham, Ph.D.
and Kerridan A. Kawecki, B.A.



**Assessment
Technology
Incorporated**

Assessment Technology, Incorporated

6700 E. Speedway Boulevard

Tucson, Arizona 85710

Phone: 520.323.9033 • Fax: 520.323.9139

Copyright © Assessment Technology, Incorporated 2015. All rights reserved.

*Copyright © Assessment Technology, Incorporated. 2015. All rights reserved.
No part of this document may be reproduced or transmitted in any form or by any means,
electronic or mechanical, including photocopy, recording, or any information storage and retrieval system,
without permission from the publisher.*

*Assessment Technology, Incorporated, Publishers
Tucson, Arizona, U.S.A.
Printed in the United States of America.
V4-043015*

Developing District Test Security Protocols

By Sarah M. Estrada, Ph.D., John Robert Bergan, Ph.D.,
Christine G. Burnham, Ph.D., and Kerridan A. Kawecky, B.A.
Assessment Technology, Incorporated

Table of Contents

Table of Contents.....	i
I. Function of Test Security Protocols	1
II. Evaluating the Required Level of Security for a Type of Assessment	2
III. Integrated Galileo® Security Measures.....	4
A. Protection against Data Loss within the Galileo K-12 Online Instructional Improvement and Effectiveness System	5
B. Protection against Non-User Access to Data in the Galileo K-12 Online Instructional Improvement and Effectiveness System	5
IV. Galileo Tools for Security Management	6
A. Controlling Galileo Access Privileges for District Users	6
B. Managing Libraries to Control Staff and Student Access.....	7
C. Closing Tests to Prevent Further Administration	9
D. Locking Student Tests to Prevent Student Access	10
V. Secure Test Creation	11
A. Assessments Generated by Assessment Technology Incorporated	12
B. Assessments Generated by the District	13
VI. Secure Test Management and Administration	14
A. Secure Storage of Test Materials Online.....	14
B. Secure Scheduling.....	15
C. Special Security Considerations for Online Administration	17
D. Special Security Considerations for Offline Administration	18
E. Establishing District Policies Related to Testing.....	19
VII. Supporting Documents	22
A. Guiding Questions for Developing Test Security Protocols	22
B. Assessment Technology Incorporated Recommended Test Security Protocols ...	24
C. Sample Testing Materials Packet Sign-Off	32
D. Further Reading.....	33



I. Function of Test Security Protocols

Ensuring adequate test security is an important part of test creation, management, and administration. Adequate test security helps to ensure that a test measures what it purports to measure (i.e., the validity of the test). Inadequate test security may jeopardize the validity of the test and hence the ability to interpret the results. For example, allowing a class of students to take a test unsupervised violates standard practices designed to ensure test security. In this situation, students may collaborate or use unauthorized materials such as textbooks to answer the questions on the test. Consequently, the results of the test will not accurately reflect the ability of each student and the validity of the test will be compromised. In order to be useful, a test must provide an accurate estimate of a student's ability. Therefore, ensuring adequate test security is always critical. Moreover, adequate test security is imperative when the results of the test will inform decisions with significant consequences (e.g., whether a student graduates, whether a teacher receives a positive evaluation).

One of the best ways to ensure adequate test security is to establish best practices related to test security and then implement the required procedures with fidelity. A test security protocol defines district procedures for all practices that directly impact test security including test creation, management, and administration. Establishing written, agreed-upon test security protocols helps to ensure that everyone in your district is aware of their roles and responsibilities with respect to test security. Test security protocols are also an important part of a comprehensive assessment strategy. Once you have determined the set of assessments that will be administered to meet your district assessment goals and the purposes that each type of assessment will serve in meeting these goals, the next step is to develop a set of district test security protocols. Test security protocols help to ensure that the procedures employed by your district are consistent with your district's assessment goals and the intended purposes for each type of assessment.

You will most likely need to develop multiple district test security protocols since the specific security procedures will vary across different types of assessments and according to the specifics of how the tests will be created, stored, scheduled, and administered, as well as how the test results will be used. The most important factors in determining the specific procedures included in the test security protocol for a certain type of assessment are the intended purposes for that type of assessment in your district's comprehensive assessment strategy although practical considerations such as district resources or existing district policies and procedures may also play a role. Although every district's test security protocols are unique, this document describes a variety of factors to consider as your district develops a set of protocols that can address all the different types of assessments and testing situations in your district. In Section VII.B of this document, you will find protocols that describe a set of Assessment Technology Incorporated (ATI)-recommended security procedures for two common types of assessments. Recommended protocols for other types of assessments are currently under development and will be available upon request from your ATI Field Services Coordinator. ATI's recommended protocols may serve as useful starting points for the initiative to establish your own district protocols.

II. Evaluating the Required Level of Security for a Type of Assessment

The first step in developing a test security protocol for a particular type of assessment is to evaluate the required level of security for that type of assessment. As part of this evaluation process, it is particularly important to consider the required security of test content. In general, a high level of security means that access is tightly controlled with test content available to only selected staff and/or only after administration. In contrast, a low level of security means that test content is available to all relevant district staff on an ongoing basis. In practice, a high level of security is often required for district- or school-wide assessments while a low level of security is often sufficient for classroom assessments.

The most important factor to consider in determining the required level of security for an assessment is the purpose the assessment is intended to serve. Certain purposes demand high levels of security (e.g., evaluating instructional effectiveness) while other purposes require a lower level of security (e.g., guiding instruction). As a general rule, if the purpose of the assessment is to inform decisions with significant consequences for students or staff, a high level of security is required. In many cases, a given type of assessment will be intended to serve multiple purposes that require different levels of security. Similarly, different levels of security will sometimes be required at different stages of the testing process (e.g., before and after administration). A good rule of thumb is to establish the level of security based on the highest level of security required. Then, during the specification of the security procedures for test creation, management, and administration, evaluate whether any of the procedures designed to help ensure high security should be modified to accommodate the district purposes for that type of assessment. Carefully think through the possible consequences of modifying each procedure and whether the reduction in the security of the assessment is acceptable. Also consider the practical implications of any modification for the implementation of your district protocol. For example, modifying a scheduling procedure so that teachers rather than a district coordinator will schedule assessments will have implications not only for the security of the assessment, but also for the training that will need to be provided to each teacher. In most cases, it will be possible to develop a test security protocol that will support all the desired purposes for a certain type of assessment while maintaining an adequate level of security.

As you begin to develop your district test security protocols, you may find it helpful to create a chart that lists each type of assessment in your district's comprehensive assessment strategy, the purpose or purposes that type of assessment is intended to serve, and the security level that type of assessment will require during different stages of administration. The following sample chart illustrates a number of common types of assessments along with a set of typical district purposes for each type of assessment, and ATI's recommendation for the security level of the assessment before and after administration based on those purposes.

TABLE 1

Recommended security levels for common types of assessments based on typical district purposes

Type of Assessment	Typical District Purposes	Recommended Security Level	
		Before Administration	After Administration
Instructional Effectiveness Pretests/ Posttests	Evaluate instructional effectiveness and staff performance	High	High
	Evaluate student performance on a district-wide, school-wide, and class level		
Observational Assessment of Staff	Evaluate student performance on a district-wide, school-wide, and class level	High	High
	Monitor student progress		
Screening Assessments	Guide instruction	High	High
	Guide professional development		
Placement Tests	Evaluate instructional effectiveness and staff performance	High	High
	Identify students in need of targeted interventions		
Benchmark Assessments	Evaluate student readiness for specific coursework	High	High
	Evaluate individual student mastery of curriculum		
Interim/End-of-Course Examinations	Forecast student performance on statewide test	High	Low
	Evaluate student performance on a district-wide, school-wide, and class level		
	Guide instruction including re-teaching interventions and enrichment opportunities		
	Monitor student progress		
	Evaluate individual student mastery of curriculum	High	Low
	Assign grades to students		

TABLE 1 – Continued

Recommended security levels for common types of assessments based on typical district purposes

Type of Assessment	Typical District Purposes	Recommended Security Level	
		Before Administration	After Administration
Pretests/ Posttests	Guide instruction Monitor student progress Monitor effects of interventions for groups of students or individual students	High	Low
	Guide instruction Guide reteaching interventions and enrichment opportunities Guide reteaching interventions and enrichment opportunities Evaluate individual student mastery of curriculum	Low	Low
Observational Assessment of Students	Guide instruction including reteaching interventions and enrichment opportunities Evaluate individual student mastery of curriculum	Low	Low
	Monitor student progress Monitor effects of interventions for groups of students or for individual students	Low	Low

This section has discussed how to classify types of assessments broadly in terms of their required level of security; however, it is important to note that there remains a great deal of flexibility in terms of the specific security procedures that can be included in the test security protocol. These specific security procedures will be discussed further in later sections that address security in test creation, management, and administration.

