



# Selection of LMS and Video Collaboration Applications

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# Background

COVID 19 is reshaping our life. The way we do our work, our study all are changed. People are working from home. Specially education institutes are the most affected and most of the organization still struggling to take on their teaching learning activities online. LMS, integrated with Video conference tools have opened up new horizon on online teaching and learning.

# Our Today's Focus

- **Colleges and universities** – to deliver online courses to off-site students. Educational institutions also use LMS to augment their on-campus resources or expand their student population by targeting users outside of their traditional territories. ✓
- **HR departments** – to provide training to employees and managers. Corporations usually use LMS courses to advance their key staff's skills or as a requirement to promote them. ✗
- **Professional groups** – Trade societies in regulated industries such as medicine, engineering, and financial services use LMS either to meet compliance training for their members' license or specialty training. ✗
- **Entrepreneurs** – LMS provide enterprising people with the tools to offer crash courses in accounting, marketing/Internet marketing, writing, and other short-term skills-based courses. ✗
- **Hobbyists and self-learners** – Hobbyists who want to share their skills and knowledge can use basic LMS to offer modules on fields as varied as: photography, crafts, exercising, blogging, gardening, cooking, canning, and carpentry. ✗

# Food for Thoughts

What is a University Management System?

What is a Learning Management System?

What is Blended Learning?

What is Synchronous Learning and Asynchronous Learning?

Is there any relation between LMS, UMS, Video conference, Blended Learning?

If I have a University Management System, Should I go for Learning Management System?

Can I replace the University Management System with learning Management System?

Should I develop our own LMS?

What is so important of LMS that we are so much focusing about during COVID?

After COVID, is there any need of having an LMS or Video Conferencing System?

# Outline

- LMS
  - Benefits
  - Challenges
  - Users
  - Standard Features
  - Deployment Options
  - Licensing types
  - Pricing Models
  - Comparison Chart
- Video Conferencing
  - Adaptation in COVID
  - ZOOM
  - Team
  - WebEx
  - Meet
  - BigblueButton
  - Competition

# LMS

- A **learning management system (LMS)** is a software application for the administration, documentation, tracking, reporting, automation and delivery of educational courses, training programs, or learning and development programs

# Benefits of LMS

Organizes eLearning content in one location.

Provides unlimited access to eLearning materials.

Easily tracks learner progress and performance.

Reduces Learning and Development costs.

Reduces Learning and Development time.

Keeps organizations up-to-date with compliance regulations.

Quickly and conveniently expands eLearning courses.

Integrates social learning experiences.

# Challenges of LMS

The biggest drawback of Online Learning is that many things need to be physically done could not be accomplished.

The impact of face-to-face interaction is reduced, as no gathering is required for learning.

It increases the tunnel effect of learning, hence the scope of wide thinking may get reduced and the user may just see through LMS, thereby leaving many opportunities outside.

Some students need motivation and encouragement to learn which will be missing and thereby credibility issues will be present.

# Online vs LMS

A common misconception is that LMS is Online class or vice versa

An online class is a class conducted over the Internet. They are generally conducted through a learning management system, in which students can view their course syllabus and academic progress, as well as communicate with fellow students and their course instructor.

Online classes are generally self-paced, allowing for greater flexibility in completing coursework. Some examples of online courses are MOOCs, or Massive Open Online Courses, as produced by organizations such as edX or Coursera. Many traditional universities offer online courses.

# LMS Standard Features – I (Focusing on Higher Education)

Create an educational workflow or Course authoring tools that makes sense for different environments including blended learning;

Collaborate within the system – both instructor with students and students with students having easy user interface;

Import SCORM-compliant content from educational content producers;

Create, administer and score tests;

Generate reports and analytics for students, teachers, and administrators;

# LMS Standard Features – II

## (Focusing on Higher Education)

Integrate with common classroom tools such as Google Apps, ZOOM, TEAM;

Integration with Human resource information system (HRIS), University Management System or ERP, Customer relationship management (CRM)

Integrate with Plagiarism Checker

Mobile access, a key feature as a study found that eight in ten (86%) college students regularly use a smartphone.

