Association of Test Publishers

and

National College Testing Association

Proctoring Best Practices

August 2015

Message from William G. Harris, CEO, ATP

In 2009, the establishment of an ATP Security Committee (ATPSC) signaled awareness of the ever-growing concern over intellectual property (IP) theft that compromises tests developed by and used within the testing community. Since then, the attention to security concerns within the industry has expanded with ongoing enhancements to the technology available to test providers and the test-taker population.

The ATP Security Committee provides a forum to encourage test organizations to collaborate in addressing test security concerns. The goals of the Committee are to (1) identify methods to improve test security, (2) establish and disseminate security best practices, and (3) protect the integrity of tests and test programs. By focusing on industry needs and providing solutions, we are creating a resource center for ATP members to access information and assistance in implementing or improving security efforts and programs.

Message from Steve Saladin, PhD, NCTA President 2012–2014 and Francesca Taylor, NCTA President 2014–2016

The National College Testing Association's four part mission to (1) enhance professional testing practices; (2) offer opportunities for professional development; (3) encourage professional support activities; and (4) advance collaborative efforts among testing professionals, testing companies, and other policy-making agencies is strengthened through collaboration with the ATP and particularly the ATPSC and its emphasis on improving test security and protecting the integrity of tests—vital components of professional testing practices. An additional critical element of test delivery is standardization of the experience for the test taker in order to minimize threats to reliability and validity of the test results. NCTA highlights these aspects of test administration through its Professional Standards and Guidelines, Test Center Certification program and ongoing professional development provided via webinars and the annual conference.

The document presented here is a collaborative effort between the ATP and NCTA to provide a comprehensive overview of best practices in proctoring that will not only maximize test security but also ensure the validity of the test data and the quality of the testing experience for the test taker. It is through partnerships such as these that we testing professionals are able to expand awareness and become more knowledgeable, thus enabling us to become more diligent as we carry out our professional responsibilities.

Acknowledgements

The ATP and NCTA wish to acknowledge the following individuals who contributed to the creation of this guide:

Disclaimer

This document outlines the best practices and guidelines that test sponsors and/or publishers should consider using when proctoring their tests. These considerations can be used by the test sponsors and publishers themselves or to evaluate/audit organizations that provide proctoring services. This report has been prepared with test publishers and sponsors of high-stakes certification/licensure and educational test sponsors in mind, but its contents may apply to high-stakes tests in other settings as well.

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Introduction

Purpose of this Guide

This guide is intended to identify best practices in test proctoring, which may differ from practices currently used by certain test publishers, sponsors, or test centers. While the nature of individual testing programs is highly variable, they all operate on the same general principles. Thus, this guide should be applicable to test administration across a wide variety of programs (e.g., admissions, certification, licensure, credentialing) and settings (e.g., professional, educational, employment). In making determinations about what constitutes best practices, the sponsors of this guide gave primary consideration to those practices that promoted test security, maintained standardization, facilitated accessibility, and ensured the fair and respectful treatment of all test takers.

It should be noted that this document focuses on proctor responsibilities, rather than those of test publishers or those who provide proctoring as a service. While portions of this document may briefly cover such responsibilities, significant expansion to this document would be required to address these important subjects. Accordingly, it is critical for test publishers, those who provide proctoring as a service, and all others who may use this document, to consider other critical documents that address related practices. These documents include, but are not limited to:

- Council of Chief State School Officers and the Association of Test Publishers (2010). *Operational Best Practices for Statewide Large-Scale Assessment Programs.* Washington, DC.
- National College Testing Association (2015). *Professional standards and guidelines for post-secondary test centers.* State University, AR.
- Association of Test Publishers (2015). *Security guidelines for legal protection of assessment content.* Washington, DC.
- Association of Test Publishers (2015). *Online piracy enforcement strategies: Guidelines and best practices.* Washington, DC.
- Association of Test Publishers (2013). *Assessment security options: Considerations by delivery channel and assessment model.* Washington, DC.
- Association of Test Publishers (2012). *Security messaging best practices report.* Washington, DC.

What Is Proctoring?

Proctoring is the process of observing test takers while they take a test. The proctor is the person with the responsibility and authority to take various actions to prevent the test taker from stealing or removing any confidential test materials, or from performing any unauthorized activity that would enable the test taker to gain an unfair advantage during the test. This includes the responsibility to administer a test in a standardized manner, in order to:

- Maintain integrity and security during the test process;
- Ensure test outcomes are fair and scores are valid for their intended use; and
- Maintain a distraction-reduced testing environment.

Proctoring is a key line of preventative defense from a test security perspective. The proctoring process should enable various actions on the part of the proctor to prevent, detect, and respond to:

- Testing environment disruption;
- Unauthorized activity that would enable the test taker to engage in misconduct;
- Stealing or removal of confidential test materials; and
- Other misconduct that could occur during the testing session/administration.

Definitions

Proctor: The proctor is the individual in charge of test administration. Alternative terms for proctor are invigilator and room supervisor.

Test: A mechanism intended to measure a test taker's knowledge, skill, competence, and/or aptitude, among other potential attributes, by one or more means, such as written, oral, practical, or observational. Alternative terms for test are examination, exam, or assessment. These terms may be used interchangeably in this document.

Test Center: The test center is a location used to administer tests for computer- or paper-based tests. An alternative term for test center is test site.

Test Center Manager: The test center manager is responsible for recruiting and identifying proctors to assist with the administration of tests at the test center. Alternative terms for test center manager are testing coordinator, testing director, or testing supervisor.

Test Sponsor: The test sponsor is the owner of a specific test program, whether that program is used in an educational, employment, or certification/licensure setting. The test sponsor may be an academic institution, credentialing body, employer, instructor, regulatory body, vendor hired by the test sponsor, or another type of test publisher. Alternative terms for test sponsor are test program, and test publisher.

Test Taker: Test taker refers to the individual being tested or assessed. Alternative terms for test taker include candidate, examinee, and student.

Online Proctored Testing: Online proctoring is a delivery model where proctors remotely manage and supervise test takers (i.e., test taker and proctors are not physically at the same location), in most cases requiring an Internet connection, secure browser, microphone, and a general purpose webcam. Test takers may take the test in any suitable environment, and monitoring is accomplished primarily using video streaming and remote support methods, such as a remote administration console.

Note: While "remote proctoring" is common language within the testing industry, this language has caused confusion among the test taker population. Some testing providers have elected to describe their process as "online proctoring" to emphasize that the test is proctored over the Internet and to align with test taker understanding and preferences. As the service continues to mature and evolve, the name by which it is referred may continue to change. For purposes of this document, the two terms are regarded as synonymous.

Computer-Based Testing: A computer-based assessment is administered by computer, in either stand-alone or networked configuration, or delivered by some other technology device that is linked to the Internet/World Wide Web, where the student accesses a digitally formatted (non–paper-based) assessment directly, or remotely through a local server that caches the assessment, or stores the assessment on some other media (e.g., CD, USB flash drive), which enables its access without immediate direct access to the Internet. For purposes of this guidance, the term is used to include computer-based and computer-adaptive assessments.

General Testing Principles

Proctors are critical to the secure, standardized, and fair administration of a test. To appreciate the various procedures and rules a proctor is asked to follow and enforce, it is helpful to understand basic principles underlying the administration of a secure test.

- At each stage of the lifecycle of a test, test sponsors and those involved in the testing process should take reasonable efforts to ensure the integrity and validity of test scores.
- Those involved in the testing process should promote conduct that enhances a fair and secure testing experience and the validity of test results.
- Those involved in the testing process should takes reasonable steps to deter and detect conduct that will materially and negatively affect a fair and secure testing experience and the validity of test results.
- Test scores should be accurate and valid indicators of the test taker's own independent achievement and capabilities.
- Factors external to the test taker's ability, such as environment or disability, should not impact the test score.
- Everyone involved in the testing process should take steps that foster effective communication among all stakeholders and enable prompt reporting and resolution of test security concerns.
- Everyone in the testing process should be aware of, competent for, and supported in their roles. Steps should be taken to avoid placing individuals or organizations in situations that may pose, or appear to pose, a conflict of interest or safety concern (ACT, 2013).[1]

Awareness of these principles can help provide a more holistic understanding of the best practices and guidelines that follow, as well as underscore the importance of adhering to these practices.

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[1] Full information about any reference that appears throughout the guide can be found in the References at the end.

General Proctor Responsibilities

A proctor should at all times:
- Be professional and courteous;
- Create an environment conducive to testing for the test taker;
- Complete necessary training before admitting test takers into a test site or beginning the test itself;
- Maintain test center and test sponsor training, and, if required, maintain proctor certification from individual test sponsors/organizations;
- Follow the test taker admittance steps provided by the test sponsor;
- Verify the identity of the test taker and ensure that the test taker is provided the intended test;
- Keep all test taker and test information confidential;
- Monitor every test taker for the entire testing session; and
- Respond to and report all incidents by completing an incident report and submitting to the test sponsor.

Test Sponsor Guidelines

Each test sponsor has requirements regarding proper proctoring practices for their tests. Common test sponsor requirements include:
- Identification requirements for admittance to the test site or testing room itself;
- Permitted test aids (e.g., scratch paper, calculators, references);
- Break policies and procedures;
- Misconduct policies and procedures;
- Irregularity reporting requirements; and
- Protection of test content.

These requirements may vary dramatically among test sponsors; thus, test sponsors and proctors must work together to ensure the awareness and consideration of these guidelines.

Recruiting and Identifying Test Staff

For the day-to-day operations of testing centers, an organizational structure should be in place that assures overall supervision of the physical test center and its staff, as well as assuring constant monitoring of test materials and test takers. As part of establishing a test center, an entity or individual will need to be responsible for coordinating the test staff, scheduling test administrations, and supervising all aspects of the test administration(s) held at the testing facility. This role is sometimes referred to as a test center manager.

Typically, test center managers recruit proctors, depending on the type of testing involved and the number of test takers anticipated. Regardless of the type of testing involved, the size of the testing facility or the number of test takers at the test center may necessitate recruiting roving proctors as well, who monitor spaces outside of the testing room (e.g., hallways, waiting area, other common areas) to ensure no prohibited behavior is happening outside of the testing room. A brief discussion of test center management is followed by details on conflicts of interest, confidentiality, hiring, and training of proctors.