III. Integrated Galileo® Security Measures

As you develop test security protocols for each type of assessment in your district, your district will want to ensure that a number of general security issues have been adequately addressed. In particular, it will be important to protect against data loss, to ensure appropriate access to data, and to ensure the privacy of students and staff. It is likely that your district will already have policies and procedures designed to address these issues. One of the advantages of administering assessments within Galileo is that the Galileo K-12 Online Instructional Improvement and Effectiveness System (IIES) contains a variety of built-in, integrated security measures that are designed to ensure the confidentiality, integrity, and viability of online data.

A. Protection against Data Loss within the Galileo® K-12 Online Instructional Improvement and Effectiveness System

In February 2012, ATI will finalize implementation of a secondary data server located in a secure data center located elsewhere in the region. The backup architecture uses automated transactional database replication. The failover server is housed in a facility with full-time security, multi-factor authentication including biometric, combination and RFID key entry and full data provider and power redundancy. ATI equipment located in this facility is accessible only by or at the direction of select ATI personnel. Online transaction transfer from the primary ATI data center to this site is performed through an encrypted VPN tunnel.

ATI performs regular backup of the Galileo K-12 Online database, with multiple disk copies of the backup file stored internally on separate servers. Hourly transaction log backup files are also stored on redundant internal servers. The ATI Disaster Recovery Plan (DRP) mandates online transfer of the Galileo K-12 Online transaction log backup files to a separate secure facility, updated hourly. This facility is protected with magnetic key and biometric security. Online transfer is performed through an encrypted VPN tunnel. In addition, the DRP includes weekly tape archival of the full Galileo K-12 Online database, stored in a secure facility separate from the location of the online transfer server. Personnel and physical security protect this facility, with magnetic media stored in a fireproof safe.

With the secondary data server, data and transaction log backups and storage architecture of the primary/secondary data files and transaction logs within the Galileo data servers, ATI has planned for rapid recovery from a multitude of possible disaster scenarios.

B. Protection against Non-User Access to Data in the Galileo K-12 Online Instructional Improvement and Effectiveness System

i. Firewalls

ATI employs extensive external security to ensure the protection of all client data. Student information including test information is protected by encryption during transmission and stored in a database system that is not directly accessible from the Internet. Transactions with the database must be performed through the Galileo K-12 Online application servers. All client traffic to and from the database system must pass through one of two corporate gateway firewalls and one of two additional screened subnet (“backend”) firewalls.

ii. Secure Socket Layers and Data Encryption

Another security measure is the implementation of Secure Sockets Layers (SSL). When a user clicks on the link to login at <http://www.ati-online.com>, the entire session from this point forward (including entry of the username and password) is conducted using SSL. Every time data is transmitted to Galileo K-12 Online, the entire transaction is performed with 128-bit encryption. Only the Galileo K-12 Online web servers hold the private key to decode the encrypted data sent by users. All traffic for Galileo K-12 Online is transferred using SSL, typically transferred through a network (including the Internet) using TCP Port 443. Galileo K-12 Online utilizes the highest level of encryption possible while still maintaining a focus on performance. Galileo K-12 Online security is verified with a top-level site certificate hosted by VeriSign, an industry leader in computer security certification.

iii. User Authentication Utilizing GUIDS

All user accounts in the Galileo® K-12 Online system are assigned a Globally Unique Identifier (GUID), as are all transactions placed in the system. This ensures the highest level of accuracy when performing data entry/retrieval within the Galileo K-12 Online system.

Galileo users are authenticated with the standard username and password construct. All usernames are entered and passwords set by the individual clients. This can only be done once an identified district administrator has been entered into the system by ATI. This ensures greater control and accuracy for clients. When users access Galileo K-12 Online, their password is authenticated against their record in the system using the GUID, and entry is granted only in the event of a perfect match. No 'fuzzy logic' is used in authenticating passwords.

iv. Enforced ATI Privacy Policies

ATI enforces corporate policies stressing the protection of privacy of clients and particularly students served by clients. The Family Educational Rights and Privacy Act (FERPA) regulations are posted with ATI Personnel Policies. The personnel policies themselves specifically state that violation of a student's right to privacy is a violation of federal law and may result in employee termination.

IV. Galileo Tools for Security Management

Within the Galileo IIES, several tools enable district users to manage the security of assessments. As part of the initial user set-up process, your district administrator can control which students' each district user can see and which levels of aggregation the user can access. Using Galileo's library management interface, district users can also control who can access libraries containing online materials and what activities they can perform using those materials. In addition, Galileo's *Close Tests* tool and *Lock Student Tests* tool allow district users to prevent further administration of a test by staff and further access of a test by students. This section describes each of these tools in more detail. Throughout this document, recommendations will be provided for how your district can utilize these tools to implement procedures that will help ensure the desired level of security for a given type of assessment.

A. Controlling Galileo Access Privileges for District Users

Data within Galileo K-12 Online are organized in a hierarchical structure that allows for rapid aggregation at the student, class, school, and district levels using real-time data. When your district administrator sets up access for a user, they will determine the level of access allowed that user. This user will then only be allowed access to their individual school-, class-, or student-level information. The following table illustrates the access to aggregated data for users at different levels.

TABLE 2
Report aggregation at different user levels

Access to Aggregated Data in Galileo K-12 Online	
User Level	Available Level(s) of Data Aggregation
Student/Parent	Individual
Class	Individual
	Class
School	Individual
	Class
	School
District	Individual
	Class
	School
	District

B. Managing Libraries to Control Staff and Student Access

Library management is one of the most effective ways to manage the security of online materials within Galileo®. Storing materials in a library with restricted access is like storing the materials in a locked room to which only certain people have the key. This section gives a broad overview of the library management tool within the Galileo IIES. Specific ways in which library management procedures can be used to help ensure the security of assessments will be discussed further throughout this document.

i. Library Builder

The *Library Builder* tool allows users to create online storage areas within Galileo called libraries. Based on the types of materials that will be stored in the library, users can create a variety of different library types including assignment/test, lesson plan, unit plan, *Instructional Dialog*, intervention group, and other types. These libraries can then be accessed via relevant interfaces and tools within the Galileo IIES.

One major advantage of storing materials in libraries within the Galileo IIES is that users can control who has access to these materials. The ability to control access to a specific library enables district staff to maximize security by restricting access to secure materials or to encourage collaboration by providing access to shared materials.

District users can control who has access to libraries using the *Library Builder* tool within Galileo. Access to a library can only be modified by users with the highest level of permission (i.e., *Write* access). The user who creates a library automatically has *Write* access to that library and can provide other users at or below the user's level, with the desired type of access by assigning the library to them with the desired level of permission. In general, each user should only be provided with the minimum level of permission that enables them to perform desired activities related to the materials in the library.

Libraries can be assigned globally to all users at a certain level (i.e., district, school, and/or class) or to selected schools, classes, and/or individual users. Assigning libraries to individual users is particularly useful in cases where non-standard access is required. For example, to accommodate resource teachers who require access to data for a set of individual students from a number of different classes, an intervention group may be created including these students and the resource teacher given access to the library containing that intervention group as well as access to any relevant assignment/test libraries.

The list of users with access to a library can be viewed within the *Library Builder* interface and a user with *Write* access for that library may modify the library access of users at or below their level. The following screen shot depicts a sample access summary for a library.

Sample library access summary – Confidential Screen Shot

The screenshot shows the 'Summary' tab of a library access summary. At the top, there are three tabs: 'Name & Year', 'Library Assignment', and 'Summary'. The 'Summary' tab is active. Below the tabs, the library name is '2010-11 Grand Canyon 04 Gr. Benchmark Library' and the library type is 'Assignment/Test'. The 'Selected Years' section shows a calendar icon and the years '2010 - 2011'. The 'Super Agencies' section shows '0' agencies. The 'Districts' section shows '2' districts with a table listing 'Mogollon Rim School District' with 'District Level' and 'Write' permissions. The 'Schools' section shows '6' schools with a table listing schools like 'Adamsville Middle School' and 'Apple High School' with 'All Users' and 'Read-Only' permissions. The 'Classes' and 'Users' sections show '0' classes and users respectively.

