Learning Management Systems Wikipedia Article

A **learning management system (LMS)** is a software application for the administration, documentation, tracking, and reporting of training programs, classroom and online events, e-learning programs, and training content. A robust LMS should be able to do the following:[1]

- centralize and automate administration
- use self-service and self-guided services
- assemble and deliver learning content rapidly
- consolidate training initiatives on a scalable web-based platform
- support portability and standards
- personalize content and enable knowledge reuse.

LMSs range from systems for managing training and educational records, to software for distributing courses over the Internet with features for online collaboration. Corporate training use LMSs to automate record-keeping and employee registration. Student self-service (e.g., self-registration on instructor-led training), training workflow (e.g., user notification, manager approval, wait-list management), the provision of on-line learning (e.g., computer-based training, read & understand), on-line assessment, management of continuous professional education (CPE), collaborative learning (e.g., application sharing, discussion threads), and training resource management (e.g., instructors, facilities, equipment), are dimensions to Learning Management Systems.

Some LMSs are Web-based to facilitate access to learning content and administration. LMSs are used by regulated industries (e.g. financial services and biopharma) for compliance training. They are also used by educational institutions to enhance and support classroom teaching and offering courses to a larger population of learners across the globe.

Some LMS providers include "performance management systems", which encompass employee appraisals, competency management, skills-gap analysis, succession planning, and multi-rater assessments (i.e., 360 degree reviews). Modern techniques now employ competency-based learning to discover learning gaps and guide training material selection.

For the commercial market, some Learning and Performance Management Systems include recruitment and reward functionality.

Characteristics

LMSs cater to educational, administrative, and deployment requirements. While an LMS for corporate learning, for example, may share many characteristics with a VLE, or virtual learning environment, used by educational institutions, they each meet unique needs. The virtual learning environment used by universities and colleges allow instructors to manage their courses and exchange information with students for a course that in most cases will last several weeks and will meet several times during those weeks. In the corporate setting a course may be much shorter in length, completed in a single instructor-led event or online session.

The characteristics shared by both types of LMSs include:

- Manage users, roles, courses, instructors, facilities, and generate reports
- Course calendar
- Learning Path
- Student messaging and notifications
- Assessment and testing handling before and after testing
- Display scores and transcripts
- Grading of coursework and roster processing, including wait listing
- Web-based or blended course delivery

Characteristics more specific to corporate learning, which sometimes includes franchisees or other business partners, include:

- Auto enrollment (enrolling Students in courses when required according to predefined criteria, such as job title or work location)
- Manager enrollment and approval
- Boolean definitions for prerequisites or equivalencies
- Integration with performance tracking and management systems
- Planning tools to identify skill gaps at departmental and individual level
- Curriculum, required and elective training requirements at an individual and organizational level
- Grouping students according to demographic units (geographic region, product line, business size, etc.)
- Assign corporate and partner employees to more than one job title at more than one demographic unit

Technical aspects

Most LMSs are web-based, built using a variety of development platforms, like Java/J2EE, Microsoft .NET or PHP. They usually employ the use of a database like MySQL, Microsoft SQL Server or Oracle as back-end. Although most of the systems are commercially developed and have commercial software licenses there are several systems that have an open-source license.

Learning content management system (LCMS)

A learning content management system (LCMS) is a related technology to the learning management system in that it is focused on the development, management and publishing of the content that will typically be delivered via an LMS. An LCMS is a multi-user environment where developers may create, store, reuse, manage, and deliver digital learning content from a central object repository. The LMS cannot create and manipulate courses; it cannot reuse the content of one course to build another. The LCMS, however, can create, manage and deliver not only training modules but also manage and edit all the individual pieces that make up a catalog of training. LCMS applications allow users to create, import, manage, search for and reuse small units or "chunks" of digital learning content and assets, commonly referred to as learning objects. These assets may include media files developed in other authoring tools, assessment items, simulations, text, graphics or any other object that makes up the content within the course being created. An LCMS manages the process of creating, editing, storing and delivering e-learning content, ILT materials and other training support deliverables such as job aids.[*citation needed*]