Test Center Management

The day-to-day management of the test center falls directly on the test center manager. It is recommended that each test center have a designated test center manager. While outside the role of the typical proctor and therefore beyond the scope of this document, awareness of the test center manager tasks and responsibilities is beneficial to proctoring staff. The management of the test center begins long before any proctoring takes place and ensures that test sponsors will experience a center, once operational, that is acceptable for proper test delivery. In addition to staffing as mentioned above, there are several procedural responsibilities that a test center manager should develop, including:

- **Proctor Hiring and Management**
    - Policies should be in place to ensure that only trained proctors are hired to administer tests. Staff may be experienced and knowledgeable of general test proctoring or the specific guidelines of a test sponsor but must be trained, as needed, for each test.
    - In addition, proctor log-in or other technology access accounts are maintained by the test center manager to ensure that accounts are created for new proctors, maintained and up-to-date for current proctors, and removed for former proctors.
    - Test center managers often serve in both proctor and management roles. Requirements for training, certification, and maintenance of accounts apply to test center managers as well.

- **Test Center Security Plan**
  - A comprehensive plan is developed by the test center manager in conjunction with relevant institutional safety and legal offices to ensure that all proctors are aware of emergency response procedures. Plans include, but are not limited to, policies and procedures in case of:
    - Emergency closings, such as severe weather, fire, or power outages;
    - Technical issues that compromise computer access;
    - Incidents that compromise test security;
    - Test taker misconduct; and
    - Disruptive or violent behavior.
- **Test Integrity**
  - Written procedures should be in place to protect test integrity. They should include:
    - Limiting test access to only authorized and trained proctors;
    - Securely storing physical and digital test content;
    - Admitting test takers (see "Admitting the Test Taker," pp. 23–27); and
    - Monitoring and responding to test taker misconduct.
- **Test Administration Procedures**
  - Written directions for proctors on how to administer tests are necessary for each test sponsor. These should be comprehensive enough to cover all areas outlined in this document and to permit a newly trained proctor to administer a test with little complication.
- **Score Delivery**
  - Procedures should be established for proctors to ensure privacy when required to deliver test scores to test takers. These procedures also should detail how a proctor should react both to a test taker who responds negatively upon receiving his/her scores and to requests for scores from outside parties.
- **Budget**
  - It is generally the responsibility of each test center administrator to develop, or be part of the development of, the test center budget and to manage financial aspects of the test center.

Proctor Conflicts of Interest

Proctors play a critical role in ensuring a secure, fair, and standardized test administration. Thus, proctors should be free from conflicts of interest or even the appearance of a conflict of interest.

A conflict of interest can arise if the proctor is, in any way, interested in the outcome of the test or involved in activities that may motivate him/her to engage in prohibited conduct. For example, testing relatives or serving as a test preparation tutor represent conflicts of interest. A proctor should proactively identify to the testing company or test center manager whether a test event could pose a conflict of interest and remove him/herself from proctoring that event. First, this policy assures that a

proctor is not placed in positions in which his/her motives and integrity can be doubted. Second, it protects the test taker from potential questions regarding the fairness of the administration or validity of the resulting score. Finally, it allows a test sponsor and other score users to have greater confidence in the validity of reported scores and ensures that the security of the test is not compromised by ulterior motives.

To avoid conflicts of interest, a proctor should disclose any potential conflicts prior to administering tests and agree to abide by the policies set forth by the test center and test sponsors. Each test sponsor provides an administration manual that likely includes information concerning conflicts of interests with which the proctor should become familiar. The contract between the test sponsor and the test center should also include information and guidelines concerning conflicts of interest that need to be followed. Even if there is no specific discussion of this topic in a manual or contract (e.g., distance education exam proctoring), the test center manager shall take all reasonable steps to ensure that no proctor who has a conflict of interest administers a test.

A proctor may be required by the test center manager to undergo a background check to ensure a history clear of criminal activity and financial misconduct. Such incidents may be viewed as flags for susceptibility to fraud, bribes, and other security risks.

A proctor should never:
- Be involved as an instructor or test taker in any courses, workshops, or tutoring activities, whether public or private or on a paid or volunteer basis, that involve drilling or coaching on test questions similar in content to the tests that he/she administers.
- Be involved as an advocate or service provider for a test taker prior to taking the test. This may include tutors, instructors, or members of disability services offices or other similar offices.
- Provide access to or administer any tests to a member of his/her household or immediate family.
- Allow any individual access to any tests unless he/she is authorized by the test sponsor.
- Tamper with or manipulate test center equipment, software, or test materials for purposes other than delivering tests following the sponsor's policies and procedures manuals.

Proctor Confidentiality Obligations

A proctor should sign confidentiality agreements specific to the test center. Test sponsors may also require a proctor to read and comply with their confidentiality procedures. Agreements should be on file with the test sponsor and in the proctor's employment file. Confidentiality agreements ensure a proctor not only maintains confidentiality concerning test content but also concerning information about test takers. Breach of confidentiality includes disclosure of test takers' personal information, test content, or test administration procedures by any means including word of mouth, copying, photographing, screen printing, digital transfer, transfer by handwritten notes, audio or video recording, social media, or any other technology.

In the course of performing his/her duties, a proctor may have access to test takers' names, personally identifiable information, academic records, and score results. Disclosure of this information can result in harm to the test taker's privacy, ranging from personal embarrassment to potential identify theft. Because of the range of personal harm that can befall a test taker when personal information is disclosed, many countries have strict laws that protect the privacy of personally identifiable information (PII). For example, at academic institutions in the United States that receive federal funds, a proctor must protect educational records to which s/he has access, as outlined by the Family Educational Rights and Privacy Act (FERPA). In those setting, a proctor should not allow anyone to inspect test taker records or gain access to personally identifiable information (PII) (e.g., passwords, PINs, photo IDs). A proctor should receive proper FERPA training, review FERPA guidelines as needed, and contact the test center manager if s/he has any questions regarding the type of information they can disclose and to whom. A proctor should be aware of changes to FERPA regulations based on test taker age. Once a test taker reaches 18 years of age or attends a post-secondary institution, parents no longer possess FERPA rights and cannot access education records without the student's/candidate's consent.[2]

Similar laws protect the PII of adults in various jurisdictions and settings. PII is generally defined as information that can be used to trace or determine an individual's identity. Different guidelines apply to what information would constitute "personally identifiable information," and different jurisdictions have enacted laws about what individuals and entities must do to protect such information. Such laws address information that is collected physically (in paper form) and electronically.

When administering tests in countries outside of the United States, it is important to understand what the legal requirements are as they relate to information that is considered PII. For example, in Canada, the Personal Information Protection and Electronic Documents Act (S.C. 2000, c.5) governs how private companies (e.g., a testing company, test sponsor, testing center) collect, use and disclose information as part of their commercial business. This Act requires, among other things, organizations that collect PII to obtain a person's consent to collect, use or share such information. In the European Union, the Data Protection Directive (Directive 95/46/EC) and other related directives detail the responsibilities that a private organization (e.g., a testing company, test sponsor, testing center) has toward the collection, handling, and treatment of PII.

In the United States, many states have laws defining and regulating PII. One of the most stringent of these laws, Massachusetts General Law Chapter 93H (Mass. Gen. L. ch. 93H) and its implementing regulations define security breaches of PII and provide that organizations who may collect or hold such information have a duty to report any breaches of such information.[3] Instructions regarding the collection, handling, storage and disclosure of confidential information could be covered by these laws,

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[2] For further information on FERPA, please see http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html.
[3] At the time this guide was prepared, approximately 43 states have laws that require notification of security breaches of PII.

guidelines and directives, so careful attention should be paid to the confidentiality obligations and trusted position that proctors may be placed in. Failure to comply with these laws could result in liability for the proctor, as well as the test center and test sponsor. For example, the Massachusetts Attorney General may bring actions for failure to notify of a security breach, which could include civil penalties of up to $5,000 for each violation as well as reasonable costs of investigation and litigation (including reasonable attorney's fees).

Because the laws and regulations protecting test taker information can vary by country and state, the best practice is to treat all personal data with care and to be familiar with applicable laws and statutes. A proctor should not discuss test takers or tests outside of the center or in any location that could be overheard by non-testing staff. Further, thought should be given to the type of test taker information to be collected before, during, and after testing. Detailed information, such as Social Security numbers or driver's license numbers, should only be collected if necessary. If necessary, the appropriate privacy principles should be followed, which include, but are not limited to, choice, consent, notice, collection, use, access, retention, disposal, and disclosure. Once collected, information should be stored in a secure location and retained for only as long as required by the test center or test sponsor's retention policies. The Standards for Educational and Psychological Testing (AERA, APA, & NCME, 2014) require that personally identifiable test results only be released to those with a legitimate, professional interest or to persons who are covered by the informed consent of the test taker or the test taker's legal representative, unless required by law. Access to test taker confidential information should be limited to those who are authorized, preferably in writing, by the individual or test sponsor. While circumstances may require access in the event of litigation or if compelled by law, the proctor should ideally seek legal counsel before turning over test taker information.

Training

Failure to adequately train proctoring staff is a major threat to test security (McCallin, 2006; Olson & Fremer, 2013; See CCSSO and ATP, 2013, Section 9.6). Depending on the test delivery platform, inadequate training of proctors may result in failure to follow prescribed test administration procedures, delivery of a test to unauthorized test takers, inaccurate reading of instructions, unauthorized modifications to procedures (e.g., extended time, access to prohibited materials during tests), releasing of confidential material about tests or test takers, inadequate room specifications, inappropriate assistance by proctors, inability to recognize when test takers are accessing prohibited resources, and failure to secure test materials and their return.

Complicating the training of proctors is the variety of testing procedures, types of tests, modalities (i.e., group versus individual), delivery methods (i.e., paper-based, computer-based, online proctoring), and timing differences in tests. Resources available to test takers may also differ among test delivery methods. For example, in computer-based testing, permissible access to calculators is typically managed by the test system. Calculators would need to be physically provided by the test center or test taker for

paper-based testing, in which case they should be checked for permissible models, the existence of test taker notes inside the case, and any saved data that can be accessed by the test taker.

Staff Roles and Sizes

Size of staff is determined by the test center and subject to test sponsor guidelines. In all cases, the test center staff should be large enough to ensure security of test materials and continuous observation of all test takers. In a situation where only one individual is required for the actual administration, there should also be a trained backup who can take over administration in case of emergency (e.g., proctor becomes ill).

In group tests, such as national or international standardized tests, the number of test staff necessary for the testing facility may depend on the test sponsor's test-taker-to-staff ratio. Generally, the test-taker-to-staff ratio is designed to ensure adequate supervision of test takers during administration as well as the security of all testing materials.

If testing is for different tests or individual test takers who may start independently of others, then a test center manager may need to recruit additional proctors to ensure appropriate oversight of the test as well as to admit test takers, answer pre-test questions, and attend to other check-in details. Thus, in addition to ensuring appropriate test-taker-to-staff ratios during the tests administered, test center managers may require at least one additional proctor to ensure test taker identification and test set-up procedures are also properly handled.

