

# Chapter 16

## Structuring and Facilitating Online Learning through Learning / Course Management Systems

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### ABSTRACT

*Online learning—whether it is human-facilitated or automated, hybrid / blended, asynchronopous or synchronous or mixed--often relies on learning / course management systems (L/CMSES). These systems have evolved in the past decade-and-a-half of popular use to integrate powerful tools, third-party software, Web 2.0 functionalities (blogs, wikis, virtual worlds, and tag clouds), and a growing set of capabilities (eportfolios, data management, back-end data mining, information assurance, and other elements). This chapter highlights learning / course management systems, their functionalities and structures (including some integrated technologies), their applied uses in adult e-learning, and extra-curricular applications. A concluding section explores future L/CMSES based on current trends.*

### INTRODUCTION

Electronic learning, whether in higher education, industry, or the public sector, requires an electronic platform. For the widest access possible, these platforms tend to be Web-based, browser-readable, and operating-system or platform-agnostic. The learning may be location-independent (“anywhere”), or it may be location-based, with location-aware devices, and digitally augmented. E-learning is often deliverable on wireless mobile

devices (Zanev & Clark, 2005) for ubiquitous, anytime-anywhere access. This type of learning is multimedia-based and full-sensory. It may involve asynchronous and synchronous interactivity. It may involve wide learner tracking, with full reports of what an authenticated learner has accessed, posted, and expressed.

Most universities and colleges have one official learning system, and some have multiple learning / course management systems (L/CMSES) to address “the diverse needs of faculty who teach different disciplines, for which there exist particular specific instructional technology requirements that are not

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necessarily met by a single system” (Raeburn, Kashy, Gift, Brown, & Kortemeyer, 2006, p. T1F-32). The selection of such technologies is challenging because of the high learning curve to using the technologies (Hill, 2008), the high adoption costs, and the technology integration into a learning circumstance (Ullery, 2002). Often, these require the support of so-called on-campus “evangelists” (Wainwright, Osterman, Finnerman, & Hill, 2007) to encourage administrator, faculty, and staff buy-in.

Technological system choices are important ones because faculty will build contents to these structures, and porting them off to another system will often be time-consuming and morale-deflating. These technologies have enabled cooperative environments for multi-institutional consortial offering of joint degrees (Ribón, de Miguel, & Ortiz, 2009). Such systems offer unified ways to communicate with learners, deploy policies, and train a workforce in terms of compliance with various policies.

L/CMSes are not learning platforms that were designed to deliver a specific, defined curriculum. These are not the systems created for closed computer laboratories or dedicated, stand-alone simulations. Such systems do not offer pervasive 3D immersive spaces. Simply, L/CMSes are technological systems created to enhance mediated education by offering basic “classroom” and learning functionalities. For the greatest flexibility, L/CMSes are designed to be “generics” that work on all operating systems and mainstream browser platforms. They are known as system- and browser-agnostic.

This chapter will highlight the different functionalities of L/CMSes, their applied uses in adult e-learning, their extracurricular applications, and some future uses. These technologies will need to add value: “In order to have an effective Learning Management System (LMS), it should enhance the advantages and at the same time alleviate the issues that exist in traditional learning environments” (Darbhamulla & Lawhead, 2004, p. 110).

## **BACKGROUND**

### **The Evolution of Learning / Course Management Systems**

While a number of electronic platforms are deployed for e-learning, a cluster of integrated tools known as learning / course management systems (L/CMSes) has evolved and matured with the popularization of e-learning. L/CMSes have evolved from barebones functionalities to complex systems capable of offering a broad range of utilities.

Early generation L/CMSes focused on the delivery of simple digital contents. Many focused on a straight classroom simulation (Chen & Shih, 2000) or of the “near-classroom” experience (Leonard, Riley, & Staman, 2003). Some offered rudimentary grade recording and some basic asynchronous interactivity, often through message boards and email.

Later generation learning platforms offer broader social networking connectivity. They offer a wider archival of learner works and in more varied digital forms. Others offer a greater range of assessments, such as alternate assessments through electronic portfolios. Given that eportfolios are not usually stand-alone as an assessment tool but usually used in a context (Zhang, Olfman, Ractham, & Firpo, 2009), these are often deployed as parts of group projects and are publicized through external blog sites which allow users to “record and share learning experiences and reflections that are relevant to a portfolio’s contents (Zhang, Olfman, Ractham, & Firpo, 2009, p. 14). The use of e-portfolio shows an expansion of conceptualization of learning beyond traditionalist, “instructivist,” and information-delivery approaches to teaching and learning to the wider acceptance of social cognition and constructivist concepts and practices. Even more, current L/CMSes integrate social networking sites or have their own built-in student profile tools and learner

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