**Learning Management System (LMS)**

A learning management system (LMS) is a software application or web-based technology used to plan, implement and assess a specific learning process. It is used for eLearning practices and, in its most common form, consists of two elements: a server that performs the base functionality and a user interface that is operated by instructors, students and administrators.

Typically, a learning management system provides an instructor with a way to create and deliver content,monitor student participation and assess student performance. A learning management system may also provide students with the ability to use interactive features such as threaded discussions, video conferencing and discussion forums.

LMSes are frequently used by businesses of all sizes, national government agencies, localgovernments, traditional educational institutions and online/eLearning-based institutions. The systems can improve traditional educational methods, while also saving organizations time and money. An effective system will allow instructors and administrators to efficiently manage elements such as user registration, content, calendars, useraccess, communication, certifications and notifications.

The Advanced Distance Learning group, sponsored by the United States Department of Defense, has created a set of specifications called Shareable Content Object Reference Model (SCORM) to encourage the standardization of learning management systems.

**What are learning management systems used for?**

LMSes are beneficial to a wide range of organizations, including higher education institutions and corporations. The primary use of a learning management system is for knowledge management (KM). KM refers to the gathering, organizing, sharing and analysis of an organization's knowledge interms of resources, documents and people skills. However, the specific role of the LMS will vary according to theorganization's training strategy and goals.

Some popular LMSes used by educational institutions include Moodle, Blackboard Learn and Schoology. Popular enterprise-level LMSes include **Adobe Captivate Prime, Docebo LMS, TalentLMS, iSpring Learn and eFront.**

Employee training and onboarding is one of the most common use cases for an LMS in a corporate environment. In this case, the LMS is used to help train new employees by providing opportunities to access training materials across various devices. New employees can be recognized when they add their own knowledge and feedback, which will, in turn, help employers understand how effective the training courses are and identify areas where new employees need more assistance.

LMSes can be used for extended enterprise training purposes as well. This includes customer, partner and member training. Customer training is common in software and technology companies where users need to be taught how a system works before they can use the new product. Providing ongoing customer training will also help improve customer experience and increase brand loyalty.

Another common use of LMSes in corporate environments is for employee development and retention. The LMS can be used to assign the necessary courses to current employees to ensure they are developing effective job skills, remain informed about product changes and maintain relevant knowledge through new product and compliance training.

How do learning management systems work?

A learning management system can be thought of as a large repository that allows users to store and track information in one place. Any user with a secure login and password can access the system and its online learning resources. Or, if the system is self-hosted, the user must either install the software on their hard drive or access it through their company's server.

Some common features found in a successful LMS include:

Responsive design - Users should be able to access the LMS from whatever type ofdevice they choose, whether it's a desktop, laptop, tablet or smartphone. The LMS should automatically display the version best suited for the user's chosen device. Additionally, the LMS should also allow users to download content so it is accessible while offline.

**User-friendly interface** - The user interface (UI) should enable learners to easily navigate the LMS platform. The UI should also align with the abilities and goals of both the user and the organization. An unintuitive UI risks confusing or distracting users and will make the LMS ineffective.

**Reports and analytics** - This includes eLearning assessment tools. Instructors and administrators must be able to view and track their online training initiatives to determine if they are effective or need adjusting. This can be applied to groups of learners and individuals.

**Course and catalog management -** The LMS holds all the eLearning courses and the related course content. Admins and instructors should be able to create and manage these catalogs and courses in order to deliver a more targeted learning experience.

**Content interoperability and integration** - Content created and stored in an LMS must be packaged in accordance with interoperable standards, including SCORM and xAPI.

**Support services** - Different LMS vendors offer varying levels of support. Many provide online discussion boards where users can connect and help each other. Additional support services, such as a dedicated toll-free service number, are available for an extra cost.

**Certification and compliance support** - This feature is essential to systems used for online compliance training and certifications. Instructors and admins should be able to assess an individual's skill set and identify any gaps in their performance. This feature will also make it possible to use LMS records during an audit.