Summary

Library Name: 2010-11 Grand Canyon 04 Gr. Benchmark Library Library Type: Assignment/Test

Selected Years: • 2010 - 2011

Super Agencies (0)

Districts (2)

Name	Users	Permission	Remove
Mogollon Rim School District	District Level	Write	
Mogollon Rim School District	All Users	Read-Only	

Schools (6)

Name	Users	Permission	Remove
Adamsville Middle School	All Users	Read-Only	
Apple High School	All Users	Read-Only	
Brookfield Elementary School	All Users	Read-Only	
New Oak Ridge School	All Users	Read-Only	
Summerfield School	All Users	Read-Only	
Williamsburgh Elementary School	All Users	Read-Only	

Classes (0)

Users (0)

ii. *Management of Assignment/Test Libraries*

The management of assignment/test libraries is most relevant to the development of test security protocols. There are three levels of permission that are available for assignment/test libraries: *Write*, *Read Only*, and *Results Only*. Users with *Write* access can view materials in the library in all relevant interfaces as well as edit or modify these materials. Users with *Read Only* access have more restricted access; they can view materials in all relevant interfaces, but cannot edit or modify materials. Users with *Results Only* access can view materials in that library for the purpose of running test reports, but have no access to the individual items on the test in any interface. This level of permission is designed to help districts restrict access to assessments that require the highest levels of security for test content. The following table highlights selected activities related to assessment that can be performed by users with each level of permission for an assignment/test library.

TABLE 3
Selected activities related to assessment that a user with each level of permission for an assignment/test library can perform

Selected Activities User Can Perform								
Permission Level	Edit Unpublished Test	Close Test	Schedule Test	Print Test Materials	Score Tests (Manually or via Scanning)	View Item Content	Lock/Unlock Student Test	View Test Results
Write	X	X	X	X	X	X	X	X
Read			X	X	X	X	X	X
Results Only								X

C. Closing Tests to Prevent Further Administration

The *Close Test* feature within the Galileo® IIES prevents any further administration of a test. As illustrated in the following screen shot, a test can be closed by any user with *Write* access to the library in which the test is stored by simply checking the *Closed* box next to the test in the *Test Builder* interface.

Closing a test in the Test Builder interface – Confidential Screen Shot

The screenshot shows the Test Builder interface with the following configuration:

- District:** Mogollon Rim School District
- Year:** 2010 - 2011
- School:** Brookfield Elementary School
- Class:** none

Navigation links: Settings | Dashboard | Books | Help | Forum | Tech Support | Site Map | Logout

Instructions: Select a library and click on the links below to add or modify a test.

Configuration fields:

- Super Agency: Arizona
- District: Mogollon Rim School District
- School: Brookfield Elementary School
- Class: [Select a class]
- Library: 2010-11 Grand Canyon 03 Gr. Benchmark Librar

Related Options:

- Create Library
- Copy Test with New Objectives

Action links:

- Click here to add a new test
- Click here to copy an existing test
- Click here to move an existing test
- Click here to move or copy multiple tests

Action	Closed	Test	Max Points	Test Status	Published	Item Count
	<input checked="" type="checkbox"/>	ATI 03 Gr Reading Pre-Test	47	Publish	8/2/2010	47
	<input checked="" type="checkbox"/>	GCSD 3 Gr Math Pre-Test	47	Publish	8/2/2010	46
	<input checked="" type="checkbox"/>	GCSD 3 Gr Math #1	40	Publish	9/12/2010	40
	<input type="checkbox"/>	GCSD 3 Gr Math #2	40	Publish	11/24/2010	40

Once a test is closed, it cannot be scheduled and new test booklets cannot be printed. No students can take the test online or using handheld response pads and no new answer sheets can be scanned. In addition, no changes may be made to the existing data in the *Score Tests* interface. The *Close Tests* feature can be used to enforce a restricted testing window or to help ensure the integrity and validity of data by preventing unintentional errors in administration. For example, if a district decided to delete an item from a test after administration and rescore the test, existing unscored answer sheets would be invalidated because they now contain the wrong number of items. Closing the test before deleting the item and performing the rescore would prevent these invalid answer sheets from being accidentally scanned in.

D. Locking Student Tests to Prevent Student Access

The *Student Test Lock* feature within the Galileo® IIES is designed to help district staff control student access to tests administered online. This feature prevents a student from logging back into a test they have already taken in order to change their answers. It does not prevent teachers from modifying the student's responses in the *Score Tests* interface. Once a student has answered all the questions on the test and closed the test by clicking the *Exit Test* link, their test will be automatically locked. As illustrated in the following screen shot, a student's test can also be manually locked or unlocked within the *Test Monitoring* interface by any user with *Read Only* or *Write* access to the library in which the test is stored.

Locking a student test in the Test Monitoring interface – Confidential Screen Shot

Select a class
Select a test.

Super Agency: Arizona

District: Mogollon Rim School District

School: Brookfield Elementary School

Class: 3rd Grade: A SILVA

Library: 2010-11 Grand Canyon 03 Gr. Benchmark Lib

Test: 06-07 ATI 03 Gr Reading Pre-Test

Legend

- Correct Answer
- Incorrect Answer
- Not Yet Answered
- N/A Not Applicable
- ✓ Test Complete

Note: check the box below to automatically update this page every ten (10) seconds without having to use your browser's refresh button.

Refresh page every 10 seconds
 Show student IDs

Locked	Name	Questions Correct	Questions Incorrect	Unanswered Questions	1	2	3	4	5	6	7	8
	ABBOTT, Dana	1 of 47	1 of 47	45 of 47	---	---	---	---	---	---	---	---
	ABBOTT, Kevin	0 of 47	0 of 47	47 of 47	---	---	---	---	---	---	---	---
	ACEVEDO, Amy	6 of 47	39 of 47	2 of 47	A	---	---	D	A	A	D	D
	ACEVEDO, Hanna	9 of 47	38 of 47	0 of 47	D	D	D	D	D	D	D	D
	ACEVEDO, [Name]	1 of 47	1 of 47	45 of 47	A	A	A	A	A	A	A	A
	ACEVEDO, [Name]	1 of 47	1 of 47	45 of 47	B	B	B	B	B	B	B	B

V. Secure Test Creation

The main security issue related to test creation is maintaining the security of the individual items on the test. Generally, a high level of security requires, at minimum, that access to the individual items on the test is tightly restricted before and during administration. This helps to ensure the validity of the test results by effectively preventing coaching of students on the specific items that will appear on the test and preventing students from inappropriately obtaining access to test content.

If items from the test will be reused on future tests, access to the items should also be tightly restricted after administration to ensure a high level of security. Alternatively, a high level of security can be maintained by using different items in the creation of each test and employing test scaling procedures to place test scores on a common scale. This approach is often preferable since, for many types of assessments, access to the individual items on the test after administration is desirable to support a variety of activities such as investigating which items students had trouble with and why they answered those items incorrectly. ATI uses test scaling

procedures based in Item Response Theory to place scores from district-wide assessments involving different sets of items from ATI's secure item banks within a grade and content area on the same scale so they can be directly compared.

Within the Galileo® K-12 Online IIES, assessments can be created in several ways. Your district's procedures for test creation have a major impact on the security of test content. The method of creation your district chooses may vary based on the type of assessment or across grades and content areas. The best way to create highly secure tests that maximize the security of test content is to use items not widely available to district staff. This can be accomplished either by using item banks to which access is restricted such as ATI's secure item banks or by creating secure district item banks.

A. Assessments Generated by Assessment Technology Incorporated

District-wide tests generated by ATI are comprised of items from the ATI secure item banks. Using items from the ATI secure item banks helps to ensure the security of test content since these items have been created by ATI staff rather than district staff and are not available to district users of Galileo for the creation of other assessments. District-wide tests generated by ATI are automatically designated as secure tests during test creation. Secure tests can be copied or edited by ATI staff at the request of approved district staff; however, Galileo users cannot directly modify secure tests even if they have *Write* access to the library in which the test is stored.