Security

# LMS Deployment Options

**Cloud-Based (SaaS)** Hosted on the cloud. The LMS vendor maintains the system. Learners and collaborators login with a user name and password. There's no need to install any software. The downside is that it cannot be customized. New updates are instantly available.

**Self-Hosted** This requires software downloads. The LMS vendor may offer direct download from their site. Self-hosted LMS platforms allow for greater creative control and customization.

**Desktop Application** The LMS app is installed on the desktop. Some desktop apps are even accessible on multiple devices, making it easy for entire eLearning team to collaborate.

**Mobile Applications** are accessible whenever, wherever via mobile devices. Online training content is uploaded so that online learners can track online training initiatives on the go.

# LMS Licensing Types

## Open Source

Generally free and online based. Source code can be modified. Active online communities exist. The drawback is that some degree of programming experience needed. a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to study, change, and distribute the software to anyone and for any purpose. Money is spent on IT staff, especially programming. In addition, Steep learning curve is required to manage such system.

## Proprietary

Both installed and cloud-based LMS solutions offer open-source and closed-source instances of an LMS. is non-free computer software for which the software's publisher or another person retains intellectual property rights—usually copyright of the source code, but sometimes patent rights.

# LMS Pricing Models

## Licensing

Typically, an annual fee, renewed on a yearly basis, or an outright upfront fee that grants unlimited lifetime access.

## Subscription

Usually grants access to all LMS features or relies on a pay-per-user model. This pricing model involves a fee for each user, or active user.

## Freemium

These LMS platforms are free for basic features but a fee is charged for more advanced functionalities, such as add-ons or upgrades. For instance, a more comprehensive eLearning assessment engine or advanced reports.

# LMS Cost Comparison - I

LMS pricing is not a simple math. No single standard pricing structure for LMS exists

For Example

Blackboard Learn - Available either in

managed hosting, self-hosting (On-Premise) or software-as-a-service (SaaS/cloud) deployments.

For personal teaching space, Blackboard learn can be used for FREE.

In one source it is found that full Blackboard package is \$160,000/year.

Institutional access to Blackboard Learn follows a specific pricing strategy which Blackboard does not make public. But it is understood that, in general, pricing is based on the number of FTEs (full-time equivalent learners) that will be using the system on an annual basis and is customized towards the organization's needs.

# LMS Cost Comparison II

## Open Source LMS is FREE – Is it Free?

Cost element (other than License Cost)	Moodle	
	One-Time costs	Recurring costs
Server Set-up	\$4,000	
Site Branding and look and feel	\$1,500	
Customization of features	\$10,000	
Hosting		\$3,000
Security certificate (SSL certificate)		\$150
IT Personal (full/part-time or Vendor)		\$12,000
Administrator (full/part-time or vendor)		\$14,400
Administrator and user Training	\$3,000	
Upgrades		\$3,000
Sub-Total	\$18,500	\$32,550
Total Cost for 3 years	\$18,500	\$97,650

# LMS Comparison Chart

LMS Software	Rating	Deployment Type	Approx. Users
<b>Mindflash</b>	5/5	Cloud Hosted	--
<b>Skyprep</b>	4.5/5	Cloud hosted & open API	--
<b>Knowmax</b>	4.5/5	Cloud, On-premise, Hybrid & Open APIs	--
<b>TalentLMS</b>	4/5	Cloud hosted, open API	2504500
<b>Moodle</b>	4.5/5	On Premise	125555200
<b>Edmodo</b>	4.8/5	Cloud hosted	55123002
<b>Blackboard</b>	4.5/5	Cloud hosted	24345120
<b>Schoology</b>	4.3/5	Cloud hosted, Open API	19000123

<https://www.softwaretestinghelp.com/learning-management-system/>

# Video Conferencing Software

These are the software getting tractions now a days due to pandemic situation.