The test center manager and/or proctor should also be cognizant of their behaviors and appearance at all times before and during the test administration. A proctor should prevent all possible distractions that they may present to the test taker. This includes the following:
- Professional attire—A proctor should refrain from wearing any clothing or footwear that could be offensive or distracting to a test candidate. In addition, a proctor should not smell strongly of any substance that could be distracting to candidates while testing.
- Food—A proctor should refrain from eating or drinking anything in the presence of candidates during the test administration.
- Personal items—A proctor should refrain from bringing any items into the test administration that could distract candidates, including books, magazines, and any electronic devices.

Accommodations and Diversity Considerations

Accommodations

In the course of performing his/her duties, a proctor may administer tests to candidates that require testing accommodations. Accommodations are required in almost all jurisdictions and are meant to provide equal access to a test, reduce the impact of disability on the construct being measured, and assure the meaning of test scores is not altered (Childs & Umezawa, 2009; Tindal & Fuchs, 1999).

For example, in the United States, the Americans with Disabilities Act (1990) and Section 504 of the Rehabilitation Act (1973) protect the rights of test takers requiring accessibility to assessments, including appropriate accommodations. When administering tests in countries outside of the United States, it is important to understand what legal requirements exist that relate to test takers with disabilities. For example, the Disability Discrimination Act (1995 c. 50) in the United Kingdom, and the Disability Discrimination Act (1992) in Australia, provide protection against discrimination based on disability in those two countries.

To be considered for accommodations, test takers need to apply to the relevant accessibility department through the test sponsor. A proctor is required to follow the accommodation instructions provided by the test sponsor or testing company (see CCSSO and ATP, 2013, Chapter 19). While generally prior approval is necessary, a test taker may appear for testing and request accommodations to proctoring staff without prior documentation. In these cases, the proctor should document the situation and consult with the test sponsor, instructor, or accessibility department prior to proctoring the test administration for that individual. Immediate resolution of this concern is preferred; however, it is the responsibility of the individual test taker to make his/her needs known to the test sponsor and center in advance of test date. Failure to do so may result in delay of test delivery in order to ensure accessibility needs are assessed and responded to appropriately. Confidentiality and respect for test takers is essential when providing accommodations. A proctor should not request information about a test taker's documented disability or reason for accommodations, and provision of accommodations must be done in a manner that does not cause undue burden or discomfort to the test taker.

The most common accommodations for testing include extended time and a distraction-reduced space. Other accommodations include, but are not limited to, reading the test items and item alternatives to the test taker; scribing the test taker's answers; providing large text, Braille, or audio test administration; allowing use of assistive and/or medical devices (e.g., hearing aid, cochlear implant, insulin pump, wheelchair); using a pillow; providing an adjustable or larger table or adjustable chair; writing in the test book; providing special lighting; providing additional breaks for medication or snacks; providing for the availability of fluids during test administration; and allowing the presence of service animals. When the need for an accommodation is obvious, such as use of a service animal for an individual with visual impairments, a test taker is not required to provide documentation or reasons for

use of accommodation. A proctor may ask the test taker if a service animal is required for disability accommodation and what service the animal provides if the purpose is not obvious.

Some testing accommodations are not distracting and do not interfere with standard test administration. In these cases, such as use of a large text format booklet, the test taker can test in the standard test center environment. Accommodations that may interfere with standard test administration, such as a reader, scribe, or use of distracting devices, require testing in a separate environment. Extended time accommodations are best delivered in a separate testing environment during group administration to ensure standard test administration for other examinees.

A proctor and the test center should work with the test sponsor to provide accommodations and ensure availability of services. It is also in the best interest of the test taker and test center to maintain open communication with a test sponsor, as needed.

Diversity and Individual Differences in Test-Taking

Diversity, as it relates to test proctoring, is a particularly broad area and is continuing to develop as further research is conducted. Nevertheless, a recognized best practice in test proctoring includes hiring a staff that reflects the diversity and demographics of test takers. In addition, all test takers should be treated in a professional, respectful, and non-discriminatory manner and in keeping with relevant laws. Attention to cultural competence and professional communication helps to ensure standardization and fairness of testing practices. Three areas that will be addressed specifically are stereotype threat, religious and cultural attire, and test anxiety. In all of these areas, it is critical for proctors to follow a test sponsor's policies or the test center's administrative manual.

Stereotype Threat

Steele and Aronson (1995) and Nguyen & Ryan (2008) suggest that stereotype threat (i.e., being at risk of confirming a negative stereotype about one's group) negatively affects test performance for some populations in certain contexts. For example, scores for female test takers in STEM fields, test takers with disabilities, and racial or ethnic minorities may be artificially lower due to the impact of stereotype threat. Current research suggests stereotype threat triggers anxiety and heightened arousal, which can negatively affect test performance (Good, Aronson, & Inzlicht, 2003; O'Brien & Crandall, 2003). Although there does not appear to be research on the impact of proctoring on stereotype threat, it is reasonable to assume that hiring a diverse proctoring staff, adhering to standardized test practices, treating all test takers in a non-discriminatory manner, and reducing emphasis on identity variables limit or negate the potential impact of stereotype threat.

Religious and Cultural Attire

Religious and cultural attire may include items that are typically prohibited in test rooms, such as head coverings. Typically, a proctor should not refuse admission to tests on the basis of religious or cultural attire, unless specifically instructed otherwise in test sponsor policies. A proctor of the same gender as the test taker should be available to check any suspicious or questionable clothing in a private area. Once clothing items are checked and approved, test takers are permitted to wear them into the test room, with the exception that religious or ceremonial weapons are always prohibited in a test environment. Admission for testing may be refused if a test taker's facial features are obscured and they are unwilling to agree to a private check-in. If test takers are observed removing anything from their attire during testing, a proctor should respond according to the policies of the test sponsor (Mitchell, Ben-Dov, Mirdamadi, Duffy, Keyser, 2013).

Test Anxiety

Test anxiety is a relatively common occurrence, and for some test takers it is severe and impairing to test performance. Studies indicate that test takers are most anxious about attitudes of the teacher or proctor (94.6% of test takers surveyed), after which the atmosphere of the testing room is identified as most anxiety-provoking (92.2% of test takers surveyed) (Yang, Chung, & Chang, 2014). A proctor can reduce potential test anxiety by greeting test takers in a courteous and welcoming manner, wearing identification badges, responding to problems as they occur, informing test takers of important information, and providing assistance in non-test-related aspects of the process (e.g., helping them lock up belongings, filling out identifying information, signing in), as well as maintaining a professional test environment.

Proctoring Responsibilities

For the purposes of this guide, proctoring responsibilities have been organized into five phases:

- **Preparing the Testing Facility**

- **Admitting the Test Taker**

- **Proctoring During the Test**

- **Concluding the Test**

- **Completing Test Responsibilities**
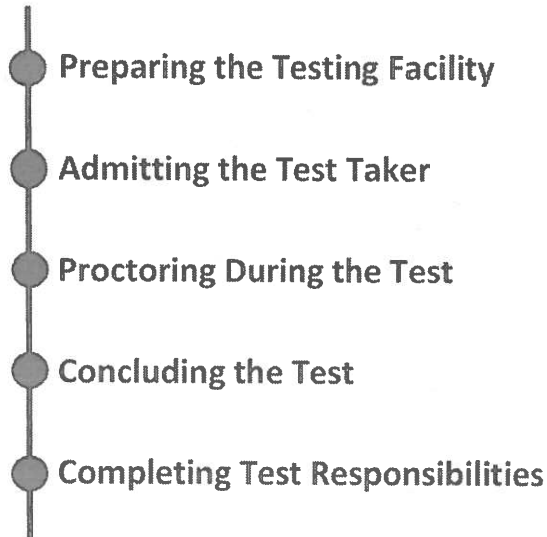
Those proctoring responsibilities that pertain to all three testing methods are outlined in this section. Following this section, individual sections are devoted to exploring the proctoring responsibilities unique to each testing method: Paper-Based Testing (PBT), Computer-Based Testing (CBT), and Online Proctored Testing. Although online proctored testing may be either computer-based or paper-based, for purposes of this document, CBT and PBT refer to test administrations for which a proctor is on site with test takers, whereas online proctored testing refers to test administrations for which the proctor and the test takers are not located in the same facility, regardless of whether the test is delivered via computer or paper.

Preparing the Testing Facility

In order to ensure both a positive testing experience and the security of the testing process, a proctor must prepare the testing environment, equipment, and supplies. These materials will vary by testing method. Any supplies that must be maintained at the testing center or proctoring site should be placed in a secure storage location (e.g., locked cabinet, drawer, safe, locked storage room). Access to any testing materials should be limited to only a small, select group of authorized individuals.

Admitting the Test Taker

Admission of test takers should occur in a location where the proctor can communicate test administration procedures without distracting other test takers. Ideally, this should occur in an area of the testing center that is separated from the test administration room and waiting area. While not required, it is preferable that the test admission location be adjacent to the testing room but separated by a noise-reducing wall with windows for observation. This allows the proctor to continuously monitor test takers during the admissions process. In addition, this will allow for privacy in the review of any personal information and questions from the test taker.

Admission of test takers involves the following steps:
- Verifying the identities of the test takers;
- Having test takers complete any necessary documentation;
- Explaining policies and procedures to the test takers, including informing them of behaviors that are considered misconduct;
- Having test takers store their personal belongings securely; and
- Answering any questions the test takers may have about the testing process.

During this time, the proctor should also be attentive and look for prohibited items/devices. While this is easier to observe during testing, test takers may conceal notes and technological devices that allow for recording or communicating. These recording devices are frequently inexpensive, easy to conceal, and may appear similar to common items that are permitted in the test center (e.g., eye glasses, pens). Because technology is constantly evolving, the test sponsor, the test center manager, and the proctor should stay current on the latest devices used to attempt to record or otherwise steal test items. Testing conferences and news articles are typically good sources of information for tracking technology trends.

Identity Verification

Verifying the identity of the test taker is an essential step regardless of the testing channel. Proxy testing, or someone taking a test for another person, is a major threat to test security, with some tests having a rate as high as 1:200 for proxy testers (Semko & Hunt, 2013). Proctors (or admissions staff) are the first line of defense in preventing proxy testing by authenticating that the person checking in for a test is in fact the test taker who registered for or is expected to take the test. It is advisable to have an identification (ID) validation book at the test center to raise awareness of the security markers on passports, state IDs, driver's licenses, and other commonly used forms of ID. Religious and cultural sensitivity should be considered during admittance to a test. For example, identity verification may require removal of head wraps worn for religious reasons. Test takers should be provided a private space with a proctor of the same gender for such removal. See the section on Religious and Cultural Attire (p. 21) for further discussion.