If your district desires ATI-generated assessments, your district can choose from among the pre-built assessments that ATI offers for a variety of grades and content areas (i.e., ATI Comprehensive Blueprint Assessment Series (CBAS), ATI Technology Enhanced Early Literacy Assessments Series (TE EL), ATI Comprehensive Pretests and Posttests, ATI Instructional Effectiveness Pretests and Posttests, ATI Pre-Built Writing Assessments) or your district can work with ATI to design customized district-wide assessments aligned to your district's curriculum and pacing guide.

If your district chooses to design customized assessments, district staff responsible for test creation will create a blueprint for each assessment using the *Assessment Planner* within Galileo. ATI Educational Management Services staff will then generate the test to match the desired blueprint using items from the ATI secure item banks. If desired, your district can also designate selected staff as district test reviewers. These staff members can use the *Test Review* utility within Galileo to review the individual items that appear on customized district-wide assessments generated by ATI. Access to the *Test Review* utility is controlled with two levels of permission. One allows for a series of initial reviewers. The second designates a final reviewer responsible for accepting a final version of the test under review. If desired, the final reviewer can replace items on an ATI-generated test by selecting an item from the ATI secure item bank for that content area and grade level that is more closely aligned to reviewer expectations or to the instructional focus for the assessment. During the test review process, initial reviewers are provided access to test content for a specific test and the final reviewer has access not only to test content for that specific test, but also to selected items from the ATI secure item bank for that content area and grade level. Therefore, in order to maximize security, your district should select initial and final reviewers carefully, use as few reviewers as possible, and advise reviewers of their responsibility to maintain the security of test content accessed during the test review process.

B. Assessments Generated by the District

In some cases, your district may wish to create secure assessments comprised of district-generated items. For example, your district may wish to administer benchmark assessments in content areas that are not covered by the ATI secure item banks. The Galileo® IIES provides two options for creating tests using district-created content. If there is an existing PDF or Microsoft Word document for the test you would like to administer, you can upload the existing test into Galileo using ATI's *Automated Scoring Key (ASK) Technology* and create an answer key for the assessment by adding an item for each question on the existing test, aligning each item to a standard, and indicating the correct answer. All standards released by your state are available within Galileo including those for non-core content areas. Your district can also enter your own standards if desired. Once created, an ASK assessment can be scheduled and administered online, offline, or using handheld response systems like any other assessment within Galileo.

Another option is to use the *Test Builder* interface to create a new test. You can use the item creation tools within Galileo to write new items or enter existing district items. Tests created in Galileo can also serve as item banks, so once items are entered into Galileo using the *Test Builder* interface, they are also available for use in the creation of future tests. You do not need to ever schedule or administer the test that you create to serve as a district item bank. You can simply use it as a bank from which other tests can be generated for administration. Access to the test that serves as your district item bank can be managed using the *Library Builder* tool to control access to the library containing the test that serves as the item bank.

Test content is less secure when district staff members participate in the creation of the test content for an assessment. Sometimes this situation is unavoidable as in the case where district teachers write items for a specific content area because third-party items are not available. One way to maximize the security of district-created test content is to have selected district staff knowledgeable in the desired content area create a test containing a secure bank of district items, store the test in a library with highly restricted access, and then have designated staff generate assessments by selecting a subset of the items in the bank. To the extent that staff and students are unaware which specific items will appear on a given assessment, the security of the assessment will be maximized. In order for ATI to place the scores from tests generated by the district on a common scale using test scaling procedures, the tests must share common items. ATI recommends that a minimum of 20 percent of the items be shared.

The Galileo IIES also supports the creation of a variety of less secure assessments such as classroom formative assessments. District users are provided access to the ATI community item banks which contain items that are publicly available to all Galileo users. Although access to the specific test content of tests created using the community item banks can be restricted by storing them in a library with restricted access, users will still be able to view items from the community item banks in other contexts within Galileo such as during the creation of other tests using the *Test Builder* interface or during the creation of *Instructional Dialogs*. For this reason, the community item banks should not be used to create assessments that require a high level of security for test content.

VI. Secure Test Management and Administration

Your district's test management and administration procedures have a major impact on the security of test content. To help ensure the security of test content and results online within the Galileo® IIES, your district will need to establish a set of test storage procedures that detail where online assessment materials will be stored before, during, and after administration and how access will be restricted to these materials. Your district will also need to develop a scheduling plan that maximizes security by establishing who is responsible for scheduling, the details of the testing window including how much testing time will be provided to students, and a make-up policy detailing whether make-ups will be allowed and how scheduling of these make-ups will be handled. Certain special security considerations will also arise related to the method of administration in your district (i.e., online or offline).

A. Secure Storage of Test Materials Online

As described previously, within the Galileo IIES, assessment materials are stored online in libraries. District users can control access to assessment materials online within Galileo by indicating which district staff should have access to each library and what level of permission they should have. In general, each user should be provided with the minimum level of permission that will enable them to perform desired tasks related to the assessment.

The main consideration in establishing a set of library management procedures is the level of security required for test content before and after administration. If the required level of security is similar before, during, and after administration, the assessment can be stored in one library at all times. When the required level of security is high, the assessment should be stored in a highly secure library to which only selected district-level users are provided *Write* and/or *Read Only* access. If desired, the security of test content can be preserved while still giving users access to the results of the test by providing those users with *Results Only* access. When the required level of security is low, the assessment can be stored in a less secure library to which all relevant users are provided *Write* or *Read Only* access.

If the required level of security differs before and after administration, the assessment can be stored in one library before and during administration then moved to another library after administration. For example, if the required level of security is high before administration, but lower after administration (e.g., for benchmark tests), the assessment can be stored in a highly secure library before and during administration to which only selected district-level users are provided *Write* and/or *Read Only* access and then moved to a less secure library after administration. All relevant users can be provided *Read Only* access to the less secure library so that they can view test results including the individual items on the test.

i. Using Libraries to Implement Test Security Protocols

Your ATI Field Services Coordinator can help your district create sets of libraries that can support each type of assessment in your comprehensive assessment strategy and assign permissions as needed to implement your test security protocols. If your district desires to administer ATI-generated assessments (either pre-built or customized), ATI Educational Management Services staff will also automatically create sets of libraries to support these assessments based on ATI's security recommendations for each type of assessment.

For example, ATI's security recommendations for benchmark assessments suggest that benchmark assessments be stored in a highly secure library before and during administration and then moved to a less secure community library after administration. Therefore, for benchmark assessments, ATI will create one secure library for the district where the finalized assessments will be delivered (e.g., 10-11 Desert Dwellers Secure Library) as well as one community library for each grade level (e.g., 10-11 Desert Dwellers 05 Gr. Benchmark Library) where the tests can be moved after administration. If your district is designing customized assessments that will be generated by ATI and reviewed by selected district staff, ATI will also create a review library where the assessments will be housed during the review process (e.g., 10-11 Desert Dwellers Review Library). The drafts of the assessments will initially be delivered to the review library and once the review process is complete, ATI will deliver the finalized assessments to the secure library.

During the initial creation of these libraries, ATI will set the permissions so that only district-level users will be provided *Write* access to the secure and review libraries while all users will be provided *Read Only* access to the community libraries. If desired, your district can modify who has access to these libraries as needed using the *Library Builder* tools provided in the Galileo® IIES.

B. Secure Scheduling

Another important aspect of test management that affects security is your district's scheduling procedures. Your district will need to consider who will schedule the assessment, the testing window for the assessment, and the amount of time students will have to take the assessment. Your district will also want to establish whether make-ups will be allowed for students who do not take the assessment during the scheduled testing time. If your district will allow make-ups, you will also need to establish a set of scheduling procedures to accommodate these students.

i. Bulk Scheduling and Class-Level Scheduling

Within the Galileo IIES, scheduling may be implemented through bulk scheduling or through class-level scheduling. Only users who have been given access (either *Write* or *Read Only*) to the library that houses the assessment will be able to schedule the assessment. The *Bulk Scheduler* tool allows a user to schedule an individual assessment for multiple classes and/or multiple schools for a specific time, on one or more days. This tool is only available to district- and school-level users. Bulk scheduling is typically used for district-wide assessments and implemented by one or more district-level staff who are responsible for scheduling the assessment in question for all students taking the assessment. Bulk scheduling typically provides greater security than class-level scheduling because a relatively small number of people are involved in the scheduling process and because it limits the number of people who require access to the library in which the assessment is housed. For this reason, bulk scheduling is the preferred procedure for assessments that require a high level of security. Class-level scheduling can be performed by any level of user and is typically used for classroom assessments such as course examinations, quizzes, and formative assessments. Class-level scheduling is typically carried out by the teacher who is responsible for scheduling for students in his or her class.