LCMS have the ability to assemble and consolidate learning objects into lengthier "learning paths" or learning experiences that are personalized to a learner's profile, job description, assessment results, or requests. [2]

““By separating Content, Style, and Flow, and integrating extensibility, an extended Learning Content Management System allows courseware authors to leverage their learning content and present it in countless different ways for a wide variety of target platforms and in a remarkably short timeframe.”1 Drawbacks to Learning Management Systems Certain learning tasks are well suited for an LMS (centralized functions like learner administration and content management). Learning itself is different – it is not a process to be managed. Learning is by nature multi-faceted and chaotic. Organizations that now lock into enterprise-level systems will be able to do an excellent job of delivering courses. They won't, however, be positioning themselves well for informal learning, performance support, or knowledge management. The concept is simple: one tool can't do it all without losing functionality. The more feature-rich an individual tool becomes, the more it loses its usefulness to the average user. Connected specialization, modularization, and decentralization are learning foundations capable of adjusting to varied information climate changes.2

Learning management systems compared to learning content management systems

Some systems have tools to deliver and manage instructor-led synchronous and asynchronous online training based on learning object methodology. These systems are called learning content management systems or LCMSs. LCMSs provide tools for authoring and reusing or re-purposing content (mutated learning objects, or MLOs) as well as virtual spaces for student interaction (such as discussion forums, live chat rooms and live web-conferences). Despite this distinction, the term LMS is often used to refer to both an LMS and an LCMS, although the LCMS is a further development of the LMS. Due to this conformity issue, the acronym CLCIMS (*Computer Learning Content Information Management System*) is now widely used to create a uniform phonetic way of referencing any learning system software based on advanced learning technology methodology.

In essence, an LMS is software for planning, delivering, and managing learning events within an organization, including online, virtual classroom, and instructor-led courses. For example, an LMS can simplify global certification efforts, enable entities to align learning initiatives with strategic goals, and provide a means of enterprise-level skills management. The focus of an LMS is to manage students, keeping track of their progress and performance across all types of training activities. It performs administrative tasks, such as reporting to instructors, HR and other ERP systems but isn’t used to create course content.

By contrast, an LCMS is software for managing learning content across an organization's various training development areas. It provides developers, authors, instructional designers, and subject matter experts the means to create and re-use e-learning content and reduce duplicated development efforts. In the remote AICC hosting approach, an LCMS may host the content in a central repository and allow multiple LMSs to access it.

Primary business problems an LCMS solves are

- centralized management of an organization's learning content for efficient searching and retrieval,
- productivity gains around rapid and condensed development timelines,
- productivity gains around assembly, maintenance and publishing / branding / delivery of learning content.

Criticism of LMS is that it is *not* content centric. in this sense the technology is used for organizational control rather than the empowerment of the learner. The platform is usually poor in its content, and is part of a hierarchical bureaucratic (Max Weber) rather than socially oriented system. A/R/D/T is a term referring to its implementation in complex organizations sometimes replacing regular web sites

Rather than developing entire courses and adapting them to multiple audiences, an LCMS provides the ability for single course instances to be modified and republished for various audiences maintaining versions and history. The objects stored in the centralized repository can be made available to course developers and content experts throughout an organization for potential reuse and repurpose. This eliminates duplicate development efforts and allows for the rapid assembly of customized content.

To look at this another way, an LMS is learner–centric. It focuses on e-learning process management and content delivery. In essence, an LMS is software for planning, delivering and managing learning events within an organization, including online, virtual classroom, and instructor-led courses. For example, an LMS can simplify global certification efforts, enable entities to align learning initiatives with strategic goals and provide a means for enterprise-level skills management. The focus of an LMS is to manage students, keeping track of their progress and performance across all types of training activities. It performs administrative tasks, such as reporting to instructors, HR and other ERP systems but it isn't used to create course content.

An LCMS is content–centric. Here, the focus is on the authoring and management of e-learning reusable content.