Manual Identification Verification

Manual identification verification is the process of a proctor confirming the identity of a test taker by comparing the physical appearance and signature of a test taker to an acceptable government-issued photo and signature ID. Test sponsors should determine the appropriate ID as that which is available to the testing population and requires documentation that is not easily falsified.

When checking an ID, the proctor or other staff should follow these steps, or other similar procedures specified by the test sponsor (Mitchell, 2012):

- Look at the ID itself, outside of any type of holder. This will allow the proctor to better inspect the ID.
- Check the expiration date. Most test sponsors require a current, valid form of ID.
- Verify that the full name on the testing roster matches exactly the full name on the ID. A test sponsor may have permissible exceptions in policies that allow for common name variations (e.g., Robert or Bob, Cathy or Catherine). However, most test sponsors require a test taker to register using the exact name as it appears on the ID. Minimal variations may be allowed for differences in name, such as a truncated name on an ID due to character limits.
- If a candidate indicates that a mismatch between the name on the ID and the name on the roster is due to a legal name change, consult the test sponsor regulations to determine if the test taker can be admitted. Typically an ID that does not match the name on the roster is unacceptable, even with additional documentation.
- If other identifiable information, such as date of birth, address, or identification number are included on the test taker roster, verify that these match exactly on the ID and roster.
- Examine the photograph on the identification, holding it up to compare it with the test taker. Look for any obvious differences. If a photograph is included on the test taker roster, compare it also to the photograph on the ID and to the test taker.
- If unsure whether the ID matches the person in front of the proctor and/or on the roster, ask the test taker for another photo ID that contains a recent photograph. For example, engage the test taker in polite conversation to verify changes in facial hair, hair style or color, or other variable physical features. Checking height, eye color, and facial structure may assist in verifying identity following other physical changes, such as weight.
- Gender should not be used as a means of verifying identity, because gender is a socially constructed set of roles, behaviors, and traits that may not match sex characteristics, and both sex and gender are subject to wide variations. In addition, gender as documented on an ID may not match the test taker's gender identity and expression, therefore serving as an inaccurate reference for identification (West & Zimmerman, 1987).
- Examine a signature provided at check-in, comparing it with the ID. Look for any obvious differences.
- If the ID presented does not contain a photo or signature, a secondary ID may be presented that contains the missing feature.

- Examine the ID for signs of tampering or modifications. These may include physical erasures, cuts, scrapes, or gouges that appear to indicate alteration of the photo, physical description, information that is logically inconsistent, or date of birth. It also may include the lack of or alterations of the hologram for the type of ID.

Below are examples of acceptable and unacceptable forms of ID:

Acceptable government-issued photo and signature IDs include:
Driver's license
State identity card (Non-driver license)
Passport
Passport card
Military ID
Green card/alien registration/permanent resident card
National identification card
Note: Some military IDs and passport cards do not contain signatures. They are generally still acceptable, as long as the ID is presented with a secondary ID containing a signature.

Acceptable secondary IDs for verifying signature or picture include:
Government employee ID
University or college ID
Debit/Credit card
Non-government employee ID
Health insurance card
Certificate of name change
Marriage certificate

Unacceptable IDs include:
Birth certificate/registration
Copies of IDs
Grocery store member card
Hunting/fishing licenses
Library card
Social Security card

If the proctor suspects a test taker is using an ID other than his/her own, check the following to further verify if the ID may be false:
- The ID was issued within the last seven days;
- The test taker gives evasive answers or fails to respond quickly when asked about his/her date of birth or address; and
- The test taker has only the required ID and cannot provide another ID to verify his/her identity.

Biometrics

Biometric verification involves the use of technology to sample and analyze a specific physical characteristic or behavioral pattern in order to perform comparisons. Biometrics can include fingerprints, palm vein, keystrokes, and voice and facial patterns. Each has specific advantages or drawbacks depending on the way they are collected and used given the specific needs of each test sponsor. In addition, some state and country laws have been enacted that prohibit or limit the use of biometrics. Numerous test vendors offer biometric verification as a means of obtaining additional assurance regarding a test taker's identity to help guard against proxy testing or attempts to test using fraudulent identities. Use of biometrics is increasingly seen as an important part of the arsenal against test fraud.

The following factors should be considered when determining biometric requirements:
- Test taker population size;
- Universal body characteristics (e.g., fingerprints may be damaged based on occupation);
- Acceptable error rates (e.g., false acceptance rates and false rejection rates);
- Operational throughput (e.g., how quickly the biometric is captured);
- Scalability (e.g., support large numbers of candidate biometrics);
- Tamper resistance (e.g., biometric data is not altered);
- Security and protection; and
- Privacy considerations for the test taker.

Documentation

Many testing programs have documentation requirements that must be completed by test takers prior to admission. The proctor should discuss these requirements with the test takers, and then allow sufficient time for the documentation to be completed. The proctor should have a familiarity with the requested documents to ensure that any questions from test takers can be answered and the materials fully completed.

Policies and Procedures

After all test takers identities are verified and any additional documentation completed, the proctor should explain the policies of the testing program to the test takers. Proctors should be familiar with test manuals and documentation to ensure proper and clear communication of instructions to test takers. The proctor should at minimum:
- Discuss the time allotted for the test and when the test will begin;
- Review the break policy, for scheduled and unscheduled breaks;
- Review policies pertaining to storing and accessing personal belongings;

- Remind the test takers that test content should not be discussed at any point during or after the test; and
- Discuss the permissible testing aids during the test (e.g., scratch paper, calculators).

Test Taker Personal Belongings

Ideally, the personal belongings of all test takers should be placed in a secure storage area outside the test room, such as in lockers with individual keys. Prior to distributing the test, test takers are instructed to place all personal belongings in the locker unless listed as permitted test aids by the test sponsor or instructor. When testing is conducted outside the test center, such as group proctoring in classroom spaces, access to personal locking storage separate from the test room may be difficult for a proctor to provide and secure. In these cases, tests takers are instructed to place all personal belongings outside of reach during the test, such as under the chair or in their car. All electronic devices should be turned off and stored for the duration of the test. Belongings should not be accessible at any time during the administration of the test.

Test takers should be reminded that accessing personal items during tests is strictly prohibited and can result in an incident report being filed, as well as possible invalidation of their score or other penalties as deemed by the test sponsor.

Test Taker Questions

After all these procedures are complete, test takers should be asked if they have additional questions regarding policies or procedures prior to admittance into the testing area. The proctor should use only the approved instructions/statements/answers prepared by the test sponsor and/or test center manager in responding to these questions. Under no circumstances should a proctor answer any questions related to the content of the test; such actions are highly improper and could jeopardize the validity of the test.

Proctoring During the Test

During the testing process, the proctor should, at a minimum:
- Continuously monitor test taker behavior; and
- Look closely at test takers' hands and desktops for prohibited items.

During a test, the proctor should engage only in activities directly related to the administration of the test. Engaging in unrelated behavior increases the risk of misconduct, invalidating results for the test being administered.

Wherever possible, test takers should be recorded throughout the test with both audio and video for audits after the test. The proctor is to monitor and report any suspected test taker misconduct, disruptive behavior, and incidents that impact standardized and fair test administration.

Test Taker Misconduct and Disruptive Behavior

Suspected misconduct refers to an incident in which a proctor believes that sufficient evidence exists that a test taker has or is attempting to gain an unfair advantage to pass a test. Proctoring is the primary source of defense against test taker misconduct, including use of prohibited resources, copying, or giving assistance. Electronic devices top the list of prohibited resources used for misconduct, and today's test taker is often savvy in the use of these devices. Cell phones, video cameras, smart watches and glasses are often difficult to detect, and the proctor must be vigilant in active proctoring and understand behavior departures that may indicate their use (Wollack & Case, in press). Other prohibited resources may be "cheat sheets" that are written on body parts, clothing, or on the inside of a water/soda bottle label. Attempted copying may become obvious by noticing a test taker's choice of seating arrangement, dropping something on the floor, or unnecessary movement around the room to gain better advantage to see someone else's paper. Giving assistance to another test taker may take the form of rhythmic pencil tapping on the desk or table, congregating during breaks to discuss the test, or having someone distract the proctor so that others may share answers.

In many cases, a test taker's behavior or actions may seem odd or out of place, even if the proctor cannot verify that the test taker is actually doing something improper. Test takers are often under a great deal of stress, and their behaviors may affect the atmosphere in the center, other test takers' experiences, and ultimately their test results, regardless of intent to engage in misconduct. In considering whether to file an irregularity report, the best advice for the proctor is to make every effort to collect evidence to confirm the suspicion of wrongdoing or determine that the act is not related to an attempt to cheat. However, ultimately, a proctor is encouraged to use his/her best professional judgment and trust his/her instincts (Wollack & Case, in press) with the understanding that the truth of the circumstances will prevail throughout the course of a thorough investigation, and that the test sponsor is responsible for making the final determination about any test taker misconduct. Additionally, disruptive behavior without any apparent intent to engage in misconduct should be reported to the test sponsor because these behaviors can impact the experience and outcome of testing for the rest of the test takers in the test room/center.

Below are some common examples of test taker misconduct, disruptive behavior, and behaviors that raise suspicion of misconduct:

- Talking or making other noise, such as excessive coughing or tapping, while in the test room;
- Finishing a test in an unusually short amount of time;
- Taking unusually long or frequent breaks;
- Causing a disturbance of any kind;
- Removing, or attempting to remove, test questions and/or responses in any format or notes about the test from the test room;
- Attempting to remove from the test room scratch paper, erasable note boards, exhibits, or other test materials that were issued by the proctor;
- Theft of another test taker's personal property;
- Tampering with the operation of the computer, connecting personal devices, accessing prohibited electronic resources, or attempting to use the technology involved for any function other than taking the test (for CBT and online proctored tests); and
- Exhibiting harassing, abusive, or threatening behavior toward the proctor or others.

The importance of making test takers aware of the test center regulations prior to testing cannot be overstated. Test takers should be made aware of permissible and prohibited behavior at the time of registration, at check-in for the test, and directly prior to test.

When dealing with any test taker misconduct, be authoritative and firmly take control of all situations in a professional, polite manner. Below are some guidelines for handling test taker misconduct when it occurs:

- If possible, have another proctor co-witness the behavior so that two witnesses are in agreement on what is occurring.
- If the misconduct is occurring in the test room, ask the test taker to step into the separate proctoring area to address it. This ensures that other test takers are not disturbed while the issue is addressed.
- Confiscate any prohibited materials related to the misconduct, unless prohibited by the test sponsor or institution. Generally, confiscating notes is permitted, but the proctor should not take personal belongings such as phones.
- Advise the test taker that the proctor is required to submit an incident report to the test sponsor regarding the misconduct.
- Check the test sponsor policies regarding whether to terminate the test or allow the test taker to continue after the misconduct has been stopped and reported. Test sponsor policies on this issue vary widely, so the proctor is encouraged to consult with the test sponsor. If testing is discontinued, the proctor should inform the test taker of the behavior that has caused the termination of the test.

