Using Computer-Based Assessment and Feedback: Meeting the Needs of Digital Natives in the Digital Age

Akrum Helfaya, Keele Management School, Keele University, Keele, UK & Damanhour University, Damanhur, Egypt
James O’Neill, Keele Management School, Keele University, Keele, UK

ABSTRACT

This article describes how assessment and feedback represent two key factors that affect students’ learning. Using e-assessment with prompt e-feedback reduces the gap between present and desired performance and is considered to be a reflexive and dynamic system in dealing with the new generation of digital natives. Action research was used to investigate students’ perception of using computer-based assessment (CBA) and/or computer-based feedback (CBF) in teaching and learning process. Both semi-structured interviews and focus groups were conducted with 44 UG students to assess their perceptions of using CBA and CBF. Findings show that students are generally agreed on the use of and benefits of CBA and/or CBF in teaching accounting and non-accounting modules. For example, these results reveal that many participants valued working online compared to traditional assessment and appreciated the instant feedback they received. Additionally, technology can provide an avenue for assessment and personalised and comprehensive prompt feedback that diverse and digital students need in the 21st Century Higher Education.

KEYWORDS

Accounting Education, CBA, CBF, Digital Natives, Diversity, Teaching and Learning

INTRODUCTION

Over the last decade, a significant debate has arisen about the skills of the current generation of students due to their intensive use of technology and social media; including blogs, forums, photo and video sharing, Facebook, Twitter, Wikipedia, LinkedIn, etc., (Brown & Czerniewicz, 2008), and the best way of involving diverse digital citizens in higher education institutes (HEIs) (e.g., Bullen et al., 2011; Dabbagh, 2007; Debuse & Lawley, 2016; Jones et al., 2010). Online distance learning has seen a vast growth in the last decade, which is expected to continue in the future. In their recent study Gros et al. (2012) reveal that the main reason is that regular use of technology in everyday life indicates that skilled digital learners are able to transmit their digital knowledge and experience to teaching and learning activities (see, also, Jaggars & Xu, 2016; Maier et al., 2016; Wollscheid et al., 2016). Indeed, we cannot ignore that using technology in teaching and learning in higher education (T&L in HE) is a key factor to meet the expectations of “digital citizens” and “digital migrants” (Bayne & Ross, 2007; Debuse & Lawley, 2016; Kim, 2015; Kirkwood & Price, 2005; Oblinger & Oblinger, 2005; Van der Kleij et al., 2015).
The wide use of technology to improve assessment and feedback is a growth area in HE as a response to meet the needs of “the Net Generation” (see, for example, Biggs, 2003, Biggs & Tang, 2011; Bullen et al., 2011; Carless, 2007; Dabbagh, 2007; Debuse & Lawley, 2016; Maier et al., 2016; Race, 2005). Race (2005), for example, stated that teachers are finding that online feedback will enhance the process of providing instant and useful feedback, and generate appropriate evidence for the quality of feedback. Additionally, tutors can use both computer-based assessment (CBA) and computer-based feedback (CBF) to provide timely information on the students’ performance and to diagnose and analyse the weaknesses and strengths of their students. Equally, Biggs and Tang (2011) add that using technology in assessment and feedback will motivate and support students to improve their learning as well as provide teachers with feedback about the effectiveness of their T&L approaches (see, also, Jaggars & Xu, 2016; Maier et al., 2016; Wollscheid et al., 2016). Joint Information Systems Committee (2010, p.5) states that “Assessment lies at the heart of the learning experience: how learners are assessed shapes their understanding of the curriculum and determines their ability to progress. At the same time, assessment and feedback forms a significant part of practitioners’ workloads and, with increased numbers, reduced budgets, and higher learner expectations, continue to be a matter of concern for many institutions.”

With the view that using computer-based assessment and feedback (CBAF) may shape learners’ expectations and engagements in the T&L process (Aisbett & Sangster, 2005; Debuse & Lawley, 2016; Joint Information Systems Committee, 2010; Kim, 2015; Marriott & Teoh, 2012a, 2012b), HE tutors recently decided to use IT in teaching accounting modules using CBAF. For example, at a macro level, universities and students asked teaching staff for diverse assessments and more electronic and timely feedback. Additionally, students asked their tutors for more timely and comprehensive feedback. While at a micro level, accounting and finance departments, professional bodies such as ACCA, CIPFA and CIMA started to use CBA at various levels. Furthermore, such CBA and CBF are not well-developed methods among the accounting groups. Lastly, at a meso level, Tutors believe that adopting CBAF may lead to more student engagement, and help to introduce new computerised accounting programmes and modules (see, Figure 1 below). Additionally, the researchers of this action research (AR) have personal beliefs in using technology in teaching accounting modules and digital learners. Thus, we trust that using technology could assist the process of designing assessment and evaluating the progress of our accounting and business students by giving them detailed and timely online feedback-feedforward reports.

Responding to the above calls, the Accounting group in the Management School of a UK university decided to use technology in assessing undergraduate (UG) students. In 2013, the Accounting staff started with a level 2 accounting module: Intermediate Financial Accounting. In doing so, the module leader, developed a pool, a set of questions available to be selected from, to create a CBAF for this module. And then more CBAFs were developed and extended to other accounting modules at levels 1, 2 and 3 by additional accounting staff. In this light, the main purpose of this AR is to explore and assess students’ perceptions of the use of CBA/CBF they received on their T&L process and academic performance respectively. To this end, an AR methodology was used to answer the following question:

**ARQ1. How do students assess and perceive the use of CBA and/or CBF in T&L accounting modules?**

In doing so, 2 focus groups and 26 semi-structured interviews were undertaken with students studying accounting modules. To sum up, this article used an AR methodology describing a case study where CBAF was introduced into some accounting modules to meet the needs of the current digital students.

To this end, this article is organized into five main sections including an introduction. Section 2 reviews the literature on diversity in HE, assessment and feedback and then considers the CBAF and its impacts in T&L future digital natives and general assessment theory. Then section 3 outlines the AR methodology and its rationale. The qualitative results from both semi-structured interviews and focus groups are reported and analysed in section 4. Section 5 summarises and concludes the article.
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