



Summative and Formative Online Assessments

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Abstract

Higher Education institutions are increasingly utilizing web-based assessment procedures to assess teaching and learning effectiveness. However, questions concerning the reliability and validity of these assessments have risen. Reliability concerns stem from administrative and technological failures prior and/or during the assessment, and validity questions concern whether the 2online assessments provide fair and accurate results. Goldberg and Pedulla (2002) [1] reported that students who performed a 'pen and paper' summative assessment outperformed students who did their assessment online. Similarly, Patronis (2016) [2] showed that more time is required to complete an exam in digital delivery form, than the print mode. However, studies such as (McConnell 2006) [3] that attempted to measure students' attitudes and performance in formative assessment (discussion board, blogs and peer reviews online) hold relatively favourable attitude to online formative assessments. In this study, I will discuss the relationship between the two modes of online assessments; summative (which seeks to monitor educational outcomes at the end of a course) and formative (formal and informal assessment procedures throughout the course to modify performance) and their effectiveness in the teaching and learning processes.

Keywords: summative, formative, assessment, online.

Introduction

Higher education expectations and the needs of the labour market are the resultant of the rapid developments in technology. In fact, online learning application in higher education can be viewed as a quality improvement. Hence, online learning practices are increasingly playing a significant part in the educational institutions. These practices, therefore, have created a new pedagogy and new teaching and learning cultures, wherein assessments and performance evaluations are changing. Online assessments are now one of the key pedagogic objectives in universities around the world. However, debates concerning successful implementation of online assessments have ranged from being of high value to devaluating the learning processes. Studies such as in Olson and McDonald (2004) [4] and in McConnell (2006) [3] have shown that high quality of online formative assessment has a significant positive effect on students' learning. Davis (2015) [5] highlights the importance of formative assessment, as it is critical to a teacher's ability to adapt lessons and check for student understanding. Whereas, the case of using online assessment for the end of the course examinations has not been widely adopted and was criticized for its lack of reliability and validity (Ward et.al, 2001) [6]. To this end, this review aims to provide insight into the two types of online assessments formative and summative online assessments and their impact on student's learning.

The Pedagogical Shift and Collaborative Learning

The revolution of the Internet has changed the way information is located, accessed and disseminated. The digitalization of the learning environment is offering unlimited opportunities for interactive learning and collaboration among students and their peers (Norman,1998) [7]. The opportunities to use technology to support online assessments for learning have also grown with the development of new learning technologies (Johnson et al., 2016) [8]. Laurillard (2002) [9] explained that in an online environment students are actively engaged when they are given tasks to practice the techniques they have been taught. There is always need for activity on the part of the student to make the knowledge their own to embed it in their way of interacting with the world: knowledge and skill, theory and practice combined (Laurillard, 2002) [9]. Furthermore, Roger (1983) [10] adds that in constructivist collaborative learning, the tutor's role becomes that of non-directive and allows learners to manage the

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learning process, including assessments, among their peers. In accordance with other theorists, Berge (1996) [11] asserted that the traditional teacher-student power structure is changing to something more equal in the online environment. Thus, the opportunities to use technology to support assessments for learning have also grown with the development of new learning technologies (Johnson et al., 2016) [8].

Formative and Summative Assessments

Formative assessment is carried out throughout the learning process. It is often carried out through games, quizzes, reflections, self and peer reviews. It intends to provide the learner with feedback to improve performance in the subsequent tasks. Whereas, summative assessment evaluates the quality of students' performance at the end of the course. Stake (1998) [12] drew a distinction between formative and summative assessments describing the process as when the cook and the guests taste the soup by presenting this simile "when the cook tastes the soup, that's formative; when the guests taste the soup, that's summative". In this case, one could argue because the instructor receives and uses information from students to modify materials and courses, the students, as the "guests", are also involved in the formative assessment. Hattie and Timperley (2007) [13] contested that one of the strongest influences on learning is feedback, and Nicol and Macfarlane-Dick (2006) [14] proposed that feedback should become a mechanism to empower learners to become self-regulators of their own learning. Additionally, some argued that students should be given qualitative rather than quantitative feedback (Huhta, 2010) [15]. Others contested that students prefer to see scores on their assessed work at the end of the course (Parsons, 2007) [16].

Evaluating students' performance at the end of the course takes the form of summative assessment. This assessment summarizes students' achievement, usually in the form of grades, and typically consists of examinations of student learning (Bloom, Hastings, & Madaus, 1971) [17]. However, the use of online summative assessment techniques has been criticized for several reasons. They are done for the purpose of grading without giving feedback (Biggs, 1998) [18]. Pitt and Gunn (2004) [19] indicated logistical issues and lack of experience and the unavailability of fully evaluated protocols for successful implementation. Ward et.al (2001) [6] asserted that final online exams are devaluing the assessment because it unacceptably restricts the choice of question types. and a seemingly exhaustive list of potential problems has been addressed by Zakrzewski and Steven (2003) [20]. The most commonly used online summative assessment is Multiple Choice Questions (MCQ). However, it is recognised that (MCQ) assessment instruments often do not test higher level skills or how students apply in practice what they have learned. A student who performs well in the (MCQ) does not necessarily perform well in the subject specific essay assignment. Hence, with the integration of the various technological affordances both online and face-to-face interactions and collaborative knowledge building and assessments can be effective (Jin & Bridges, 2014) [21].

Conclusion

Both assessment techniques are high stakes for the learners, the teaching effectiveness, the course and the program effectiveness such as accreditation. Therefore, like the selection of the summative assessment that must align with the course learning outcomes, formative assessment should be an integral part of the learning process that leads to the summative assessment. Both assessments require careful attention on the selection and deployment of each is need (Kibble, 2017) [22]. To realize the maximum benefit from online learning and assessments, new development should focus on specific content course design. These designs should incorporate the use of online interactive collaborative formative assessments which will, in turn be part of the comprehensive system in which all components work together to facilitate effective learning experience for the students.

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