- Most test takers will ask what will happen following the incident. Advise the test taker that a report will be filed with the test sponsor or institution and that it is the responsibility of the sponsor to follow up with the test taker. The proctor may provide contact information for the test sponsor as permitted but should not speculate on the outcome of that follow-up.
- If a test taker's behavior poses an imminent danger for those in the test center, contact local emergency services or building security and report the threat immediately.
- If there is a surveillance system in the test center, the proctor should request a copy of any recording of test taker misconduct and save it in a secure location. Copies of the recording should be shared with test sponsor or relevant campus staff (e.g., office of student conduct) as requested and as appropriate. Retain any materials related to the event and store them in a secure location, as the test sponsor may request them for investigation of the incident.
- Report any misconduct issues as outlined below.

Irregularity Reporting Procedures

Any deviations or irregularities in proctoring the test should be reported to the test sponsor through a documented irregularity reporting process. Through the irregularity reporting process, all details needed should be outlined through a template form along with an account of what transpired with any evidence collected. Proctor incident reports should include information needed to maintain a chain of custody for evidence. Test takers who are accused of misconduct often obtain counsel and attempt to challenge the test sponsor's decision regarding their score. The proctor's incident report is a critical piece of evidence in disciplinary hearings and legal actions.

Irregularities include test taker misconduct and disruptive behavior, as discussed above, but may also include issues with the testing environment that impact standardization and fairness of administration. Examples include:
- Any incident resulting in test takers being unsupervised with test materials;
- Illness or medical emergencies during test administration;
- Any alert requiring evacuation during test administration (e.g., fire, weather related, security related, power outage);
- Problems with room comfort (e.g., extremely hot or cold temperature);
- Disruptive noise outside testing room (e.g., construction, sirens); and
- Mistiming or misreading of instructions.

Irregularity Reporting Considerations

When filing an incident report, the proctor must be sure to include the following:

- A detailed description of the incident. Record facts only; do not report opinions, perceptions, or feelings toward the test taker or other involved parties;
- Names and contact information for all proctor witnesses so that they may be contacted later for more details if needed;
- Exact times and locations of incidents. This is critical information when investigating test taker and proctor reports, verifying incidents that disturbed the test environment, or reviewing security incidents on video after the event;
- Whether a test taker was using unauthorized materials during the incident. If so, describe the materials, specifically how they were discovered, where they were discovered, and whether they were confiscated;
    - If paper materials are involved, the proctor should initial and date each sheet to preserve the chain of custody.
    - If electronic devices were being used, the proctor should record the type of device, manufacturer, model, serial number, and what was being transmitted or recorded using the device.
- Record specific errors in timing and reading of instructions and indicate which test takers or group of test takers was impacted;
- Record specifics of emergency incidents and illnesses, including time and location of event, involved parties, responses by proctoring staff, and whether the test was completed; and,
- The final status or resolution of the incident, including whether test takers finished the test.

Concluding the Test

After a test has concluded, the proctor should keep a detailed log of work completed. This log should include the proctor's name, testing location, test taker's name, test taker's identification number, date, time of test completion, and any details that are specific to the testing session, test taker, or activities around test completion.

Post-Test Attestation

Following the test, test sponsors may require test takers to provide a post-test statement attesting that the test taker is, in fact, the person represented on the answer sheet and that he/she understands the terms and conditions, including those regarding confidentiality of the test material and dispute resolution. The proctor should read aloud to the test takers the instructions for this post-test process and provide sufficient time for the test takers to provide the attestation and sign.

Messaging the Test Taker

After accounting for all materials, the proctor should remind test takers of any confidentiality obligations and that, if they have signed terms and conditions, they remain binding even after the conclusion of the test. This may include providing examples of prohibited post-test behavior, such as discussing test questions with friends or attempting to recall questions and answers via social networking or on websites. This is a timely reminder to test takers that a fair testing experience for them and for others requires that they keep the test content confidential.

Prior to leaving the test center, test takers should also be instructed how to contact the test sponsor if they have questions or concerns about the test event. In addition, test takers should be told that if they suspect a security concern during or after testing that they should contact the test sponsor directly. Many test sponsors have hotlines that permit anonymous reporting, and they provide the proctor with this information in manuals and posters that should be displayed prior to and following the test. If a hotline is available, the proctor should remind test takers of the number or website to report concerns.

Completing Test Responsibilities

After test takers have been excused, the proctor must ensure that the test data are sent securely to the test sponsor. The specific process by which this occurs will differ depending on the testing modality and test sponsor. The proctor must also complete all irregularity reports and logs of testing session. Special attention should be given to making accurate, comprehensive reports for any situations in which the proctor suspects that misconduct may have occurred. Finally, the testing station or testing facility should be carefully inspected, cleaned as necessary, and returned to its initial state.

Proctoring Responsibilities in Paper-Based Testing

This section contains proctoring responsibilities specific to PBT, outside of the general considerations outlined in the overall Proctoring Responsibilities section.

Preparing the Testing Facility

Considerations in preparing the testing facility include:
- Receiving and checking in test materials;
- Setting up the testing room; and
- Providing testing equipment and supplies.

Securing the test materials prior to administration as well as ensuring a secure, well-equipped space for testing are important measures in mitigating risks, such as theft of the test content and collusion among test takers.

Receiving and Checking in Test Materials

The test materials (e.g., test booklet, answer document) will need to be delivered to the testing facility prior to administration; however, the length of time prior to test administration may vary by test. Test materials may be serialized and sealed to prevent tampering prior to the test administration. Upon receipt, test materials should be checked in by the proctor and accounted for in accordance with instructions from the test sponsor. This may include counting serialized test booklets, checking test booklets and answer documents against a packing list, and checking test materials for any damage (such as broken or torn seals). Any discrepancies, missing test materials, or damaged test materials should be promptly reported to the test sponsor in accordance with the test instructions. The proctor will need to follow the test sponsor's instructions on whether to proceed with testing using the damaged materials or whether substitute or alternate materials will be sent. Materials should be checked promptly (typically within 24 hours) upon receipt to resolve any issues in advance of the test administration and assure time for the test sponsor to ship new materials.

The test materials should be placed in a secure storage location. Test materials should be stored in such a manner that the contents cannot be viewed, and access is limited to a small number of authorized individuals. Putting a signature across the seals or on the tape that closes a box may help provide visual evidence of any tampering between storage and delivery of the test.

When test materials are outside of secure storage areas (e.g., being transferred to and from the test room for administration), they should never be left unattended by the proctor or other test staff. Chain-of-custody forms and related procedures should be used to ensure that each person who has access to the secure materials is identified, so that problems can be tracked back to the responsible person. Test takers should only have supervised access to the test materials during testing. Test staff should

complete chain-of-custody documentation to confirm transfer of the test materials in the event of a future investigation into the compromise of the test event.

Setting Up the Testing Room

The test center should have at least one room dedicated to test administration (the "testing room"). When testing is conducted at the test center, it may be helpful to test takers and test staff unfamiliar with the building to post signage to indicate which locations or rooms are in use for testing as well as signage regarding appropriate testing behavior. Some test sponsors may provide posters or signage, which should be posted in accordance with their instructions. As part of setting up the testing room and the areas to be used for testing, the test coordinator should assure rooms, rest rooms, and buildings used for testing will be open, and the heating/ventilation system and lights are operating. To assure reduced noise and distraction, the test center may maintain separate rooms for PBT and CBT or provide noise-reduction equipment, such as headphones, ear plugs, or a white noise machine. It may also be helpful to test takers to provide guidance regarding parking and directions to the facility and testing room(s).

When testing in groups, all test takers will typically arrive at the same time, and the proctor should have a plan for managing the check-in and test taker identification processes when test takers enter the test center. Often, large group testing requires use of spaces outside the test center, such as classrooms. Regardless of the space used, the proctor is responsible for assuring that the testing room is quiet, comfortable, well lit, and safe. To avoid distractions, as well as to avoid providing inadvertent assistance to test takers, the proctor assigned to the testing room should remove any visible reference materials, including any bulletin boards or signage, prior to admitting test takers to the room. It is recommended that the testing room has an accurate clock that is visible to test takers in the room; however, the proctor is responsible for maintaining accurate time for timed tests. To the extent provided in instructions for the test, the proctor should also provide warnings to test takers of time remaining and time expired.

The testing room should be dedicated to test administration with no access to individuals who are not involved in testing. The proctor for each testing room in use may receive the test materials prior to admitting test takers to the testing room and will be responsible for ensuring the secure handling and protection of those materials while in their possession.

Depending on the number of test takers and the number of administrations, the testing facility may use multiple rooms for testing. Test sponsors may have requirements for a testing room, including the number of test takers permitted per testing room, the types of tables or desks that are recommended for testing, and the seating and spacing of test takers during the administration. If there are partitions between workspaces, the partitions should be of adequate size and spacing so as to inhibit the line of sight between test takers. Generally, single-level rooms are preferred to allow the test staff to easily view workstations and test takers to observe any unusual behavior, such as accessing notes or devices

or looking at another test taker's test or answer document. In order to minimize the opportunity for copying and collusion among test takers, there should be spacing of at least three feet (both front to back and side to side) between test taker workspaces. Test takers should be seated facing in the same direction to allow for test staff to actively monitor the room by walking the aisles during the test event.

In order to minimize disturbances in the testing room and reduce the opportunity for test takers to use unauthorized electronic devices or aids, the proctor will direct test takers to store their belongings, as outlined in "Admitting the Test Taker: Test Taker Personal Belongings" (p. 27). Test takers should be advised that prohibited devices seen or heard during the test administration will result in the proctor filing an irregularity report with the test sponsor and may also result in the offending test taker's scores being canceled or other possible sanctions against the test taker.

Providing Testing Equipment and Supplies

As part of preparing the testing facility, testing equipment and supplies need to be supplied. There are security risks associated with allowing test takers to bring items into the testing room, and providing certain supplies, such as scratch paper, pencils or calculators, for test takers to use may improve their testing experience as well as ensure security of the test content and fairness of the test administration. The proctor should pay careful attention to the test sponsor's requirements regarding the equipment or supplies to be provided to test takers during an administration, because tests may be designed with certain tools in mind.

