Chapter XII

Delivering Computerized Assessments Safely and Securely

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Abstract

The use of computers to assess knowledge, skills, and attitudes is now universal. Today, distinguishing between the various delivery and security requirements for each style of assessment is becoming increasingly important. It is essential to differentiate between the different styles of computerized assessments in order to deploy assessments safely, securely, and cost effectively. This chapter provides a methodology for assessing the security requirements for delivering computer-based assessments and discusses appropriate security measures based on the purpose and nature of those assessments. It is designed to help readers understand the issues that need to be addressed in order to balance the need for security with the need for
cost effectiveness. The authors hope to give readers a working knowledge of the technological innovations that are making it easier to ensure the safety and security of a wide range of computerized assessments including online tests, quizzes, and surveys.

Introduction

Security is a pressing concern for organizations using computer-based assessments, but so is cost effectiveness. It is essential to maintain the integrity of item pools, keep test scores secure, and minimize the possibility of cheating—but not at an exorbitant price. The thoughtful use of technology, combined with careful consideration of an assessment’s purpose and consequences, makes it possible to deliver assessments safely, securely, and economically.

Overengineering low-stakes assessments can result in needless expense and wasted time. Underengineering high-stakes assessments can erode confidence, jeopardize organizational processes, and call into question the face validity of an assessment.

This chapter provides a methodology for assessing the security requirements for delivering computer-based assessments and discusses appropriate security measures based on the purpose and nature of those assessments. It explores the means and technologies that can ensure the safety and security of a wide range of computerized assessments. The following topics will be covered:

- Assessment definitions
- Considerations in deploying assessments
- Delivery environments
- Technologies for deploying assessments safely and securely
- Future trends

Background

The use of computers to assess knowledge, skills, and attitudes is now universal. Today, distinguishing between the various delivery and security requirements for each style of assessment is becoming increasingly important. It is essential to differentiate between the different styles of delivering computerized assess-