Chapter 5

Principles and Practices for Enhanced Visual Design in Virtual Learning Environments:
Do Looks Matter in Student Engagement?

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ABSTRACT

The widespread adoption of learning management systems (LMS) in higher education has been promoted as a means of modernizing learning material, improving learning outcomes, and enhancing student engagement, but has often fallen short of these goals. It has been suggested that investment in visual design has the potential to ensure the promise of LMS can be realized. Through the reflections of instructors, a learning designer, and students, this chapter explores the relationship between LMS aesthetics and usability and student engagement. It proposes visual design principles and practices which highlight the combined contribution of functional utility, visual identity, aesthetic appeal, and transactional access to enhancing student engagement and user experience in a virtual learning environment.

INTRODUCTION

Online learning management systems (LMS) play an important role in providing the infrastructure necessary to support the delivery of learning content and resources and are an important complement to traditional face-to-face classroom teaching approaches (Hustad & Arntzen, 2013; Torrisi-Steele & Drew, 2013). Indeed, the very ubiquity of LMS use in higher education contexts has seen them labeled "an omnipresent educational technology juggernaut" (Murphy, 2012, p. 827). However, although it was predicted that the increased adoption and use of LMS would deliver increased flexibility and new efficiencies, open opportunities for participation in higher education, enrich student learning experiences, and enhance interdisciplinary learning (Alhazmi & Rahman, 2012; Coates, James, & Baldwin, 2005; Park & Mills, 2014), many of these benefits are yet to be realized. Instead, it has been suggested that LMSs are most often employed "to manage learners rather than to promote rich, interactive experiences" (Kim & Bonk, 2006, p. 26). In particular, a lack of student involvement in determining LMS requirements has been connected to the adoption of LMS infrastructure and practices that may meet an instructor's functional requirements but which fails to consider a range of non-functional usability requirements for learners such as recognizability, user interface aesthetics and accessibility (da Soledade, Freitas, Peres, Fantinato, Steinbeck, & Araújo, 2013).

If students are unsatisfied, or not engaged in their learning, there is a higher risk of them withdrawing from their enrollment from a single unit or their whole degree (Sun, Tsai, Finger, Chen, & Yeh, 2008). The use and design of an LMS can have a significant impact on student satisfaction (Rubin, Fernandes, Avgerinou, & Moore, 2010). Student engagement has been found to be a core component of student satisfaction in both face-to-face and online learning environments (Al-Mahmood, 2012; Coates et al., 2005; Maor, 2003; Seifert, 2016; Sheely, 2006). In this context student engagement is best described as "the intellectual, emotional and practical interactions students have with educationally purposeful activities and conditions" (Coates et al., 2005, p. 28). Engagement is more than an individual student's decision to devote time and energy to their studies; it also involves the policies and practices that higher education institutions employ to encourage students to engage with their learning (National Survey of Student Engagement, 2007).

While users are influenced by usability, information richness, loading speed, and content relevance, student engagement is believed to also be influenced by the aesthetics of an LMS (Al-Mahmood, 2012). The first impression of a site, based on its visual aesthetics, is important for the user to want to continue to use the site (Schenkman & Jönsson, 2000), and users also draw on aesthetic factors to judge usability and credibility (David & Glore, 2010). Attention to visual design has been promoted as an essential consideration in designing online learning spaces, "not

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