For instances in which scratch paper is permitted, the test center and each proctor should have a detailed process for distributing, handling, and destroying or retaining scratch paper to prevent test takers from leaving the test center with notes on test content. Scratch paper should be distributed individually to test takers to minimize the opportunity for them to share information or notes through the distribution of scratch paper. It is recommended that scratch paper be colored paper and that the test center change colors regularly so as to reduce the likelihood that test takers could access their own papers during test administration. Each page of scratch paper distributed should be marked with the test taker's name or other identifying information, as well as an indication of the number of pages distributed to that test taker (e.g., 1 of 2, 2 of 2) so that the proctor may verify that all scratch paper has been returned after testing. If any sheets of scratch paper are missing, using this method to track distributed scratch paper will help the proctor identify which test taker did not return all pages. Finally, the test center should have a process for returning, retaining, or securely destroying the scratch paper after it has been collected from test takers.

The test center may also wish to provide supplies to test takers to assist with their testing. For example, it is recommended that testing rooms have extra pencils available to test takers in the event that test takers fail to bring pencils to the test center or a test taker's pencil breaks or otherwise stops working during the test. Similarly, the test center may want or be required by the test sponsor to provide calculators for test takers to use. Calculators provided by the testing facility should meet the

specifications of the test sponsor. Providing pencils, scratch paper, or calculators may help in protecting the security of the administration.

Admitting the Test Taker

See "Admitting the Test Taker" in the overall Proctoring Responsibilities section (pp. 23–27).

Proctoring During the Test

After all admission procedures are followed, test takers may enter the prepared room designated for test administration. The following processes should be included during the test administration:
- Assigning seats and creating seating charts in group testing;
- Reading aloud any instructions or proctor scripts;
- Distribution and collection of test materials;
- Monitoring activities during testing; and
- Documenting irregularities that occur during administration.

Assigning Seats and Documenting Seating Charts

During the admission process for group testing, a roster of all test takers must be completed. This roster should be utilized in assigning seats to test takers listed on the roster as they enter the testing room. The process of assigning test takers to seats is determined by the testing staff. Test takers should be randomly assigned to seats, thereby disrupting any planned misconduct efforts, such as accessing certain resources planted in a particular area of the testing room or collaboration among multiple test takers. Test takers should be sufficiently spaced so that it is not possible to inconspicuously look at the answer sheet of another test taker. Once all test takers have been assigned to their seats and are seated, the proctor should document the seating chart. Seating charts are often used post-test by test sponsors to investigate scoring anomalies or other irregularities. Therefore, it is important that the seating chart accurately capture the configuration of the seats, including any gaps in seating, locations of doors and pillars/obstructions, indication of whether the room is single-level or tiered, and the location of each test taker within the room.

Documenting location and timing of individual testing is also recommended, as it is beneficial in investigating any irregularities or uncertainties following the test. Test centers may benefit from creating seating charts or plans for individual testing prior to arrival of test takers to assist in organizing use of space and minimizing potential misconduct and irregularities.

Reading Aloud Proctor Scripts

In the case of group testing, after test takers are seated, the proctor should read aloud all proctor scripts (even if some of the script language is redundant) from the policies and procedures explained and announced during the admission process. The proctor script should be consistent and may include the following:

- Greeting from proctor and proctor's name;
- Test name, number of items, type of items and time allotted to complete test;
- Location of clock in testing room and where remaining time will be reported throughout test administration;
- Location of extra pencils;
- Test instructions;
- Review of break policy details, if applicable, and notification process if a test taker requests a break or has an issue not related to content of test; and
- Discussion of misconduct and potential consequences.

Distributing Materials

After all scripts are read, the test materials should be distributed. Typically test materials will contain sequential serial numbers. Prior to the distribution, materials should be arranged in serial number order to facilitate tracking individual booklets or answer sheets. The proctor must personally hand one set of test materials to each examinee. Do not allow materials to be passed down a row. They should be passed out in serial number order according to a regular pattern (down one row and up the next). This makes it possible to determine the specific set of test materials given to each test taker. Once the materials are distributed, the proctor should record the serial number of the materials given to each test taker. If the test materials have instructions, inform test takers to read them again and designate their agreement by continuing to take the test and/or signing their name to a document in the test materials.

At the conclusion of the test, test takers should remain seated while the proctor individually collects one set of test materials from each test taker. Do not allow materials to be passed down a row. All materials should be counted, and it should be verified that one set of materials has been collected from each test taker admitted. Test materials must be secured prior to dismissing the test takers (see "Concluding the Test," p. 31).

Monitoring Processes

The proctor must maintain a physical presence and actively monitor the testing room at all times. The proctor should walk to view test takers from all different vantage points within the testing room. One vantage point that is especially helpful is from the back of the room as test takers cannot see where the proctor is located and are less likely to try to communicate in any form with other test takers or access any prohibited resource material or device. The proctor should observe the testing room for any

abnormal activity by test takers and investigate per guidelines. All instances of misconduct should be investigated during the test administration as per test sponsor guidelines and policies. Examples of behavior that could signal potential misconduct include the following:

- Most test takers will sit still and quiet throughout the test. If a test taker is making a noise repeatedly, such as sighing, coughing, foot tapping, or pencil tapping, this could be a group misconduct tactic in which the noises represent the item alternative to choose on a multiple choice test.
- Most test takers will have the same type of posture throughout test. If there is a noticeable difference or frequent changes in posture, the proctor should monitor closely to ensure the test taker is not attempting to access prohibited resources. Also, changes in body position can be used to collude with other test takers, with different positions signaling different answers to test items.
- With paper-based testing, most test takers will keep the test booklet on the desk or table in front of them. If a test taker repeatedly picks up the booklet, the individual may be attempting to capture content through a prohibited camera device, such as a button camera.
- The proctor should be aware of and monitor for any activities described in "Proctoring During the Test: Test Taker Misconduct and Disruptive Behavior" (pp. 28–30).

In addition to monitoring the room, it is also the role of the proctor to keep test takers aware of the time. This is usually done by writing the remaining time on a whiteboard in the front of the room and by verbal announcement.

If breaks are allowed during the test, the proctor must ensure that no content or other testing materials are taken from the testing room. The proctor should instruct test takers to place any loose materials inside the test booklet. The proctor should monitor test takers during the break to ensure no content is discussed or shared and resources are not accessed. When test takers return, the proctor must validate that all test takers have returned within the timed break period and ensure that all test takers are in the correct seat according to the seating chart. Test materials may be collected during breaks and redistributed following an accurate identification and reseating of test takers.

Concluding the Test

After test takers conclude the test, but before they are dismissed, the proctor's responsibilities include the security of materials and scratch paper and test taker dismissal.

Security of Testing Materials and Scratch Paper

Before test takers are dismissed, the proctor should gather and account for all secure testing materials, including answer sheets, test booklets and scratch paper. During this process, IDs should be checked again to ensure that the individual who took the test matches the picture on the ID. The proctor should then verify that the identifying information provided on the test materials matches the information on

the ID. Test takers may attempt to retain entire test booklets, use a sharp tool (e.g., box cutter, Exacto knife) to separate pages within the test booklet, or retain scratch paper with items or answer keys copied on the page. Because removal of these materials poses a risk to the on-going secure administration of the test, it is important that the proctor accounts for all materials prior to dismissing test takers. This may include ensuring that not only the test booklets, but also the individual pages of the test booklets, are counted. If materials are found to be missing, the proctor should contact the test sponsor to determine the next steps.

Test Taker Dismissal

Once materials have been secured and final messaging has been read, the proctor should thank the test takers for attending and remind them to gather their personal belongings before leaving the test center. Because others may still be testing, it is important to ask those leaving to exit quietly so others can continue to test.

In the event of an irregularity, some test takers may wish to remain at the site to discuss what will happen next or to challenge a decision by the proctor or test sponsor. The proctor should not debate decisions with the test taker. Instead, the proctor should direct the test taker to the test sponsor and provide a phone number if available.

Completing Test Responsibilities

Security of Materials

Following the test administration, all test materials should be accounted for, and any discrepancies, such as missing or damaged materials, should be reported to the test sponsor. Test materials should then be returned to the test sponsor with an account of all included materials and attempts to find any missing materials. If materials cannot be returned immediately, they should be securely stored until they can be returned.

Properly securing materials is critical, as threats to test security following a test may also be posed by testing staff or other employees of the test center. Olson and Fremer (2013) reported potential threats to test security, including alteration of answer documents, falsification of identification or demographic information, exposing or copying test items or details, biased scoring of tests, inaccurate score reporting or failing to submit scores for poorly performing test takers, and not returning all testing materials following a test. Childs and Umezawa (2009) also discuss altering a test taker's work in any way, such as darkening or editing answers, as threats to test security posed by staff.

Documentation Responsibilities

Proctor report forms should be completed immediately following each test event. Proctor reports typically include the date and time of the test, proctor name, location of the test, number of tests administered, test booklet serial numbers, identification materials for test takers, and an account of materials. A seating chart is also typically included for group testing. In addition to proctor report forms, irregularity reports should be completed for the following non-exhaustive reasons: test taker misconduct, disruptive behavior, or illness; emergency situations that impact group testing; timing or other administration errors; and missing or damaged materials. See "Proctoring During the Test: Irregularity Reporting Procedures" (pp. 30–31) for further information on completing irregularity reports.

All required proctor reports are returned to the test sponsor. Copies of report forms should also be retained and securely stored according to the test center or test sponsor's retention policies. National College Testing Association (2014) Standards and Guidelines suggest retaining paperwork for at least one year. Further, proctor reports should not be shared with anyone outside of the test center, including with test takers, without the authorization of the test sponsors. While test takers sometimes request this information, particularly if an irregularity occurred, the proctor and test center should not provide that information; instead, the test taker should be directed to the test sponsor.

Proctoring Responsibilities in Computer-Based Testing

This section contains proctoring responsibilities specific to CBT, outside of the general considerations outlined in the overall Proctoring Responsibilities section. Please note that an alternative term for CBT is technology-based assessments.

Preparing the Testing Facility

General Facility Requirements

A proctor should, at all times, adhere to the following guidelines:
- Ensure the test room is distraction-free and secure with continuous test taker surveillance;
- If there is obvious noise, such as building construction on a specific date, inform test takers before the test starts. If the test taker chooses to take the test, complete an incident report and submit it to the test sponsor for documentation purposes;
- Make sure all lockers or other storage for personal belongings function properly. If lockers allow the test takers personal access to their belongings by means of a removable key or self-generated combination lock, ensure keys are present and locks are functioning;
- Place a sign alerting people in the vicinity that testing is in progress once testing has begun; and
- Ensure sufficient methods of noise mitigation are available for test takers. Noise mitigation may include providing noise cancelling headphones, earplugs, white noise machines, and use of quiet keyboards.