**Social learning capabilities** - Many LMSes have started including social media tools within their platform. This allows users to interact with their peers, collaborate and share their learning experiences.

**Gamification** - Some LMSes include game mechanics or built-in gamification features that allow instructors and admins to create courses with extra motivation and engagement. This can help students who need additional incentive to complete the course, possibly in the form of leaderboards, points and badges.

**Automation** - Learning management systems should enable administrators to automate repeated and tedious tasks. Examples include user grouping, new user population, user deactivation and group enrollments.

**Localization** - It is important for LMSes to include multilingual support features so the learning and training content can remain unaffected by language barriers. Some LMSes integrate geolocation features that allow them to automatically present the appropriate version of the course immediately upon access.

**Artificial intelligence (AI)** - Finally, artificial intelligence can help an LMS create personalized learning experiences for users by providing course formats suited to their needs, and by suggesting topics the user may find interesting based on the courses they have already completed.

Types of learning management systems

The different types of LMS deployment options are:

**Cloud-based**

**Self-hosted**

**Desktop application**

**Mobile application**

Cloud-based LMSes are hosted on the cloud and often follow a software as a service (SaaS) business model. Cloud-based LMS vendors take care of maintaining the system and performing any technical updates or upgrades. Online users can access the system from anywhere, at any time, using a username and password.

Self-hosted LMSes require software to be downloaded by the user. The self-hosted platform provides greater creative control and customization, but users must maintain the system themselves and often must pay for updates.

Desktop application LMSes are installed on the user's desktop. However, the application may still be accessible on multiple devices.

Mobile application LMSes support mobile learning and are accessible wherever and whenever through mobile devices. This platform deployment type allows users to engage with and track their online learning initiatives on the go.

The various pricing models used for learning management systems include:

**Freemium** - This pricing model allows users to access the basic features of some LMS platforms. Once users start engaging with the more advanced functionalities of the system, then a fee is added.

**Subscription** - Users pay a recurring fee at regular intervals in order to access the LMS. The subscription may grant an organization total access to all LMS features, or it may require the organization to pay for each system user.

**Licensing** - This is either an annual fee that companies must renew or an upfront fee that provides users with unlimited lifetime access.

Benefits of a learning management system

Learning management systems provide users with a variety of benefits, regardless of the type of organization using it. For example, an LMS can save an organization time and money. Instead of making learners take time out of their day to travel and sit through lessons or training, LMSes allow users to complete the coursework at a time that is best for them. Additionally, costs can be cut by eliminating the need for instructors, training days, training materials, travelexpenses and location hiring.

Other benefits of learning management systems include:

the ability to monitor user progress and performance;

increased eLearning accessibility without geographic limitations;

the ability to personalize the online training and learning experience;

the ability to easily and efficiently update eLearning modules and activities;

the ability to easily ensure online training and learning materials are being distributed effectively; and

the use of automation that allows users to forget about tedious, repetitive tasks -- such as user enrollment and certification distribution -- and focus on more important activities.

Finally, centralized learning is another major benefit provided by LMSes. It allows an organization to safely organize and store all big data in one location. This allows instructors and admins to more easily update and maintain learning materials. It also helps produce effective training that is consistent across the organization. Furthermore, most LMSes include advanced encryption features that help guarantee the data and content remain secure.

**Examples of learning management systems**

As mentioned before, employee training and onboarding are some of the most common uses for LMSes. When using an LMS for these purposes, instructors can create immersive learning experiences that allow users to develop new skills and problem-solving capabilities. For example, an LMS could be used to create tutorials that incorporate augmented reality (AR), virtual reality (VR) and even AI training. This will likely have the effect of improving creativity and innovation throughout the workforce.

Another example of an LMS use case is for sales training. This can include onboarding and training, but also extends to include the creation of seminars on product knowledge, customer interaction training and case study-based tutorials that use previous experiences with clients to improve future interactions.