If your district is administering tests online, class-level scheduling may also be used to schedule make-ups as consistent with your district make-up policy. For assessments that require a high level of security, the same district-level staff member responsible for bulk

scheduling should handle the scheduling of make-ups. For assessments that do not require a high level of security, individual teachers may schedule make-ups; however, it is important to note that this will require that the teacher have *Write* or *Read Only* access to the library in which the assessment is housed.

ii. Establishing a Testing Window

The testing window is an important part of the scheduling process. For tests that are administered online, the testing window defines the period during which students will be able to log in and take the test. To maximize security, your district should establish testing windows that are as short as is practical. A brief testing window helps to ensure the validity of the test results since students are being evaluated at roughly the same time and have been exposed to the same amount of instruction.

To maximize security, each class might be scheduled to take an assessment during one hour on one day; however, in a large district, logistical considerations often require a wider testing window spanning several days or weeks. For assessments requiring a high level of security, ATI recommends that the testing window span no more than two weeks. Your district's make-up policy for a specific type of assessment will establish whether students may take an assessment after the testing window has passed. For high-security tests, ATI recommends that all make-ups be completed within the district testing window. Once all students who are intended to take the test have done so, the test should be closed using the *Close Test* feature described in Section IV.C. This will prevent further administration of the test. If your district is administering tests online, the *Student Test Lock* feature described in Section IV.D should also be used to prevent students from accessing the test again after their allotted testing time has passed.

Computerized Adaptive Testing (CAT) provides one way to mitigate the need for a short testing window. Item selection in *CAT* varies with the ability level of the student. Thus, each student taking a *CAT* may respond to a different set of items. Insofar as each student responds to a different set of items, the testing window may be extended to weeks or months without compromising the security of test content. This aspect of *CAT* makes it ideal for screening or placement assessments that may be used at various times throughout the year rather than being administered at one time to all students in your district.

iii. Establishing Testing Time

It is important to establish the amount of time that will be allotted for students to take each assessment and to implement testing time consistently throughout the district so that all students are provided with the same opportunity to demonstrate their ability during testing. For example, if students in one school were provided two hours to take the test and students in another school were only provided one hour, then the results of the test for those two schools would not be comparable. District staff and students should be informed in advance of the test how long students will have to complete the assessment as well as when students can be provided with additional time (i.e., if indicated as part of the student's individualized education plan as consistent with your district's accommodation policy).

Assessments are typically designed so that students can finish the test during a testing period lasting approximately 50 minutes. This allows for the assessment to be administered in classes without having to institute a special test schedule. If a test is too long to be administered in one period, it can be split into separate parts and administered in two or more periods. The

security of each part of the test can then be controlled as it would be for a single test. For example, if your district is administering tests online, part one of the test can be locked for each student after administration so that students cannot look up information outside of class and change their answers the next day. ATI's testing array technology allows the parts of the test to be recombined for purposes of analysis.

C. Special Security Considerations for Online Administration

A number of special security considerations arise when tests will be administered online. This section discusses the ways in which your district can create a secure online testing environment. The principles of creating this environment are similar to those applied to any classroom or computer lab where student use warrants limited and/or monitored access. Many districts find that the creation of a secure testing environment relies on methods and tools already in place, with little modification.

Because Galileo[®] is an Internet-based application, access to the Internet is required for a computer lab or classroom in which online testing is being performed. However, the use of effective network sub-netting combined with proxy server controls is an effective method of ensuring that students are not accessing web searches or research sites during a testing session. ATI provides a set of guidelines to assist your district in providing a secure online testing environment. The methods discussed in this section are common and can be implemented by your district IT department.

i. Security in User Logins and Passwords

Since each student logs into the Galileo *K-12 Student-Parent Center* to take their test, the temptation to log into another student's account is present. Therefore, it is important to choose complex or tough-to-guess student login names/passwords. Simple usernames and passwords (utilizing only a combination of the student name and/or birth date) are easily guessed for other students, once the format is revealed to a student in the form of their own username and password.

Within the standard online testing protocol, each test to be administered online may also be assigned a unique password during scheduling. After logging into the *K-12 Student-Parent Center*, each student will need to enter this password to access the assessment. To maximize security, a password should be required and this password should also be complex or tough-to-guess. For example, you should avoid using related passwords such as "Math1" for the first math benchmark test or using a consistent format for passwords such as the date of the test. Passwords for the test should be delivered to teachers along with other testing instructions and should be securely maintained until they are revealed to students immediately prior to the test. When scheduling students for a make-up outside the testing window, a new password should be required.

ii. Security Configurations for Computers Used for Online Testing

Computers used for online testing should be configured to maximize security. It is important to minimize student access to machine settings and the ability to start other programs during the testing session. Denying users the ability to change system configuration during testing will minimize the risk of students compromising the effectiveness of other methods used to provide a secure testing environment. Your district IT department will be able to centralize this task.

Browsers on computers that will be used for online testing should also be set to run in kiosk mode. This browser setting can be accomplished with a simple startup change and will help restrict access to undesired programs during testing sessions. Browsers should also be set to deny access to non-ATI sites during the exam. This setting will help prevent students from using web searches during testing. Your district IT department can also use this method to prevent access to chat applications and other web-based resources that may be used for sharing information during a testing session. Your district IT staff can confirm that this filtering was effective with regular review of the proxy logs.

To eliminate the ability for students to easily print test items for later distribution among students who have not yet been tested, your district should also ensure that any printer connected to a computer used for online testing is in a secure/controlled environment.

iii. Security Through Randomization

When students take tests online in a computer lab, the risk arises that they may copy answers from the student next to them. During the scheduling process for an online assessment, you can randomize the order in which test questions will be presented. ATI recommends that you implement randomization in cases in which high levels of security are required; however teacher-read assessments for kindergarten and first grade should not be randomized. Teacher-read assessments include items that require the teacher to read specialized instructions and questions to the students and require all students taking an assessment online to be presented with the same question at the same time. To maximize security for teacher-read assessments administered in a computer lab, your district may desire to install a privacy filter on each computer screen to prevent students from viewing the screen of the student next to them.

iv. Additional Physical Security Recommendations

Even with the effective use of technological safeguards, it is important to continue physical monitoring of the testing environment during online testing. A person monitoring students who are testing can greatly reduce the temptation to compromise test integrity.

Similarly, if online testing is performed with an offline component (e.g., an essay question or other type of written response), it is important to make sure all answer sheets and test booklets are collected after the exam so that test materials are not distributed to other students taking the exam at a later time/date. For online tests with an offline component, you will need to also consider the special security considerations for offline testing described in Section VI.D.

D. Special Security Considerations for Offline Administration

If your district will administer a test or a portion of a test offline, you will need to establish a set of procedures that detail where offline testing materials including test booklets, answer sheets, and worksheets, will be stored before and after administration, and how access will be restricted to these materials. Once an assessment has been scheduled, testing materials can be printed by any user with *Read Only* or *Write* access to the library in which the test is stored. For assessments that require a high level of security, testing materials should be centrally produced by selected district staff and securely stored before administration. Your district may choose to maintain one centralized secure storage area or separate secure storage areas at

each site. Access to all secure storage areas should be restricted and monitored. For example, test materials might be stored in a locked room or cabinet to which only selected district staff members have access

All testing materials should be carefully monitored before, during, and after administration. Districts are encouraged to create a system to track the test materials, so that none of the testing materials disappear. ATI recommends that your district create a tracking form enabling the teacher or test administrator to record the materials that have been received and to certify that he or she received the appropriate number of materials. When the materials are returned, the individual collecting materials counts them again to ensure that all booklets and answer sheets are accounted for. This individual then signs off on the test packet as well. Section VII.C of this document contains a sample testing materials packet sign-off sheet.

