



Chapter XVIII

Feasibility Studies on Transitioning Assessment Programs from Paper and Pencil to CBT Delivery

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Abstract

A wide range of decision points is described in determining if, how, and when an assessment program should be transitioned from paper and pencil administration to computer-based delivery. The key factors in making effective strategic policy decisions regarding a transition are described on the basis of experiences gained in conducting feasibility studies over the past decade. The feasibility study is conceptualized as a five-phase, partially sequential process in which information learned in one phase can trigger reinterpretation of previous understandings and impact directions taken in subsequent phases. No claim is made that the conduct of a feasibility study will guarantee a seamless transition; instead, a strategic roadmap is provided for navigating bumps in the transition road.

Introduction

The sponsoring agencies (sponsors) of assessment programs frequently espouse the fallacy of simple substitution when thinking about shifting the delivery of examinations from paper and pencil to computer-based testing (CBT). The fallacy goes something like this: “By going to CBT, all costs and concerns associated with paper and pencil administration go away. We simply substitute the computer for paper and pencil and we can keep all our regular procedures and costs the same.” This way of thinking is clearly unrealistic, for reasons described in this chapter.

Even as the applications of computer technologies have changed the way we live, work, and play, we have come to realize that the changes affect not just *what* we do, but *how*, *when*, and *where* we do it. For example, making a simple transition from the paper and pencil administration of an assessment to CBT delivery can impact what we assess, how we design the assessment, when we administer the test, where we administer the test, and importantly, how and when scores or the status of pass or fail are communicated to the candidates and other stakeholders. These considerations will also impact the proverbial question “How much will it cost?” and its answer.

This chapter identifies a wide array of decision points to be considered in determining if, how, and when to transition an assessment program to CBT. Relying on the experience gained in the conduct of multiple CBT feasibility studies conducted over the past 10 years, we illustrate the key factors to consider in making effective strategic policy decisions about the transition. Note, however, that this chapter does not claim to provide instruction about making a seamless transition to CBT; instead, it provides a roadmap for navigating bumps in the transition road.

An overall approach to the conduct of CBT feasibility studies is presented, including the expertise required to formulate the major study questions to be addressed, to obtain meaningful input from experts and providers, and to synthesize and evaluate this input in developing the CBT feasibility report, including recommendations, cost estimates, and timelines, if appropriate.

Technical and implementation issues are largely bound together. We have learned in evaluating options for CBT that a transition may be attainable only at a cost that outweighs the benefits. Accordingly, we describe many variables that must be considered in the transition of each of the assessment components. Equally important, however, is the ability to understand the interrelatedness of the components, the overall program context, and the needs and interests of the major stakeholders of the program.

The chapter presents our real-world experiences in dealing with the computerization of large-scale assessment programs in order to demonstrate how a project team can synthesize a variety of elements to produce a realistic appraisal of the transition to CBT. The examples are based on feasibility studies conducted for the sponsors of three high-stakes licensure and certification programs in the professions. One program administered only a multiple choice examination (Professional Examination Service, 2000). The second program administered an essay and short-answer examination in addition to the multiple choice examination (American Institute of Certified Public Accountants, 1999). The third program administered a performance examination in addition to a multiple choice

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