

## Chapter 1.3

# An Overview of Learning Management Systems

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### ABSTRACT

*In this chapter, the reader is taken through a macro level view of learning management systems, with a particular emphasis on systems offered by commercial vendors. Included is a consideration of the growth of learning management systems during the past decade, the common features and tools contained within these systems, and a look at the advantages and disadvantages that learning management systems provide to institutions. In addition, the reader is presented with specific resources and options for evaluating, selecting and deploying learning management systems. A section highlighting the possible advantages and disadvantages of selecting a commercial versus an open source system is followed by a series of brief profiles of the leading vendors of commercial and open source learning management systems.*

### INTRODUCTION

Learning Management Systems, such as Blackboard, Desire2Learn, Angel, eCollege, Sakai and Moodle, have become nearly ubiquitous at colleges and universities (Dabbagh & Bannan-Ritland, 2005). Both faculty and administrators point to the popularity of these systems as evidence that e-learning has become institutionalized within

higher education (Piña, 2008a). Harrington and his colleagues have observed that no other innovation in higher education has resulted in such rapid and widespread adoption as the learning management system (Harrington, Gordon, & Schibik, 2004). Although the media comparison literature attests to a near century long history of technology-delivered instruction, the current generation of learning management systems is just entering its second decade (Piña, 2008b).

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From a technical standpoint, a learning management system (hereinafter referred to as an LMS) is a server-based software program that interfaces with a database containing information about users, courses and content. In that sense, it resembles other systems designed for e-commerce, human resources, payroll, and student records. What makes an LMS unique is its instructional nature. 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 (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).

Learning management systems are known in the literature by several different names. These include course management systems, virtual learning environments and e-learning courseware (Gibbons, 2005). Some authors recognize distinctions between course management systems and learning management systems (e.g. Ceraulo, 2005, Watson & Watson, 2007), while others argue that the term “course management system” should be abandoned, since the acronym CMS is also used for content management systems and may cause confusion (Piña, Green & Eggers, 2008). Notwithstanding these minor controversies, the vast majority of U.S. based journals and other printed and digital media tend to use the terms “learning management system” (LMS) and “course management system” (CMS) interchangeably, while the designation “virtual learning environment” (VLE) is most popular in Europe and Asia.

## **LMS GROWTH**

The Campus Computing Project reported in 2002 that approximately three-quarters of all colleges

and universities in the U.S. had adopted an LMS and that nearly one-fifth of all college courses used an LMS (Campus Computing Project, 2002). By 2006, LMS adoption had increased to 90% (Bassett & Burdt, 2006).

Bersin & Associates, researching industry trends in North American LMS usage, note that between the years 2004 and 2006, the LMS market enjoyed a growth of 26% and generated an estimated 480 million dollars in annual revenues (O’Leonard & Bersin, 2006). Data provided by Eduventures suggests that higher education institutions may have accounted for up to one-half of LMS revenues (Bassett & Burdt, 2006). Between 2006 and 2008, growth was a more modest 10.6%, likely due to market saturation and a slowing economy; however, 2009 revenues were projected to be at least 715 million (Bersin, Howard, O’Leonard & Mallon 2009).

During its first five years (2001-2006), Desire2Learn experienced a 2,117% growth in revenue (Deloitte & Touche, 2007; Kempfert, 2003). Angel Learning became the fastest growing LMS among community colleges, with its market share increasing over 10% from 2007 to 2008 (Lokken, 2009). Blackboard, Inc’s acquisition of WebCT in 2006 created an entity with a client base representing an 80% share of the educational LMS market (Mangan, 2008) and its purchase of Angel Learning in 2009 further cemented its dominance (Carter, 2009).

## **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
- Administration

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