Once test materials are collected and answer sheets scanned, any test materials that will be reused should be returned to a secure storage area. Test materials that will not be reused should be destroyed preferably by shredding; however, answer sheets for assessments that will be used to make decisions that have a significant impact on students or staff should be stored for a reasonable time period (i.e., at least one year) in case these materials need to be reexamined for some reason.

E. Establishing District Policies Related to Testing

Your district probably already has a number of policies in place that define district guidelines and expectations for student and staff on a variety of topics. Several of these policies will affect test security directly or indirectly. As your district develops test security protocols, it is important to evaluate the implications of your district policies for test security and modify existing policies or establish new policies as needed. This section describes four topics related to testing that impact test security and should be clearly addressed in your district policies.

i. Ensuring the Appropriate Use of Testing Accommodations

For each type of assessment, your district should create a policy as to what type of accommodations and modifications will be made for students with special needs. It is important that teachers and students are made aware of the policy before testing, and that accommodation and modification guidelines are followed consistently by all teachers and test administrators.

Testing accommodations for students with special needs are typically formalized as part of the student's individualized education plan (IEP). For example, a student might be provided with additional testing time or a different test setting. In certain instances, a student's IEP might specify different accommodations for the statewide test than for classroom testing. If the purpose of the assessment is to help the students prepare for the state test, ATI recommends that insofar as possible districts provide students with the same accommodations that they will be provided when they take the statewide test. This approach helps to provide data about student performance that is likely to reflect the student's performance on the statewide test and also provides the student with experience and practice in a testing environment that is similar to that which he or she will experience for the statewide test.

As you are planning for and scheduling a particular assessment, you will need to consider how you will manage testing for students with accommodations. For instance, if a student is allowed to take the test alone in a separate room, a separate proctor will need to be

provided or, if the student's teacher will serve as the proctor, the student will need to take the test at a different time than the rest of the class. Considering these issues ahead of time and establishing and communicating the relevant procedures to staff will help prevent last-minute decisions that may compromise security such as a student taking a test in an unproctored setting because an additional proctor is not available.

ii. Ensuring the Appropriate Use of Testing Resources

In certain instances, students are provided with additional resources to complete an assessment. For example, students taking a math assessment might be provided with a calculator or students completing a science assessment might be provided with a formula sheet. For each assessment, your district should establish exactly which resources are permitted and which are not. If the purpose of the assessment is to help the students prepare for the state test, then ATI recommends allowing the same resources that are allowed on the state test. Your district resource policy should be communicated to all students and staff well in advance of the test administration date. Many districts find it helpful to create a specific list of what is and is not allowed and provide it to teachers, students and parents. It is also important that all students have equal access to permitted resources to ensure the validity of the assessment data. For example, if students are expected to provide their own calculator each teacher should have a small number of calculators available during test administration for students without a calculator to use.

iii. Preventing Student Cheating

Student cheating is a broad term that can encompass a wide variety of inappropriate behaviors related to testing. Cheating threatens the validity of assessment data because the student's performance on the test does not accurately reflect his/her true ability. One of the most effective ways to help prevent cheating is to establish a well-defined, consistently enforced district policy that is communicated to all students and staff. Your district may already have a policy related to academic integrity or an honor code. This policy should explicitly define what behaviors are considered cheating and include concrete examples. The policy should also clearly describe what will happen when a student is suspected of cheating and the possible consequences for a student who is determined to have violated district policy. Once a policy exists, it is critical that it be enforced and consistently utilized throughout the district. If desired, your district may also wish to implement specific training or activities that allow students and staff to engage in discussions related to academic integrity and ethical behavior.

Your district's test administration procedures can also be designed to help prevent cheating. For example, test directions could include a reminder of the district's academic integrity policy or honor code and/or students could be asked to sign a pledge on the test that they have not participated in any inappropriate activities. Test administrators should also act as engaged proctors by observing the students and monitoring for any suspicious behaviors.

iv. Preventing Inappropriate Test Preparation and Administration Practices

Inappropriate test preparation and administration practices are an even greater threat to the validity of assessment data than student cheating because they can potentially impact the data of large numbers of students. Inappropriate staff testing practices are sometimes the result of dishonesty. For example, a teacher may change a student's incorrect answers to correct answers so that the teacher's instruction appears to have been more successful. Often, however, inappropriate staff practices result from a lack of understanding about what constitutes

inappropriate behavior and why this behavior is undesirable. For example, a teacher who believes that a difficult vocabulary word is inappropriate for an English language learner may restate the question for that student using a different word. The teacher may believe that in this instance he or she is simply allowing the student to demonstrate their true ability on the skill in question; however, this approach compromises the validity of the assessment data because all students have not been presented with comparable information.

The most effective way to prevent inappropriate test preparation and administration practices in your district is to clearly communicate guidelines that define appropriate and inappropriate behaviors as well as the consequences for the violation of those guidelines. Your district may also desire to have staff participate in professional development activities where they can discuss ethical issues related to test preparation and administration practices. The following table lists a number of inappropriate test preparation and administration practices. Although this list is not exhaustive, it can provide a starting point for developing your own district policy.

TABLE 4
Inappropriate Test Preparation and Administration Practices

Inappropriate Test Preparation Practices
Coaching students on the individual items on a specific test
Providing students with access to the individual items on a test prior to administration
Engaging in instruction solely designed to raise students' test scores rather than to increase their knowledge or skills
Inappropriate Test Administration Practices
Restating items in different words or defining words for students
Providing students with accommodations that have not been approved
Allowing students access to resources that have not been approved
Erasing or changing student answers
Providing any type of special help
Prompting a student to change their answer
Reading portions of the test to a student that are not indicated as teacher-read (unless as part of an approved accommodation)
Allowing a student to take a test without a proctor
Leaving the room while proctoring a test
Failing to administer an assessment to eligible students

VII. Supporting Documents

This section presents a number of supporting documents that may prove useful as you are developing your district test security protocols. The guiding questions provided in Section VI.A can be used to help your district focus your thinking about the issues discussed throughout this document. Similarly, the ATI recommended test security protocols provided in Section VI.B and the sample testing materials packet signoff provided in Section VI.C may serve as starting points for developing customized versions for your district. If you are interested in reading further about the issues discussed throughout this document, you may wish to start with one or more of the sources listed in Section VI.D. As you work through the process of designing your district test security protocols, your ATI Field Services Coordinator can also provide additional guidance and recommendations as needed.

A. Guiding Questions for Developing Test Security Protocols

The following questions address many of the topics related to test security and discussed throughout this document. As your district is developing a test security protocol for a specific type of assessment, you will want to make sure that your district has procedures in place that address the following questions and that these procedures are clearly indicated in the protocol.

- i. Purposes*
 - What are the primary purposes for this type of assessment in your district's comprehensive assessment strategy?
- ii. Required Level of Security*
 - Based on the purposes for this type of assessment, what level of security is required for test content?
 - If there are multiple purposes for this type of assessment, do all purposes require similar levels of security?
 - What are the potential consequences of providing access to test content for this type of assessment (e.g., if teachers are provided access to items prior to administration some teachers may teach to the test)?
- iii. Test Creation*
 - Who will create the blueprint for this type of assessment?
 - Who will create the individual items for this type of assessment?
 - Will the items be reused on future tests?
- iv. Storage of Test Materials Online*
 - Is the level of security required the same at each stage of the testing process? (e.g., before administration, after administration)
 - Who will be responsible for creating libraries to support this type of assessment? How many libraries will be needed?
 - Who will need access to test content before administration? What activities will they need to perform? What level of permission will they need?
 - Who will need access to test content after administration? What activities will they need to perform? What level of permission will they need?