An LMS can also be used to provide students with blended learning experiences. Blended learning combines traditional teaching in the classroom with online learning tools. This method is more effective than simple face-to-face education because it enriches the classroom-based experience with additional digital content that can be customized to fit a student's specific learning needs.

***Some basics you should expect from your LMS:***

Allows schools to safely organize and store data

Allows teachers to easily update and maintain learning materials

Allows data integration/migration with the local Student Information System (SIS)/NASIS

* Providing teachers an easy way to update student grades in one place

Allows teachers to easily integrate other and/or added learning tools (games, social media, your school logo, etc.)

Allows teachers and administrators the option to customize reporting

* to support targeted learning and training initiatives/strategies
* to track progress and learner performance

Allows for collaborations (peer-to-peer, online discussions, etc.)

Allows teachers to personalize learning objectives for all students

Provides teachers online self-paced professional development

**Advantages**

There are six major advantages of LMS: interoperability, accessibility, reusability, durability, maintenance ability and adaptability, which in themselves constitute the concept of LMS.

**Disadvantages**

* Teachers have to be willing to adapt their curricula from face-to-face lectures to online lectures.
* There is the potential for instructors to try to directly translate existing support materials into courses which can result in very low interactivity and engagement for learners if not done well.

The suspension of in-school learning caused by the [COVID-19 pandemic](https://en.wikipedia.org/wiki/COVID-19_pandemic) started a dramatic shift in the way teachers and students at all levels interact with each other and learning materials. [UNESCO](https://en.wikipedia.org/wiki/UNESCO) estimated that as of May 25, 2020, approximately 990,324,537 learners, or  56.6% of the total enrolled students have been affected by COVID-19 related school closures. In many countries, [online education](https://en.wikipedia.org/wiki/Online_education) through the use of Learning Management Systems became the focal point of teaching and learning. For example, statistics taken from a university’s LMS during the initial school closure period (March to June 2020) indicate that student submissions and activity nearly doubled from pre-pandemic usage levels.

Student satisfaction with LMS usage during this period is closely tied to the information quality contained within LMS modules and maintaining student [self-efficacy](https://en.wikipedia.org/wiki/Self-efficacy). From the teacher perspective, a study of [K-12](https://en.wikipedia.org/wiki/K%E2%80%9312) teachers in [Finland](https://en.wikipedia.org/wiki/Finland) reported high levels of acceptance for LMS technology, however, training support and developing methods for maintaining student engagement are key to long-term success. In developing nations, the transition to LMS usage faced many challenges, which included a lower number of colleges and universities using LMSs before the pandemic, technological infrastructure limitations, and negative attitudes toward technology amongst users.

**Telematic teaching**

In the 1980s, modern telecommunications started to be used in education. Computers became prominent in the daily use of higher education institutions, as well as instruments to student learning. Computer aided teaching aimed to integrate technical and educational means. The trend then shifted to video communication, as a result of which [Houston University](https://en.wikipedia.org/wiki/University_of_Houston) decided to hold telecast classes to their students for approximately 13–15 hours a week. The classes took place in 1953, while in 1956, Robin McKinnon Wood and Gordon Pask released the first adaptive teaching system for corporate environments SAKI.[[11]](https://en.wikipedia.org/wiki/Learning_management_system#cite_note-auto-11) The idea of automating teaching operations also inspired the University of Illinois experts to develop their [Programmed Logic for Automated Teaching Operations (PLATO)](https://en.wikipedia.org/wiki/PLATO_(computer_system)) which enabled users to exchange content regardless of their location.[[11]](https://en.wikipedia.org/wiki/Learning_management_system#cite_note-auto-11) In the period between 1970 and 1980, educational venues were rapidly considering the idea of computerizing courses, including the Western Behavioural Sciences Institute from California that introduced the first accredited online-taught degree.