Opening the Testing Center

The following steps should be completed prior to testing or upon entering the testing center:
- Access the websites of each test sponsor to download and print the most current test taker roster, if available;
- Verify that any automated processes from test sponsors have run or run these manually, if necessary;
- Prepare the necessary materials required by the test sponsor (e.g., scratch paper, erasable note boards, pencils, pens, noise mitigation);
- Enter the test room and check the room's lighting, temperature (between 68 and 74 degrees Fahrenheit), cleanliness, and noise level;
- Ensure that test delivery stations are clean and computers are turned on;
- Check connectivity of the delivery stations to required networks and servers, as needed;
- Verify that all devices necessary to admit test takers are connected and working properly;
- Verify that the security system is working properly;
- Run a check of all systems (video and audio) to ensure that data are being recorded and stored properly;

- Verify that sufficient copies of all forms needed for the day have been printed; and
- Verify that passwords are not on display.

Providing Testing Equipment and Supplies

As part of preparing the testing facility, a proctor may need to provide testing equipment and supplies for testing. There are security risks associated with allowing test takers to bring their own personal items into the testing room. Providing certain supplies, such as special scratch paper, erasable note boards, pencils, or non-programmable calculators, for test takers to use may improve their testing experience as well as ensure security of the test content and fairness of the test administration. Careful attention should be paid to the test sponsor's requirements regarding the equipment or supplies to be provided to test takers during an administration, as tests may be designed with certain tools in mind.

From a strict security perspective, using laminated erasable note boards or "white boards" for test takers is preferred over scratch paper. With erasable note boards, there is far less risk of a test taker removing a small section of a sheet or removing an entire sheet of scratch paper that could have many test questions recorded on it. Fine-point erasable markers should be used with the note boards, so notes can be wiped clean after use and the boards can be re-issued to new test takers. The test sponsor policies should be consulted to determine if erasable note boards, rather than scratch paper, are permitted.

For instances in which scratch paper is permitted, the testing facility and its staff should have a detailed process for distributing, recovering, and destroying (or retaining) scratch paper to prevent test takers from leaving the test center with test content. Scratch paper should be distributed individually to test takers to minimize the opportunity for them to share information or notes through the distribution of scratch paper. It is recommended that the proctor have procedures in place to differentiate scratch paper from other documents (such as an admission ticket) and to distribute scratch paper individually to test takers. See "Providing Testing Equipment and Supplies" in Paper-Based Testing (p. 35) for suggestions on this process.

Some equipment and supplies in CBT are built in to the computer delivery system. The proctor should be aware of the availability of test aids within the test delivery system and provide this information to test takers. Should test aids be permitted that are not provided in the test system, such as pencils and calculators, the test center may provide these as described in "Providing Testing Equipment and Supplies" in Paper-Based Testing (p. 35).

Admitting the Test Taker

Checking Test Takers for Prohibited Items

Ensuring that prohibited items are not brought into the test room is a primary responsibility of the proctor. To maximize the security of the test, the proctor should consider doing the following prior to each test taker's entry into the test room, including when returning from breaks:

- Instruct test takers to turn their pockets inside out to verify there are no personal items such as notes or devices;
- Instruct test takers to pull up their sleeves to ensure they are not concealing notes or wearing a wrist device;
- Instruct test takers to raise their slacks/pants leg above their ankles for visual inspection to ensure there are no notes or devices hidden in shoes;
- Visually inspect any heavy-framed glasses, large jewelry and religious items worn as jewelry that could be used to conceal devices such as micro-cameras or microphones. Do not physically handle the items. Ask the test taker to remove the item for inspection and turn it over so the reverse side can be visually inspected; and
- Visually inspect articles of clothing the test taker is wearing such as loose fitting apparel, sweaters or jackets with pockets that could conceal notes or devices. Do not ask the test taker to remove clothing for inspection.

In deciding which of these security procedures to implement, the test sponsor must balance the security needs of the program against the stakes of the test, unintended effects on the testing climate, and the privacy rights of and potential increased anxiety to individual test takers. Clear and consistent communication of the security procedures can help mitigate some of these concerns.

Some test sponsors require the use of hand-held metal detecting wands to check for prohibited devices during the admission process, and test centers may also adopt their use across testing programs. These may be useful for test centers to detect many prohibited items that could be used to gain an unfair advantage or steal test content. Testing staff should understand that the use of metal detector wands is not universally required. While wands present a practice for detecting prohibited devices, a proctor must also realize the potential for increased anxiety for the test taker. Exceptions should also be made for certain permitted refusals, such as test takers who are pregnant, have implanted medical devices (e.g., pacemakers, insulin pumps), or are minors. Finally, test centers and test sponsors are encouraged to consult with their legal counsel in determining proper use of hand-held metal detectors in the test center.

Other Admission Considerations

Following verification of identity and storage of personal belongings, the proctor should adequately communicate expectations of test taker integrity. These are ideally presented on a paper or electronic form that test takers are required to attest to prior to receiving the test. Often, attestation of integrity forms are provided by test sponsors but may also be created by test centers to use across testing programs.

Once the test taker endorses awareness and intent to follow test integrity expectations, the proctor should direct the test taker to a specific seat that is recorded on a roster or to other documentation as required.

Proctoring During the Test

During testing, the proctor should ensure that there is no talking or communication in any way among test takers; the proctor should monitor the room for test takers who are trying to communicate with or distract one another. Communication may be verbal or non-verbal, including tapping, gesturing, and sighing. It is important that test takers are aware that they are being monitored and the proctor should periodically walk around during testing, using a different pattern or path throughout. While walking, the proctor should pause and linger to allow time to observe testing behaviors and ensure no peripheral devices, such as USB drives, are connected to the computers or that test takers are not accessing prohibited material on screen. In group CBT, the proctor should ensure that unused computers are turned off. If there are two or more proctors, one should monitor the video surveillance system at all times while another walks around the room at intervals.

Bringing content into a test is improper regardless of the intention; the same is true of trying to take content out of the room. Technology to aid in such improper behaviors changes rapidly. However, non-technological methods of misconduct, such as tucking paper in sleeves and communicating with other test takers during a test, remain commonplace. As discussed earlier, the proctor must monitor test takers closely for evidence of misconduct. Whenever possible, a second proctor should be asked to corroborate the observations. Because most computer-based tests are video recorded, reviewing the recording or monitoring the live video can often provide an alternative angle not available to a single proctor and can help to confirm or disconfirm hypotheses about potential misconduct. Refer to "Proctoring During the Test: Test Taker Misconduct and Disruptive Behavior" (pp. 28–30) for further practices in deterring and responding to misconduct.

Concluding the Test

If the test did not close automatically upon completion, the proctor is required to log out or close the test. Many test programs automatically upload responses or scores, but it is the proctor's responsibility to ensure that this process is completed or to do so manually as required. Item responses and score reports should be protected and kept confidential. The proctor should not comment on or counsel test takers regarding scores, unless sufficiently trained and required to do so by the test sponsor. Any questions beyond the competence or role of the proctor should be referred to the test sponsor or other relevant party (e.g., academic advisor, admissions officer, instructor).

Ensure that all allowable materials that were taken into the test room are collected. Test takers should be asked to sign out when testing is completed and to retrieve all materials from secure storage.

Completing Test Responsibilities

Closing the Testing Center

Upon concluding all tests, the proctor is responsible for ensuring that all required procedures are completed to close the test center. One or more proctors need to verify that any automated processes are scheduled to run, and all materials are processed and stored appropriately. Dry erase boards and desks should be cleaned, test aids such as stimulus materials are to be stored, and scratch paper should be securely stored or shredded. Any test systems should be checked to assure that all admitted test takers have been checked out, logs are uploaded, test delivery programs are shut down appropriately, and the proctor is logged out of all computers. Security systems should be activated and checked to ensure they are working properly.

Proctoring Responsibilities in Online Proctored Testing

This section contains proctoring responsibilities specific to online testing, outside of the general considerations outlined in the overall Proctoring Responsibilities section.

The notion of interaction (or the potential for interaction) between the proctor and test taker during the test taking process is central to the definition of proctoring. Effective proctoring not only requires careful monitoring of the testing environment, but also having the opportunity to intervene in the face of suspicious activity (e.g., stealing of test content, use of a communication device, attempt to access the Internet or peripheral devices) or poor testing environments (e.g., test taker shifting so the camera no longer has a clear view of the environment, unauthorized individuals entering the testing environment, ambient noise). Such intervention must include the opportunity to communicate with the test taker to eliminate the suspicious behavior or improve the environment as well as the opportunity for the proctor to terminate the test (pending program guidelines) should suspicious behavior not cease.

With this in mind, it is important to distinguish between two common models for monitoring online tests: online proctoring and record and review. In online proctoring, the proctor and the test taker interact in real time throughout the delivery of the test. The session should be recorded for later review, but it is monitored by a live proctor from beginning to end while the test is delivered, enabling the proctor to intervene if unauthorized activity is suspected.

In contrast, in Record and Review, the proctor and the test taker may have some initial contact in order to launch the test, but once the test starts, it is not monitored. Instead, the session is recorded, thereby allowing a proctor to review the video afterwards. Commonly, this video is not reviewed by the same organization offering the video capture service. Instead, videos are made available to the test sponsor following the test.

While record and review falls short of this document's definition of proctoring with respect to security and should not be used for programs requiring high levels of security, it does potentially offer improved security over testing in an unproctored setting, provided the videos are all actually reviewed following the test administrations and individuals reviewing the videos are given detailed information on how to identify suspicious behavior during an online test. To facilitate such review, it is desirable that the record and review software allow for multiple videos to be reviewed concurrently, thereby shortening the time required by the test sponsor to conduct the review and increasing the likelihood that it will be done for all test takers. However, despite potential benefits over an unmonitored test administration, record and review is not considered proctoring for purposes of this document.

Preparing the Testing Facility

The proctor must be able to see and hear the test taker at all times during the testing process. The best proctor viewpoint will include the workstation (keyboard and surrounding work surface) as well as the head, torso, arms, and hands of the test taker. Organizations need to be mindful that the view allowed with built-in web cameras does not meet these specifications. When web cameras built into computer monitors are used, the ability of the proctor to view all components of the environment as well as the test taker's head, torso, arms and hands is not possible. Therefore, each organization must make its own determination as to the acceptability of the view afforded by built-in webcams alone or if additional equipment (i.e., a separate standalone webcam) is necessary.

The proctor should be randomly assigned to test takers, subject to the constraint that the proctor should have no previous or current relationship with a particular test taker.