- v. *Scheduling*
- Who will be responsible for scheduling the assessments?
 - How long will the testing window be?
 - How much testing time will students be allowed? Can the test be completed in one regular class period? Under what circumstances will students be allowed extra time?
 - Will students be allowed to make-up the assessment? During what period of time will make-ups be allowed? Who will be responsible for make-up scheduling?
- vi. *Special Considerations Related to Online Testing*
- Who will be responsible for implementing procedures to help ensure a secure online testing environment on computers used for online testing?
 - Who will be responsible for ensuring that student logins and passwords for the Galileo® K-12 Student-Parent Center will be complex and tough-to-guess?
 - Who will be responsible for ensuring that test passwords are complex and tough-to-guess?
 - Will items be randomized for this type of assessment?
 - Who will be responsible for preparing testing packets for teachers? When and how will testing packets be delivered?
 - What offline testing materials will be provided (e.g., resources, scratch paper)? What will be done with these materials after administration?
 - Who will be responsible for locking student tests after administration?
 - Who will be responsible for closing the assessments once the testing window has passed?
- vii. *Special Considerations Related to Offline Testing*
- What offline testing materials will be provided (e.g., test booklets, answer sheets, worksheets, resources, scratch paper)?
 - Who is responsible for producing and inventorying offline testing materials?
 - Where will offline testing materials be stored? How will access to the storage area be restricted? Who will require access to this area?
 - Will a tracking system be implemented for offline materials? Who will be responsible for monitoring this system?
 - Who will be responsible for preparing testing packets for teachers? When and how will testing packets be delivered?
 - Who will be responsible for closing the assessments once the testing window has passed?
 - How will offline testing materials be collected after administration? What will be done with these materials?
- viii. *District Policies Related to Testing*
- What is the district accommodation policy for this type of assessment?
 - What resources will be provided to students for this type of assessment?
 - What district policies related to student cheating pertain to this type of assessment?
 - What district policies related to inappropriate test preparation and administration practices pertain to this type of assessment?

B. Assessment Technology Incorporated Recommended Test Security Protocols

This section includes ATI recommended test security protocols for instructional effectiveness pretests/posttests and benchmark assessments. Recommended protocols for other types of assessments are under development and will be available from your ATI Field Services Coordinator upon request. Your district may use ATI's recommended protocols as a template for your own district protocols, but you will need to add additional information specific to your district. For example, your district protocol should indicate the specific individuals who will be responsible for various tasks specified in the protocol.

i. Instructional Effectiveness Pretests/Posttests (Online Administration)



ATI Recommended Test Security Protocol ***Instructional Effectiveness Pretests/Posttests*** ***(Online Administration)***

Primary Purposes of Assessments:

- Evaluate instructional effectiveness and staff performance
- Evaluate student performance on a district-wide, school-wide, and class level
- Monitor student progress
- Guide instruction

Required Security Level: High (before and after administration)

PROCEDURES FOR TEST CREATION

- For grades K-12 math, reading, science, and writing (multiple-choice), blueprints, and tests will be generated by ATI. Individual items will be selected from the ATI secure item banks and will not be reviewed by district staff. Test scaling will be employed by ATI to place test scores on a common scale. In certain grades and content areas, items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.
- For all other content areas, blueprints and tests will be generated by assigned district staff. Individual items will be selected from secure district item banks created by assigned district staff and/or from shared community item banks. A subset of items from the relevant bank will need to be selected for each test. In certain grades and content areas, items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.

PROCEDURES FOR STORAGE OF TEST MATERIALS ONLINE

- A secure instructional effectiveness (IE) library will be created by ATI. All tests will be stored in the IE library before, during, and after administration. District-level staff will have *Read Only* access to the IE library. All other staff will have *Results Only* access to the IE library.

PROCEDURES FOR TEST SCHEDULING

- Scheduling of all tests will be performed by assigned district-level staff for all students using bulk scheduling procedures.

- During scheduling, the order of items will be randomized for all tests except those that include teacher-read items.
- A single test password will be created for each test by assigned district-level staff responsible for test scheduling. Each test password will be tough-to-guess and complex involving both numbers and letters. Test passwords for different tests will not be related to each other.
- The testing window for each test will span no more than two weeks. Students will be allotted one entire class period to take the test. Students will not be allowed extra testing time unless indicated as part of an approved accommodation.
- Students must complete the test within the testing window. If a student is absent for the day of test administration, they may make-up the test; however, make-ups will only be allowed within the testing window. Students making up the test will be allotted no more than one class period to take the test unless otherwise indicated as part of an approved accommodation.

PROCEDURES RELATED TO ONLINE ADMINISTRATION

- Student logins and passwords created for the Galileo® *K-12 Student-Parent Center* will be complex and tough-to-guess.
- District IT staff will implement ATI guidelines for ensuring a secure online testing environment in all computer labs as well as for any other computer where online testing will occur.
- Privacy filters will be installed on each computer in all computer labs.
- Assigned district-level staff will prepare testing packets for each class containing teacher instructions and test passwords. Each packet will be delivered to teachers by email no earlier than the day before test administration.
- After the test is administered, assigned district-level staff will ensure that the test is locked for all students in the class including students who were absent and will need to make-up the test. Assigned district-level staff will unlock the test for a student make-up at the beginning of the make-up administration and ensure that the test is locked once the make-up administration is complete.
- All offline testing materials such as resources or scratch paper will be collected following administration. Scratch paper will be disposed of by teachers. Resources will be stored for future use.
- Tests will be closed by assigned district-level staff once the testing window has passed.

DISTRICT POLICIES RELATED TO TESTING

- Students will only be provided with the same accommodations they would receive for the statewide test as specified in the student's individualized education plan.
- Students will only be provided with the same resources they would receive for the statewide test for that grade level and content area.
- District policies related to student cheating are in effect.
- District policies related to inappropriate test preparation and administration practices are in effect.

ii. Instructional Effectiveness Pretests/Posttests (Offline Administration)



ATI Recommended Test Security Protocol
Instructional Effectiveness Pretests/Posttests
(Offline Administration)

Primary Purposes of Assessments:

- Evaluate instructional effectiveness and staff performance
- Evaluate student performance on a district-wide, school-wide, and class level
- Monitor student progress
- Guide instruction

Required Security Level: High (before and after administration)

PROCEDURES FOR TEST CREATION

- For grades K-12 math, reading, science, and writing (multiple-choice), blueprints, and tests will be generated by ATI. Individual items will be selected from the ATI secure item banks and will not be reviewed by district staff. Test scaling will be employed by ATI to place test scores on a common scale. Half of the items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.
- For all other content areas, blueprints and tests will be generated by assigned district staff. Individual items will be selected from secure district item banks created by assigned district staff or shared community item banks. A subset of items from the relevant bank will be selected for each test. In situations in which there is both a pretest and a posttest, items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.

PROCEDURES FOR STORAGE OF TEST MATERIALS ONLINE

- A secure instructional effectiveness (IE) library will be created by ATI. All tests will be stored in the IE library before, during, and after administration. District-level staff will have *Read Only* access to the IE library. All other staff will have *Results Only* access to the IE library.
- Procedures related to the offline test materials (printed test booklets, etc.) are described below under the heading *Procedures Related to Offline Administration*.

PROCEDURES FOR TEST SCHEDULING

- Scheduling of all tests will be performed by assigned district-level staff for all students using bulk scheduling procedures.
- The testing window will span no more than two weeks. Students will be allotted one entire class period to take the test. Students will not be allowed extra testing time unless indicated as part of an approved accommodation.
- If a student is absent for the class where the test is administered, they may make-up the test; however, make-ups will only be allowed within the testing window. Students making up the test will be allotted no more than one class period unless otherwise indicated as part of an approved accommodation.

PROCEDURES RELATED TO OFFLINE ADMINISTRATION

- Offline testing materials will be centrally produced, inventoried, and stored in a locked room or cabinet before administration. Only assigned district-level staff will be provided access to the storage area.
- Assigned district-level staff will prepare testing packets for each class containing offline testing materials, teacher instructions, and resources when appropriate. All packets will be delivered to individual school sites and tracked using the district offline testing materials tracking form.
- While offline testing materials are stored at individual school sites, they will be stored in a locked room or cabinet. Only assigned school-level staff will be provided access to the storage area.
- Testing packets for the test will be distributed to teachers no earlier than the day before administration.
- After administration, all offline testing materials will be collected. Test booklets and answer sheets will be returned to the secure school storage area until they are collected for return to the central secure district storage area. Scratch paper will be disposed of by teachers. Resources will be stored for future use.
- Answer sheets will be scanned centrally by assigned district-level staff.
- Tests will be closed by assigned district-level staff once all answer sheets have been scanned.
- All offline testing materials except answer sheets will be shredded by assigned district-level staff following administration. Answer sheets will be retained in the secure storage area for one school year.

DISTRICT POLICIES RELATED TO TESTING

- Students will only be provided with the same accommodations they would receive for the statewide test as specified in the student's individualized education plan.
- Students will only be provided with the same resources they would receive for the statewide test for that grade level and content area.
- District policies related to student cheating are in effect.
- District policies related to inappropriate test preparation and administration practices are in effect.



