Chapter 2.7
Objective–Oriented Assessment in Desire2Learn for Quality Matters

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EXECUTIVE SUMMARY

This chapter is a report on using a course management system Desire2Learn® to facilitate the implementation of the quality assurance standards recommended by Quality Matters. After a brief introduction to the Quality Matters standards, the chapter describes how the Desire2Learn learning environment can be structured to build an interconnected framework to promote objective-oriented, criterion-referenced, dynamic assessment. A pilot study was conducted to explore how learning activities can be assessed in alignment with measurable learning objectives, with reference to criterion-based rubrics. The chapter discusses issues found through the study and lessons learned in using the competency structure of Desire2Learn to enforce objective-oriented assessment.

LITERATURE REVIEW

The value of learning objectives and measurable learning outcomes has long-standing support in the literature (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956; Mager, 1962, 1975). Assessment criteria and assessment constraints are usually

key determinants of the teaching and learning strategies chosen (Australian Flexible Learning Framework, 2004). A considerable amount of research findings indicate that learning objectives should be clearly stated and assessment criteria clearly specified in order to help students see what to achieve and how to achieve it (Koszalke & Ganesan, 2004; Murphy, Mahoney, & Harvell, 2000; Pawan, Paulus, Yalcin, & Chang, 2003; Shea,

Swan, Fredericksen, & Pickett, 2002; Stewart, Hong, & Strudler, 2004; Youngblood, Trede, & DeCorpo, 2003).

Online assessment has been found most effective when learning objectives are clearly linked to assessment activities (Hyde, Booth, & Wilson, 2003). It is generally suggested that learning objectives should be aligned with learning activities (Garrison & Anderson, 2003; Garrison & Cleveland-Innes, 2005; Jensen, Self, & Rhymer, 2002; Kidney & Puckett, 2003; McLoughlin, 2001; McVay Lynch, 2002; Lewis, 2002). And assessment strategies and tasks should be tied to the learning objectives and learning process (Koszalke & Ganesan, 2004; Koszalka & Bianco, 2001). With the connection between assessment and learning process made explicit, students are expected to better see the relevance of the assessment to the learning tasks (Leask, 2001; Hyde, Booth, & Wilson, 2003). To help students relate learning objectives to specific learning activities and assignments, learning objectives should be specified at unit or module levels (Koszalke & Ganesan, 2004; Sims, Dobbs, & Hand, 2002; Stewart, Hong, & Strudler, 2004; Trigano & Pacurar-Giacomino, 2004).

Emphasis on using behaviorally observable terms to describe learning objectives has been criticized for paying excessive attention to behavioral performances and inadequate attention to affective and cognitive processes. In contrast, constructivism calls attention to learners' mental activities and processes. Jonassen (1994) proposed a set of eight rationalized criteria for evaluation mental models. The criteria include the following characteristics: coherence, personal relevance, fidelity with real world, imagery, complexity, applicability/transferability, and inferential ability. In order for the online learning environment to accommodate constructive learning, some changes in instructional design are believed necessary. Among other things, instructional objectives should be negotiated, not imposed; and evaluation of learning should become less

criterion-referenced (Jonassen, 1991). However, objectivists argue against the constructivist view and believe that non-objectivist approach is inoperable. Many instructors teaching foundational subject matters tend to identify with the objectivist view, particularly math and computer science instructors (McVay Lynch, 1998). Jonassen (1994) later modified his constructivist position stating that constructivist approach is more appropriate for advanced learners.

Online assessment is still very much in an embryonic state. Assessment in Web-based instruction (WBI) is different from traditional classroom techniques. While the emphasis of traditional assessment tends to be on the mastery of the body of knowledge underpinning a discipline area, online assessment focuses more on collecting evidence of competence across skills and underpinning knowledge (Hyde, Booth, & Wilson, 2003). With computer-assisted administering, online assessment has some notable advantages such as instantaneous feedback to learners, enhanced by well-designed learning loops, opportunities for multiple attempts as well as reduction in grading time by the instructor.

Online assessment can also provider greater flexibility as to when, where, and how assessment is undertaken. However, online assessment usually needs to be planned from the inception of the teaching program or courseware design to determine how learning and assessment can be best integrated. Effective online assessment is also an integrated process in which learning experience and assessment activity build upon each other and are mostly interdependent (Hyde, Booth, & Wilson, 2003). Currently, online is used more for summative assessment than for formative assessment (Anderson, 2001). More efforts are needed to promote formative assessment in online learning. Formative feedback and progressive monitoring are beneficial to learners (Macdonald & Twinning, 2002; Shea et al., 2002; Thurmond, Wambach, Connors, & Frey, 2002).

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