

Chapter XIV

Online Assessment Distribution Models for Testing Programs: Lessons Learned from Operational Experience

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Abstract

This chapter discusses three distribution models for online assessments and their characteristics. Since 1999, Pearson VUE has been assisting clients in achieving their goals of providing globally distributed computerized assessments for high-stakes certification and licensure purposes. We have identified three major distribution models for the delivery of online assessments: (a) controlled, (b) global, and (c) ubiquitous. Each of these models is appropriate for some types of online assessments but not others. The characteristics of each model interact with the features of the online assessment program in important ways to either advance or impede the goals of the assessment. Operational program experience shows that these strengths and weaknesses must be analyzed and considered with the assessment goals as part of a good decision-making process.

Introduction

Since 1999, Pearson VUE has been assisting clients in achieving their goals of providing globally distributed computerized assessments for certification and licensure purposes. One thing we have learned is that the grand promise of online assessment can only become reality as the test owner, test developer, and test-delivery organization work through the difficult planning and execution steps of operating on the test owners' ideas. This chapter describes a framework for contemplating the delivery of online assessments and describes some of the lessons learned by high-stakes testing organizations as they brought their assessments from paper and pencil testing to online assessment.

Background

Computers and measurement have been intertwined since the mid-1970s. Early research into concepts related to computerized testing were funded by the U.S. military, which recognized that the power of computing could potentially enhance the conduct of mental measurement activities (e.g., see Weiss, 1978, 1980). The research program of online assessment continued as the science and technology progressed and, in fact, has stretched into the present with growing theoretical and operational knowledge being developed (as evidenced by this volume).

The actual business of computer-based testing (CBT) evolved circa 1978 through a collaboration of the National Association of Security Dealers (NASD) and the Control Data Corporation. Control Data was hired to develop a computer-based testing system for the NASD regulatory examination program. Control Data was a logical partner choice based on its seminal development (with the University of Illinois) of the PLATO™ computer-assisted instructional system. The NASD remained the sole sponsor (test owner) of an operational CBT program until around 1989, when Novell began its testing program for its Certified Network Engineer classification. The Novell program was the pioneer for the information technology industry, which then saw explosive certification program growth during the 1990s as most of the brand name companies developed certification programs with parallel goals (e.g., Microsoft, HP, Cisco, Sun, and Oracle).

Many U.S. regulatory examination programs also began the process of migrating existing paper and pencil examinations to CBT during the early-to mid-1990s. The first two national licensure programs (after the NASD) to move to CBT examination delivery were the American Society of Clinical Pathologists Board of Registry (ASCP:BOR), which launched its CBT transition in 1992, and the National Council of State Boards of Nursing (NCSBN), which transitioned its NCLEX national nurse licensure program to a computerized adaptive testing (CAT) model in 1994. (For a description of the foundational research leading to online assessment for these programs, see Bergstrom, 1992; Lunz & Bergstrom, 1991; Zara, 1994, 1996).

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