The test sponsor is responsible for communicating with both the test taker and the proctor about acceptable environments in which to take the test. While offering test takers the flexibility to test virtually anywhere, the test sponsor should give careful consideration to requiring that the test taker test in a private space with limited distractions. Allowing test takers to test in shared spaces (e.g., libraries, break room, living room, multi-user test administration lab) increases their opportunities to interact with each other, increases the number of variables to monitor during testing thereby decreasing the proctor's attentiveness to the test taker, and limits the proctor's ability to adequately control the immediate testing area. In addition, for programs in which communications between the proctor and test taker are oral (as opposed to written), testing in shared spaces introduces additional challenges, such as the risk of infringing on a test taker's privacy rights or disturbing other individuals or test takers in the immediate vicinity.

Ideally, the proctor would have the capability of innocuously scanning the surrounding environment as needed throughout the test, but at a minimum, the test taker should be asked to use the camera to pan the entire room before the test is launched. Surveying the room is particularly important with online proctoring because the proctor does not have control of the physical facilities and was not responsible for procuring the equipment for test delivery and monitoring (e.g., Internet connection, web camera and workstation). Prior to the launch of the test, the proctor must verify the testing environment is compliant with program guidelines and that the test taker does not have any unauthorized resources.

Admitting the Test Taker

Admission procedures are a key component of online proctored tests. These procedures aid the proctor in verifying the test taker's identity and confirming that the test taker is in an environment appropriate for testing, as permitted by the test sponsor.

Admission procedures for an online proctored test will include manual steps and verifications performed by the proctor. The test taker's identity must be verified prior to the launch of the test. This could be done by the proctor comparing the likeness of the test taker and a government-issued ID card or the collection and comparison of biometric information. It is also possible for the system to include automatic features, such as facial detection software or image analysis, to identify the test taker.

An important part of the admissions process is ensuring that each test taker receives training on how to use the testing platform. This includes instructions for navigating the test, submitting answers, flagging items for review, and accessing special features such as testing timers, calculators, or font enlargers. It also includes directions for how to get the attention of a proctor.

Prior to the start of the test, the test taker should also receive information on behaviors and resources that are prohibited during the test. Many test takers taking a remotely proctored test for the first time may not be aware of the strict security guidelines under which the tests are administered. Therefore, this is an opportunity to inform the test takers about the program's security guidelines, as well as any special instructions that will facilitate the proctor's ability to effectively monitor the test taker (e.g., no hats or sunglasses to cover their eyes, no bulky clothing in which prohibited items may be hidden).

With online proctoring, test sponsors need to be mindful of the fact that an online proctor is unable to physically inspect any authorized materials or testing aids prior to the start of a test. While interaction and visual inspection is performed via webcam, a remote inspection is inadequate in ensuring that unauthorized materials are not transcribed or hidden within these materials. In addition, online proctoring does not allow the proctor to ensure the destruction or collection of materials at the conclusion of the test.

If a test sponsor requires the use of specific materials and test aids, in the interest of reducing the likelihood of misconduct and test theft, it is recommended that these materials be embedded within the online proctoring technology itself. For example, the test session could have a built-in calculator, electronic notepad, or the required resource material available within the online proctoring platform.

Proctoring During the Test

It is during the test that a proctor's duties are primarily focused on the integrity of the test administration. This includes ensuring an administration that meets the requirements of the test sponsor and ensures a testing environment that affords test takers an opportunity to demonstrate their level of skill or knowledge on the construct being measured. To that end, the following is a list of the procedures and actions to which a proctor must attend.

- Be aware of any permitted test aids and communicate to test takers those items that are and are not permitted during the test session.
- Follow program guidelines to ensure that test takers are not able to use the computer to access prohibited resources during the test. For self-contained tests in which test takers are not able to access any materials outside the testing system, the browser should be locked down to prevent unauthorized access of the Internet, installed software, or peripheral devices by the test taker. Alternatively, the system should alert the proctor if a test taker attempts to use the computer to access anything other than the test. With some tests, it may be permissible for test takers to use the computer to access a limited number of additional resources. This presents a security challenge in that most lockdown browsers do not allow programs to specify particular exceptions (either for purposes of restricting or detecting access). If technology cannot be leveraged to limit access to only authorized sites, the next best option would be to consider utilizing screen capture technology so that the proctor can monitor test takers' electronic behavior throughout the test. However, screen capture software can also be used to obtain verbatim copies of test items. Programs considering this approach must weigh the relative risks of test takers utilizing prohibited resources against the risks of potentially exposing test content to a proctor.
- Be able to clearly view an appropriate combination of the test takers (head, torso, arms, and hands) and the immediately surrounding area (including the workstation) throughout the test.
- Be able to clearly hear any sounds in the testing environment in order to detect unauthorized assistance throughout the test.
- Have the ability to communicate with test takers, and ensure that test takers can get the proctor's attention at any time. Two-way communication must be able to occur in a timely manner.
- Have the ability to control the test session (stopping, pausing and starting the test as needed). Ideally, any amount of time a test taker spends receiving technical support should not count against the allotted testing time. If this is not managed directly by the testing software, at their discretion, test sponsors may allow the proctor to adjust the remaining testing time to reflect any time spent interacting with the proctor.
- Maintain an audit log of session events that fully document the test history, including any interactions between the proctor, technical support technician and test taker. This process must adhere to jurisdictional data protection and privacy regulations, especially with regard to data capture, storage and use, and implementation of biometric and surveillance capabilities.

- Prohibit breaks, if possible, due to the lack of control over the physical facilities. If allowed, provisions must be made for locking down the test during this time and for re-identifying the test taker and re-inspecting the testing environment before resuming testing. It is also recommended that the test taker not be allowed to return to any material that was presented prior to the break.
- Take breaks in order to remain alert and vigilant, as determined by administrative policies. Provisions should be in place for other qualified individuals to assume the proctoring responsibilities during these times to ensure continuous proctoring throughout the test session.
- Adhere to the test sponsor's policies when there is reason to suspect that the security of the test or the testing environment is being breached.

Concluding the Test

When test takers are finished testing, the proctor should ensure that test takers submit their tests and close out of their test session. The proctor should also communicate to the test takers any necessary end-of-test messages, as provided by the test sponsor (e.g., a reminder not to discuss the contents of the test, information on receiving official score reports). In the event that a test taker simply vacates the work station upon finishing, so long as time has not yet expired, the proctor should continue to monitor the live video to ensure that the test taker has completed the test and is not taking an unauthorized break. When time expires, if the system does not automatically submit the test, the proctor should submit the test on behalf of the test taker and log the individual out of the test session.

Completing Test Responsibilities

The online proctor should follow procedures similar to any test administration. These procedures include ensuring test data are securely transmitted back to the online proctoring vendor and/or test sponsor and completion of any proctoring reports or forms. At the conclusion of a testing session and prior to initiating the next proctoring session, the online proctor should validate that all necessary procedures are completed and any applicable reports/incidents are filed, as dictated by the test sponsor.

Best Practice Selection

The practices and procedures described in this document represent a variety of strategies that could be implemented to mitigate common test security threats and risks. When selecting any of the best practices described in this document, the test sponsor must first understand the test security threats and risks facing their programs and whether or not the identified risks are mitigated to an acceptable level. Security threats and risk are topics covered in an ATP report entitled *Assessment security options: Considerations by delivery channel and assessment model* (2013). As noted in the report:

> "A security threat is any source of potential cheating or test theft. . . . In the area of test theft, a threat would be the potential for someone to hack into a test storage device and capture the content of the entire test. A security risk is the likelihood of a threat and the amount of damage that specific threat would cause. As the variety and multiplicity of particular threats and risks for a testing program are better understood, it is possible to put in place an effective security plan. Properly managed, that security plan will reduce the security risks and mitigate damage from breaches. (p. 4)"

The first step in creating a security plan is to perform a security risk assessment. A security risk assessment is the process of objectively identifying threats, evaluating risks and developing applicable mitigation strategies. In addition, a security risk assessment provides an opportunity to evaluate existing processes, provide security awareness to key stakeholders, and identify the highest priority risks to allocate resources. Without this understanding, a test sponsor will likely make investments into areas of existing familiarity, interest, convenience or latest tools provided by vendors/service providers.

There are a variety of publically available security risk assessment frameworks and methodologies (e.g. NIST, OCTAVE, ISO 27000 series) that test sponsors can utilize to perform a security risk assessment. The fundamental concept to all of these frameworks and methodologies is an objective, repeatable process that identifies threats, evaluates the potential impact/magnitude if risks are exploited and determines whether existing protection mechanisms are suitably designed and operating effectively to address identified risks. The various frameworks and methodologies follow similar structures, but differ in the description and procedural steps. Typically, the security risk assessment process includes:
1. Communicating and planning with key stakeholders;
2. Understanding security risks applicable to your program;
3. Measuring potential impact and magnitude if the risks or vulnerabilities are exploited;
4. Evaluating existing processes, controls and their effectiveness to mitigate identified risks;
5. Identifying potential gaps where risks are not mitigated; and
6. Prioritizing recommendations.

Once the risk assessment is completed, a testing program can utilize the practices and procedures described within this document to identify potential mitigation strategies. Those strategies can be prioritized and implemented as part of an overall security strategy and plan.

Summary

The practices and procedures described in this document represent a consensus of testing professionals. This document is intended to serve as a reference for proctors, testing centers, and test sponsors in evaluating both current and future test delivery models. Much of what is discussed is an attempt to balance the needs of security, standardization, and respectful and fair treatment of test takers. In many cases, enhancement in one area must come at a cost to another area. Therefore, test sponsors and proctors must evaluate the relative importance of each area in making a determination as to the degree to which "best practices" should be adhered. Each delivery model discussed in this document offers both advantages and disadvantages related to proctoring requirements as well as within other dimensions. Ultimately, there is no "best" way to administer tests, but rather a variety of best ways depending upon the requirements of the test and how its results will be used. It is hoped that this document will facilitate informed decisions regarding best practices for each unique situation.

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Appendix A. Sample Proctor Confidentiality Agreement

The confidentiality of test questions and answers is critical to maintaining the integrity of our services. Therefore, proctors must take specific measures to assure the security of the tests we offer.

As a proctor, I agree to safeguard the confidentiality of the tests I administer and will not disclose any information about the tests or the contents of any test materials unless I have specific instructions to do so.

I agree that I will not do any of the following:

- Discuss, disseminate, describe, or otherwise reveal the contents of any test;
- Make copies of a test or any test items, take notes, or reproduce any test or test items;
- Disclose any confidential information about test takers;
- Read the passages, test items, or performance tasks;
- Interpret or read test items or passages for test takers;
- Change or interfere with test taker responses to test items;
- Copy or read test taker responses; and
- Administer or be exposed to tests for classes that I am enrolled in or may be enrolled in during my course of study.

By signing this form, I acknowledge that I understand and agree to ensure the confidentiality of all test contents and adhere to the ethics of secure test administration.

AGREED TO BY:

Proctor: _____   Date: _____