ATI Recommended Test Security Protocol Benchmark Assessments (Online Administration)

Primary Purposes of Assessments:

- Forecast student performance on statewide test
- Evaluate student performance on a district-wide, school-wide, and class level
- Guide instruction including reteaching interventions and enrichment opportunities
- Monitor student progress

Required Security Level: High (before administration) and Low (after administration)

PROCEDURES FOR TEST CREATION

- For grades K-12 math, reading, science, and writing (multiple-choice), blueprints, and tests will be generated by ATI. Individual items will be selected from the ATI secure item banks and may be reviewed by assigned district staff. Test scaling will be employed by ATI to place test scores on a common scale. In certain grades and content areas, items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.

PROCEDURES FOR STORAGE OF TEST MATERIALS ONLINE

- A community library will be created for each grade level along with one district secure library. All district-level staff will have *Write* access to the secure library. All staff will have *Read Only* access to the relevant grade level library. All tests will be stored in the secure library before and during administration. Once each test is closed, it will be moved to the relevant community library.

PROCEDURES FOR TEST SCHEDULING

- Scheduling of all tests will be performed by assigned district-level staff for all students using bulk scheduling procedures. Make-ups will be scheduled by assigned district-level staff using class-level scheduling procedures.
- During scheduling, the order of items will be randomized for all tests except those that include teacher-read items.
- A test password will be created for each test by assigned district-level staff responsible for test scheduling. Each test password will be tough-to-guess and complex involving both numbers and letters. Test passwords for different tests will not be related to each other.
- The testing window for each test will span no more than two weeks. Students will be allotted one entire class period to take each test. Students will not be allowed extra testing time unless indicated as part of an approved accommodation.
- Students must complete each test within the testing window. If a student is absent for a class where the test is administered, they may make-up the test; however, make-ups will only be allowed within the testing window. Students making up a test will be allotted no more than one class period to take the test unless otherwise indicated as part of an approved accommodation.

PROCEDURES RELATED TO ONLINE ADMINISTRATION

- Student logins and passwords created for the Galileo® *K-12 Student-Parent Center* will be complex and tough-to-guess.
- District IT staff will implement ATI guidelines for ensuring a secure online testing environment in all computer labs as well as for any other computer where online testing will occur.
- Privacy filters will be installed on each computer in all computer labs.
- Assigned district-level staff will prepare testing packets for each class containing teacher instructions and the test password. These packets will be delivered to teachers by email no earlier than the day before test administration.
- After each test is administered, the teacher will ensure that the test is locked for all students in their class including students who were absent and will need to make-up the test. Teachers will unlock the test for a student make-up at the beginning of the make-up administration and ensure that the test is locked once the make-up administration is complete.
- All offline testing materials such as resources or scratch paper will be collected following administration. Scratch paper will be disposed of by teachers. Resources will be stored for future use.
- Tests will be closed by assigned district-level staff once the testing window has passed.

DISTRICT POLICIES RELATED TO TESTING

- Students will only be provided with the same accommodations they would receive for the statewide test as specified in the student's individualized education plan.
- Students will only be provided with the same resources they would receive for the statewide test for that grade level and content area.
- District policies related to student cheating are in effect.
- District policies related to inappropriate test preparation and administration practices are in effect.



ATI Recommended Test Security Protocol Benchmark Assessments (Offline Administration)

Primary Purposes of Assessments:

- Forecast student performance on statewide test
- Evaluate student performance on a district-wide, school-wide, and class level
- Guide instruction including reteaching interventions and enrichment opportunities
- Monitor student progress

Required Security Level: High (before administration) and Low (after administration)

PROCEDURES FOR TEST CREATION

- For grades K-12 math, reading, science, and writing (multiple-choice), blueprints, and tests will be generated by ATI. Individual items will be selected from the ATI secure item banks and may be reviewed by assigned district staff. Test scaling will be employed by ATI to place test scores on a common scale. In certain grades and content areas, items on the pretest may be reused on the posttest to enable ATI to place the test scores on a common scale.

PROCEDURES FOR STORAGE OF TEST MATERIALS ONLINE

- A community library will be created for each grade level along with one district secure library. All district-level staff will have *Write* access to the secure library. All staff will have *Read Only* access to the relevant grade level library. All tests will be stored in the secure library before and during administration. Once each test is closed, it will be moved to the relevant community library.
- Procedures related to the offline test materials (printed test booklets, etc.) are described following, under the heading Procedures Related to Offline Administration.

PROCEDURES FOR TEST SCHEDULING

- Scheduling of all tests will be performed by assigned district-level staff for all students using bulk scheduling procedures.
- The testing window for each test will span no more than two weeks. Students will be allotted one entire class period to take each test. Students will not be allowed extra testing time unless indicated as part of an approved accommodation.
- Students must complete each test within the testing window. If a student is absent for a class where a test is administered, they may make-up the test; however, make-ups will only be allowed within the testing window. Students making up a test will be allotted no more than one class period to take the test unless otherwise indicated as part of an approved accommodation.

PROCEDURES RELATED TO OFFLINE ADMINISTRATION

- Offline testing materials will be centrally produced, inventoried, and stored in a locked room or cabinet before administration. Only assigned district-level staff will be provided access to the storage area.

- Assigned district-level staff will prepare testing packets for each class containing offline testing materials, teacher instructions, and resources when appropriate. All packets will be delivered to individual school sites and tracked using the district offline testing materials tracking procedures.
- While offline testing materials are stored at individual school sites, they will be stored in a locked room or cabinet. Only assigned school-level staff will be provided access to the storage area.
- Testing packets for each test will be distributed to teachers no earlier than the day before administration.
- After administration, all offline testing materials will be collected. Test booklets and answer sheets will be returned to the secure school storage area until they are collected for return to the central secure district storage area. Scratch paper will be disposed of by teachers. Resources will be stored for future use.
- Answer sheets will be scanned centrally by assigned district-level staff.
- Tests will be closed by assigned district-level staff once the testing window has passed and all submitted answer sheets have been scanned.
- All offline testing materials except answer sheets will be shredded by assigned district-level staff following administration. Answer sheets will be retained in the secure storage area for one school year.

DISTRICT POLICIES RELATED TO TESTING

- Students will only be provided with the same accommodations they would receive for the statewide test as specified in the student's individualized education plan.
- Students will only be provided with the same resources they would receive for the statewide test for that grade level and content area.
- District policies related to student cheating are in effect.
- District policies related to inappropriate test preparation and administration practices are in effect.

C. Sample Testing Materials Packet Sign-Off



Sample Testing Materials Packet Sign-Off

Test: _____

School:

- Brookfield Elementary
- Desert Sun Elementary
- Manning Elementary

- Sunshine Elementary
- Roper Elementary
- Other: _____

Grade: _____

Teacher: _____

Subject: _____

Class: _____

Test Date: _____

Test Time: _____

This packet includes the following:

Item	# Received	Initials	# Returned	Date Returned	Initials
Testing Materials Packet Sign-off	1				
Class Roster	1				
Test Booklets					
Answer Sheets					

Note: Extra test booklets are included in case a student is in your class and does not appear on your class roster and/or no answer sheet was generated. Have the student complete the test in their test booklet.

Please return all testing materials included in this packet to the person indicated below. You should return all testing materials as soon as all students in your class have completed the test or by the date indicated below whichever comes first. Students who are absent on the day the test is administered may make-up the test at any time before the date below.

Return to: _____

Return on or before: _____

D. Further Reading

If you would like to read further about issues surrounding test security, the following sources are a good place to start.

American Educational Research Association (AERA), American Psychological Association (APA), & National Council on Measurement in Education (NCME). (1999). *Standards for educational and psychological testing*. Washington, DC: American Educational Research Association.

Cizek, G. J. (1999). *Cheating on tests: how to do it, detect it, and prevent it*. Mahwah, NJ: Lawrence Erlbaum Associates.

Downing, S.M., & Haladyna, T.M. (2006). *Handbook of Test Development*. Mahwah, NJ: Lawrence Erlbaum Associates.

Shepard, L.A., & Dougherty, K.C. (1991). *Effects of high stakes testing on instruction*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Services No. ED 337 468).