By contrast, LCMS solutions are ideally suited to create content-centric learning strategies, supporting multiple methods for gathering and organizing content, leveraging content for multiple purposes, and operation for mission critical purposes. LCMS technology can either be used in tandem with an LMS, or as a standalone application for learning initiatives that require rapid development and distribution of learning content.

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In addition, Brandon Hall believes that: "when LCMS technology is appropriately applied and matched to an orchestrated e-learning strategy, with a complete instructional design plan for designing and using learning objects, great efficiencies can and will be achieved, such as:

- The ability to make instantaneous, company-wide changes to critical learning content
- Rapid and productive content development efforts
- Seamless collaboration among subject matter experts and course designers
- The ability to create multiple, derivative versions of content applicable to different audiences from senior management to line-level workers
- Access to find and reuse learning content, 'just-in-time' and 'just enough'
- Ultimate reusability of content by making it available through a wide array of output types such as structured e-learning courses, CD-ROM courses, learning material available from a Palm device or PocketPC, print-based learning for use in classroom settings, and so on."

Learning management industry

In the relatively new LMS market, commercial vendors for corporate and education applications range from new entrants to those that entered the market in the nineties. In addition to commercial packages, many open source solutions are available, including Moodle,Sakai_Project and LRN.

LMSs represent an $860 million market, made up of more than 60 different providers. The six largest LMS product companies constitute approximately 50% of the market. In addition to the remaining smaller LMS product vendors, training outsourcing firms, enterprise resource planning vendors, and consulting firms all compete for part of the learning management market. Approximately 40 percent of U.S. training organizations reported that they have an LMS installed, a figure that has not changed significantly over the past two years. The small business market offers the greatest opportunity for growth, as only 36 percent of these companies are using an LMS. Many of these businesses would like a low-cost, easy-to-use, easy-to-maintain system – but, as yet, they are not willing to make the commitment. An LMS is still a nontrivial investment in money and resources.[3]

According to a 2009 report by American Society for Training and Development (ASTD) 91 percent of ASTD respondents are using LMS's in their organizations, with more than half purchasing rather than building their systems, and one-fifth of respondents opting to go with a hosted platform. And whether built or bought, the majority of respondents are satisfied with their current LMS, with 22.2 percent very satisfied, 31.1 percent satisfied, and 25.6 percent somewhat satisfied. Still, some 13.3 said they were unsatisfied, and 8.8 said they were very unsatisfied.[4]

Most buyers of LMSs utilize an authoring tool to create their e-learning content, which is then hosted on an LMS. In many cases LMSs include a primitive authoring tool for basic content manipulation. For advanced content creation buyers must choose an authoring software that integrates with their LMS in order for their content to be hosted. There are authoring tools on the market, which meet AICC and SCORM standards and therefore content created in tools such as these can be hosted on an AICC or SCORM certified LMS. By May 2010, ADL had validated 301 SCORM-certified products [5] while 329 products were compliant.[6]

Evaluation of LMS is complex task and significant research supports different forms of evaluation including iterative processess where students experiences and approaches to learning Student_approaches_to_learning are evaluated [7].

Trends

Another upcoming trend in this technology is 'Channel Learning' where organizations are sharing online contents and learning from their partner firms. According to a survey by trainingindustry.com, for many buyers channel learning is not their number one priority, but often there is a gap when the HR department oversees training and development initiatives, where the focus is consolidated inside traditional corporate boundaries. Software technology companies are at the front end of this curve, placing higher priority on channel trainings.

Today the biggest trend in the e-learning market is for these systems to be integrated with 'Talent Management Systems'. A talent management software serves towards the process of recruiting, managing, assessing, developing and maintaining an organization's most important resources. Bersin research shows that in 2009 more than 70 percent of large companies have an LMS already and almost one third of these companies are considering replacing or upgrading these systems with integrated talent management systems.

A growing trend in today's market is the ability for publishers to sell training/courses on their site with syndicated training. Syndicated training courses are hosted by a third party learning management system. This allows publishers to sell their courses via a turn key syndication process . The rise and popularity of social media has allowed many content/course creators to syndicate content on their own sites. [8]

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