Chapter 29
Assessment Practices using Online Tools in Undergraduate Programs

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ABSTRACT

This chapter provides an overview of the use of online and Web-based learning technologies as formative and summative assessment. Peer learning and assessment, provision of feedback to students, online tests and quizzes, plagiarism detection systems, and audience response systems are all examined with a view to highlighting best practice and demonstrating that online assessment must still follow sound pedagogy to be both valid and valued by instructors and students alike.

INTRODUCTION

This chapter will demonstrate that the use of online, computer-based or web-based assessments can provide some advantages over traditional modes and methods of assessment. It will also be shown that the efficacy of online assessments still revolves around a sound understanding on the part of the instructor of learning outcomes, student needs and perspectives. As with any type of assessment, constructive alignment is also vital. Poor subject or assessment design cannot be redeemed by the use of technology and student perceptions of such tools are key to maximising student learning outcomes. The objectives of this chapter are:

- To detail the major methods and systems of online assessment as reported in the literature;
- To examine successful implementation strategies of each form of assessment;
- To highlight difficulties and areas of uncertainty for each assessment types;
- To show how some of these problems are being addressed, or where there are gaps in our understanding of online assessment;
- To demonstrate by exemplar that a sound understanding of pedagogy is required to develop successful online assessments.

This chapter will be arranged by assessment type rather than by the chapter objectives. Each objective will be considered within the frame of the specific assessment form to provide a clearer outline of the issues associated with each type of assessment.

PEER LEARNING

Peer Learning, as distinct from peer assessment, generally revolves around a constructivist perspective and requires students to interact and discuss to develop and enhance their own understanding of particular topics or concepts. The main tools used to encourage peer learning are online discussion forums and wikis.

Background

Most learning management systems (LMS) provide facilities for discussion forums and online debates. These forums can be set up for the whole class to participate in, or groups can have their own private discussion areas where they debate ideas initially before presenting their final conclusions to the broader discussion area (Mahdari & Khoolbar, 2010). As such, there are two main ways online discussions are managed: as a way to distinguish individual contributions between team members or as a means of assessing individuals outright (White & Duncan, 2009; Brack, 2009).

Typically, online discussions are based around teacher-posed questions which the students must discuss, debate or consider (Mahdari & Khoolbar, 2010; White & Duncan, 2009; Hakkarainen et al, 2009; Brack, 2009; Manalo & Aravinthan, 2012). Such discussions are typically used as summative assessment, where the quality of postings, the level of engagement, (measured as "active participation" such as commenting and responding to other students' comments), is assessed (White & Duncan, 2009; Manalo & Aravinthan, 2012; Benson, 2009). Where participation in the discussion group is part of the summative assessment, students who performed well in the discussion also tend to do well in the subject as a whole (Manalo & Aravinthan, 2012). Students also benefit by being exposed to their peers who may have differing attitudes and opinions (Brack, 2009). The mutual engagement with discipline knowledge within a social dynamic which occurs mimics the professional world and therefore provides students with both a simulated work environment and the opportunity to develop transferable skills (Gikandi et al, 2011).

Online collaborative learning has a major advantage because time and location of the interactions is no longer a limiting factor (Mahdari & Khoolbar, 2010). This means that a learning community can develop with both on campus and off campus students. It also provides an opportunity for the direct involvement of industry practitioners in the specific discipline without the need to collocate the industry contact and the students (Manalo & Aravinthan, 2012; Haghi & Noroozi, 2010).

When the discussions are asynchronous, students are provided with the opportunity to reflect on their own opinions before actually participating in the discussion and this allows the students to develop reflective and self-monitoring processes (Gikandi et al, 2011). In addition, because online discussions are documented, learners can re-visit their own and other postings and so build their understanding of content and develop reflective and self-critical skills (Gikandi et al, 2011). These reflection activities and provides individual students with peer feedback which builds a collaborative learning community (Gikandi et al, 2011), providing the opportunities for even more peer feedback and discussion.

In terms of student learning outcomes, discussion groups, when used to reflect on learning activities, provide avenues for the synthesis and integration of knowledge (White & Duncan, 2009). In well-devel-

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