Chapter 14
High-Stakes Assessments in Online Competency-Based Higher Education:
The Assessment Development Cycle

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ABSTRACT

Assessment is the cornerstone of competency-based higher education because the outcome of the assessment ultimately determines whether the student has demonstrated competence in a job-related skill and is thus able to advance in one's career. As a result, the assessment development process must be sufficiently thorough and data-driven to produce high quality assessments. To address concerns and changes in higher education, a multi-stage, longitudinal assessment development cycle is proposed. In Stage 1, assessment specifications and design are established. Stage 2 culminates in the building of assessment forms and standard setting. Stage 3 involves administration and scoring of assessments. Stage 4 focuses on evaluating the validity of assessments via several assessment quality indicators (AQIs). Finally, these stages repeat over time due to a variety of factors such as aberrations in the AQI metrics and the results of large-scale validity studies, resulting in continuous quality improvement of assessments.

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INTRODUCTION

In modern industrial society, building competence has been described as the main objective of education (Hartig, Llieme, & Leutner, 2008). Beginning as early as the 20th century, progressive educators like John Dewey, for example, believed that schools were not only a place for students to gain content knowledge but also a place to socialize learning in hopes of contributing to the greater good. He believed that students succeed in an environment where they can experience and interact with the curriculum and that all students should have the opportunity to take part in their "own" learning journey. Since then, little has changed in the way of educational goals for the "mainstream" 21st-century learner, and the traditional methods of instruction and evaluation of those goals have reached their limits.

Consider the differences between traditional instructor-led and online competency-based higher education (OCBHE) programs. In the traditional instructor-led approach, students are awarded credit hours per "seat time" of instruction, and the transmission of knowledge is passed from teacher to student through some type of lecture or discourse (Johnston, 2011). This format tends to normalize student learning (i.e., targeting the average student), resulting in inefficient use of students' and teachers' time and prevents them from learning at their own pace. As a result, the effectiveness, practicality, and future of traditional higher education programs are mired in debate as the traditional degree's downsizing constitutes a rebuke to the higher education establishment (Blumenstyk, 2014; Kazin, 2020); there is a severe mismatch between cost/value to both students and employers alike, and what students need to launch or advance their careers in the 21st century. Such a structure arguably undermines the teaching and learning process (James, 2003).

In contrast, OCBHE programs aim to prepare students for careers and the workforce by developing, among other things, industry-relevant knowledge, skills, and abilities (KSAs) tied to high-demand jobs (Bresciani, 2019; McClarty & Gaertner, 2015). Students learn at their own pace and earn their degree by demonstrating KSAs in required subject areas through a series of carefully designed competency-based high-stakes assessments (Gyll & Ragland, 2018). For the 21st-century learner, OCBHE is quickly emerging as a more viable alternative and increasing in popularity due to its low cost, scalability (serving a large student population), demographic appeal (assisting traditionally underserved students), flexibility and convenience, and efficiency in which learners earn their degree (Gunawardena, 2014; Kelchen, 2016; Nodine, 2016; Obexer, 2019).

These programs are particularly valuable in a post-COVID era, having already taken the lead as higher education authorities worldwide attempt the onerous task of shifting from formal or traditional learning environments to an online one (Dhawan, 2020; Jones & Sharma, 2020). As the popularity of OCBHE programs continues to rise, the credibility of those programs will be scrutinized by students and employers alike, and their credibility is largely dependent upon the quality of the assessments being used (McClarty and Gaertner, 2015). Without a standards-based framework for developing and maintaining competency-based skills, the OCBHE credentials market will never fully form or function.

In the remaining sections of this paper, we define high-stakes assessment in higher education and explore shifts in the modality of high-stakes assessment and the extent to which computerized, online high-stakes assessments have been successfully implemented in higher education. We operationally define the term "competence," which is the measurement focus of high-stakes assessment scores in OCBHE due to its relevance to job readiness and career advancement. Thus, it is relevant to establishing standards for the validity of high-stakes assessment outcomes. In order to achieve and maintain these standards, we recommend and outline a multi-stage high-stakes assessment development cycle that addresses changes