

Chapter 2

Ensuring Quality of a Large-Scale Online Assessment for Nursing Students in the 21st Century: A Case Study

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ABSTRACT

The resources and time constraints of assessing large classes are always weighed up against the validity, reliability, and learning outcomes of the assessment tasks. With the digital revolution in the 21st Century, educators can benefit from computer technology to carry out a large-scale assessment in higher education more efficiently. In this article, an in-depth case study of a nursing school that has integrated online assessment initiatives into their nursing program. To assess a large class of first-year nursing students, a series of non-proctored multiple-choice online quizzes are administered using a learning management system. Validity and reliability are commonly used to measure the quality of an assessment. The aim of the present article to analyze these non-proctored multiple-choice online assessments in the context of content validity and reliability. We use this case study to examine online assessment in nursing education, exploring the benefits and challenges. We conclude that instructors have to determine how to use the full potential of online assessment as well as ensure validity and reliability.

INTRODUCTION

The popularity of using online assessment as an assessment tool for nursing students increases significantly in the 21st century. Online assessment refers to all the assessment tasks conducted through a computer or the internet (Guàrdia et al., 2017). Online assessment potentially increases efficiency and the flex-

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ibility of assessment and potentially decreases the workload of teachers on marking (JISC, 2010; Davis et al., 2013). In the context of the factually-based discipline and large cohort, a nursing school has also started an online assessment with multiple-choice questions to assess a large class of first-year nursing students. Through the process, academic staff has experienced that online assessment is merely one of the assessment tools. It has advantages, disadvantages and associated problems. This article reports on the experience of using the online assessment system and brings to the fore how the online assessment was designed to minimise the disadvantages and maximise its potential for greater efficiency and flexibility, particularly in large classes. The aim of this article is to analyze critically the problems involving the content validity and reliability of online assessment. The method of multiple-choice questions (MCQs), the non-proctored environment and student's information technology (IT) competence influences the validity and reliability of online assessment is discussed. The article may contribute to knowledge around online assessment in nursing education to enhance educational practice. The challenges and strategies for online assessment in nursing education will be discussed in the following paragraphs.

LITERATURE

The online assessment is witnessing significant change. This is brought about by rapid technological developments and shifts in the students' learning and instructors' work. For institutions, online assessment is particularly attractive as an assessment tool because of the standardized marking, collating data for quality assurance and cost-effectiveness of accommodating large student cohort (Thorne et al., 2015; Guàrdia et al., 2017). For instructors, they can access both students' individual and class reports of the assessment once the assessment ends. Instructors could get a better picture of the progress of students in a large cohort and identify their strengths and weaknesses at an early stage (Secolsky & Denison, 2017). Then follow-up action can be taken to students with learning problems. Moreover, the computer-marking online assessment can save time and resources (Dermo, 2007). It is particularly useful for classes of large size (JISC, 2007; Thorne et al., 2015). It can add value and allow instructors to make more productive use of their time (JISC, 2010). Assessing students is an important aspect of the teaching and learning cycle (Hall, 2018). One of the main objectives of a nursing curriculum is to motivate students and promote student-centered learning (Bern et al., 2017). The online assessment is designed to promote student-centered learning and give information about their progress. The online assessment system makes the result delivered and gives detailed feedback upon completion of test (Davis et al., 2013; Crisp, Guàrdia, & Hillier, 2016). The online assessment system can offer timely and constructive feedback which is crucial to successful learning (Guo et al., 2014; Hall, 2018). These advantages, however, must be weighed against the disadvantages of the online assessment.

BACKGROUND

The online assessment system has ability to provide immediate feedback on progress, statistical analysis of results and distance assessment (Davis et al., 2013). The computer-marking makes a frequent continuous assessment to large class possible (Guàrdia et al., 2017). In light of manpower and teaching time, instructors may not be able to provide frequent large-scale assessment and immediate feedback by using paper-based assessments in class. Therefore, an instructor of Nursing Assessment has initiated low-stakes

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