

# Chapter 1

## Learning Management Systems: A Look at the Big Picture

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### ABSTRACT

*In this chapter, the reader is taken through a “big picture” view of learning management systems, with an emphasis on systems that are used in higher education. Included in this view is a description of common features found in learning management systems and the advantages and limitations of these systems. Also included is the report of a large research study identifying the features used most commonly by students and which of these features are the most and least valued. In addition, the reader is presented with specific resources and options for evaluating, selecting and deploying learning management systems. The chapter concludes with a series of brief profiles of the leading learning management vendors and systems.*

### INTRODUCTION

The Learning Management System (LMS) is an educational technology success story. While many applications of technology into education over the years have failed to take hold, the LMS has reached a level of adoption at higher education institutions never before seen (Harrington, Gordon, & Schibik, 2004). The LMS is an example of an innovation that has become institutionalized (Piña, 2008a; 2008b). In 2002, the Campus Computing Project estimated that three-quarters of all colleges and universities in the U.S. had adopted an LMS, with approximately 20% of all courses being delivered

via the LMS (Campus Computing, 2002). By 2006, Bassett & Burdt had reported that LMS adoption reached 90% (Bassett & Burdt, 2006). The Campus Computing Project’s most recent survey of nearly 500 institutions found that only 7% had not selected a learning management system for campus-wide use (Green, 2011).

In the K-12 arena, it is estimated that between 68%-88% of K-12 school districts in the United States have implemented an LMS (Simba Information, 2011). Current LMS leaders in the education sector include (in order of 2011 market share): Blackboard (including the former WebCT and ANGEL platforms), Moodle, Desire2Learn, Sakai, Canvas by Instructure and Pearson Learning Studio (formerly eCollege) (Green, 2011).

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## **DEFINING THE LMS**

A learning management system is a server-based or cloud-based software program that interfaces with a database containing information from and about users, courses and content. In that sense, it resembles other data systems designed for e-commerce, human resources, payroll, and student records (Piña, 2010). An LMS provides a place for learning and teaching activities to occur within a seamless environment, one that is not dependent upon time and space boundaries (Ullman & Rabinowitz, 2004). These systems allow educational institutions to manage a large number of fully online or blended/hybrid (part online and part face-to-face) courses using a common interface and set of resources. Face-to-face courses that use an LMS for required or supplemental activities are often referred to as web-enhanced courses (Schmidt, 2002).

While “learning management system” or LMS is the most commonly encountered term for these systems, they are also known as course management systems (CMS), personal learning environments (PLE), e-learning courseware and virtual learning environments (VLE), the latter being a popular designation in Europe and Asia (Gibbons, 2005). While some publications will distinguish between course management systems and learning management systems (Ceraulo, 2005; Watson & Watson, 2007), most consider these to be interchangeable and will use the acronym LMS to avoid confusing course management systems with content management systems, which also use the acronym CMS (Piña & Bohn, 2010).

## **EDUCATION VS. INDUSTRY**

This chapter highlights the learning management system as it is used within educational organizations (and higher education institutions in particular). An academic LMS is designed to deliver instructor-led courses in which discussion

forums and other two-way interactions between learners and instructors and between learners and other learners are facilitated. As with a traditional classroom, learners complete assignments and turn them to instructors for grades and feedback, which are kept in a grade book inside the LMS (Piña, 2007).

Learning management systems are also used prominently in business and industry, although their functions and feature set tend to be distinct from those of the academic LMS. At a school college or university, the LMS is seen as an “academic” or teaching/learning system generally under the purview of either Academic Affairs or Information Technology. Outside of academia, the learning management system is most often seen as a part of Human Resources (HR) and is used to manage training delivered asynchronously to employees. This can include compliance training, such as prevention of sexual harassment, or professional development training, such as management skills and, increasingly, talent management (Mallon, 2011). The training modules delivered by the LMS are usually not instructor-led and tend not to include discussion forums for interacting with others. The systems are designed to track users as they advance through training and report which modules have and have not been completed. Major industry-based LMSs include Saba, SumTotal, SkillSoft, ElementK and Oracle. Its annual market research report of the 111 learning managements systems most commonly used in business and industry, Bersin and Associates only listed one system also used widely in the academic market: Blackboard (Mallon, 2011).

## **FEATURES OF AN LMS**

Dabbagh & Bannan-Ritland (2005) identified the most common features of an LMS by categorizing them as pedagogical tools for content creation, communication, assessment and administration.

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