Chapter 5
Improving Teaching and Learning From High-Level and Close-In Features of Assignments and Assessments in an LMS Instance

ABSTRACT
In a formal online learning course in higher education, learners usually respond to both assignments and assessments in order to achieve the learning and to provide evidence of their progress. In a learning management system (LMS) instance, analysts may access (1) high-level descriptions of selected features of the assignments and assessments through an administrator-accessed data portal (and a reports section), and they may access (2) close-in descriptions from the learner-facing side. This chapter describes an exploration of the assignments and assessments in a live LMS instance, based on both high-level and close-in analyses; systematized approaches to harness such information to benefit teaching and learning; and proposes some tentative ways to improve teaching and learning for the particular university.

INTRODUCTION
In a sparse and over-simplified way, the interchanges that occur on a learning management system (LMS) may be conceptualized as a simple call-response, with an instructor or instructional team calling for certain types of work and learners responding. In this highly over-simplified view, the instructor/instructional team creates digital materials to present to learners, create assignments, give feedback to students about their work on those assignments, and design and give assessments. Opening with this extreme over-simplification shows the barebones importance of assignments and assessments (Figure 1). This is not to say that there are not other critical pieces in online learning or that this image is particularly representational, except as a bare representation.

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In a formal online learning course in higher education, learners usually respond to both assignments and assessments in order to achieve the learning and to provide evidence of their progress. Assignments are “assigned” tasks, for credit and non-credit, which are given to the learners. They are referred to as “unsupervised instruments such as assignments as they are less structured compared to quizzes and tests” (Chaturvedi & Ezeife, 2013, p. 1). Assessments are instruments used to ascertain a learner’s level of understanding and skill (summative assessments) and also to enhance their learning (formative assessments); these may take on a number of forms, including essays, quizzes, tests, presentations, and others. In a majority of courses in higher education, the assessments are customized to the course; in others, they come with the assigned textbooks; and yet others, these are standardized assessments created by companies that specialize in assessment creation (and which use empirical methods to arrive at the proper mix of designed items). Assignments are considered less formal than assessments, but both are generally required, used for teaching and learning, and used to assess learner knowledge, skills, and abilities—and as such—they are addressed here together.

A learning management system (LMS) is generally a socio-technical system that enables online learning, with instructors and learners distributed across various locations but connected using information technologies. These systems enable various capabilities, such as enabling the making of persistent profiles, the sharing of digital contents, virtual teaming and intercommunications, the interchange of assignments, the delivery of assessments, grading, and other features. In an LMS instance, analysts may access (1) high-level descriptions of selected features of the assignments and assessments through an administrator-accessed data portal (and a reports section), and they may access (2) close-in descriptions from the learner-facing side. This work describes an exploration of the assignments and assessments in a live LMS instance, based on both high-level and close-in analyses; systematized approaches to harness such information to benefit teaching and learning; and proposes some tentative ways to improve teaching and learning for the particular university. The target LMS is by Instructure, and the Canvas LMS is a hosted solution that is regularly updated every few weeks. Various features are voted on by its users, and those with the highest upvotes are prioritized for development. The “trace” data or “event logging” data (byproducts of the LMS functions) used is from Kansas State University’s Canvas LMS.
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