Chapter 11
Leveraging LMS Technology to Deliver Formative Assessment in the Post-Pandemic Era

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ABSTRACT

Learning management systems are technology-based platforms that facilitate the delivery of educational content online. These platforms allow students to review course materials, communicate with instructors and peers, engage in group work, access linked technologies, and complete assignments. Instructors deliver stock and custom content, grade learner submissions, hold live meetings with students, and provide learner feedback through learning management systems. Since the COVID-19 pandemic, instructors have increasingly relied on the learning management systems to deliver formative assessments in online, on-ground, and hybrid courses. At the same time, university administrators have prioritized improving the quality of on-line instruction. Some have endorsed formative assessment as a priority strategy for ensuring quality instruction. However, research indicates that higher education instructors frequently fail to implement formative assessment effectively, limiting the potential benefits of this essential pedagogical strategy. The widespread release of Chat-GPT and other generative artificial intelligence technologies in late 2022 challenged traditional methods for conducting educational assessments, making it even more critical for instructors to use effective formative assessment practices. This chapter offers evidence-based strategies and best practices from the literature to assist faculty in harnessing learning management systems for effective formative

assessment delivery.

INTRODUCTION

Learning management systems have been used in higher education since the 1990s (Dobre, 2015; Lonn & Teasley, 2009). Initially adopted to provide convenient access to content and support efficient communication, these platforms delivered on-demand access to course materials and convenient content transfer in one environment, reducing transactional distance - the psychological space among instructors, learners, and course content (Moore & Kearsley, 1996). By 2015, Brown et al. found that most colleges and universities had adopted a learning management system (LMS). The technology was typically managed by the university instructional technology department or the university learning center staff (Ifenthaler, 2012). Rhode et al. (2017) found that by 2014, virtually all higher education institutions (99%) had adopted an LMS. A few years later, most had also "integrated their LMS with other institutional infrastructure systems, encouraged faculty adoption of the technology, and provided the necessary user training and support" (Rhode et al., 2017, p. 68). Many had also expanded their use of the LMS to include most course modalities, delivering portions of content in on-ground and hybrid courses through the LMS. In their examination of the prevalence of LMS use at a large university in the Midwest, Rhode et al. (2017) found that nearly 64% of all course sections employed the LMS, regardless of whether the course was delivered on-ground, online, or in hybrid formats, and 85% of faculty used the LMS.

Exploring New Instructional Opportunities

With increased LMS use across modalities, the potential of LMS technology to enable more learner-centric teaching strategies began to emerge (Oliveira et al., 2016). Bernauer and Tomei (2015) noted that instructors who skillfully planned and delivered educational experiences through technology could engage "college learners in the construction of their own new knowledge and the expansion of their personal understanding" (p. 125). Instead of simply using LMS technology to transmit knowledge, as was the previous standard for online course delivery, faculty and researchers explored new learner-centric instruction opportunities (Oliveira et al., 2016; Chanpet et al., 2020). Oliveira et al. (2016) noted that instructors could begin leveraging learning management systems to promote "the creation of different strategies to encourage a dialogue and active participation of students" (p. 160). One of the most promising strategies included using LMS technology to facilitate assessment while a course was in progress, generating valuable data instructors and

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