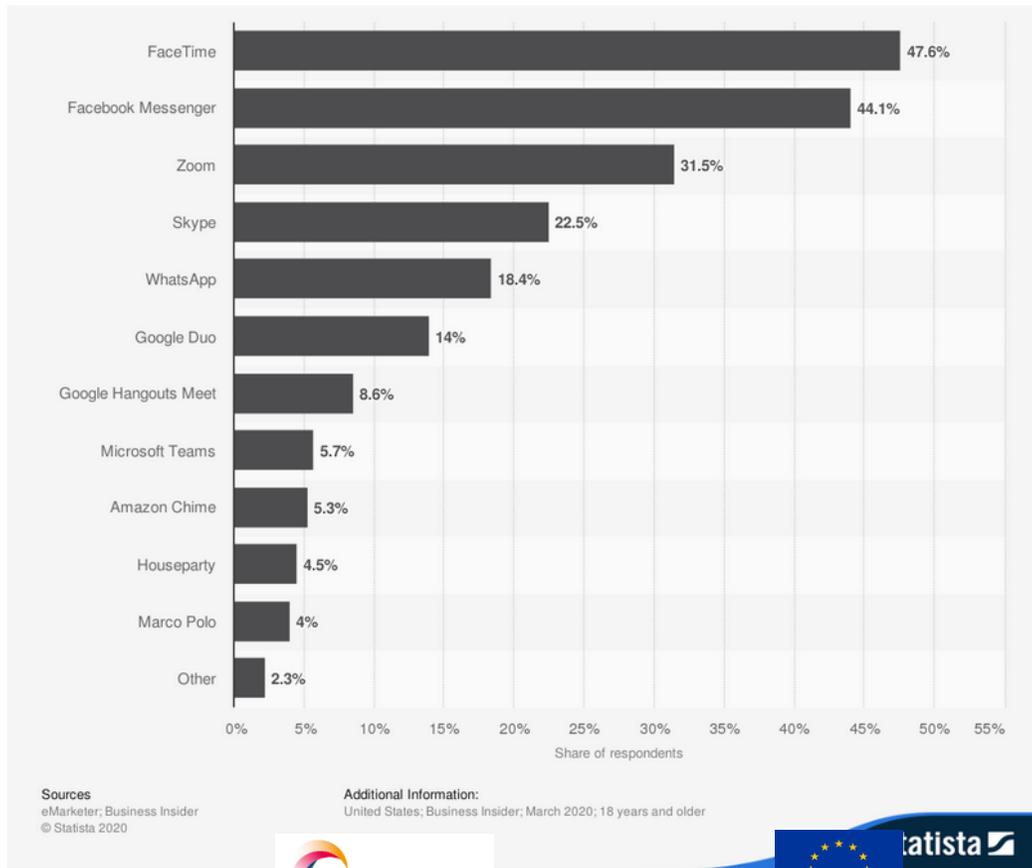
Here one to one or multiparty can continue video based collaborative discussion online.

Companies use such software to hold meetings among their internal employees at different sites or with their clients.

Education organizations now use these software for taking online classes, arranging conferences through webinars.

# Video Conferencing Systems

Growth of Popular Video Conferencing Systems During COVID 19, 2020



# Video Conferencing Tools - ZOOM

one-to-one chat sessions that can escalate into group calls, training sessions and webinars for internal and external audiences, and global video meetings with up to 1,000 participants and as many as 49 HD videos on-screen simultaneously.

Zoom sessions can start from a web browser or in dedicated client apps for every desktop and mobile platform, with end-to-end encryption, role-based user security (including HIPAA compliance), and easy-to-use screen sharing and collaboration tools. Meeting invitations integrate smoothly with popular calendaring systems, and meetings can be recorded as local or cloud-based files, with searchable transcripts.

The free tier allows unlimited 1:1 meetings but limits group sessions to 40 minutes and 100 participants. Paid plans start at \$15 per month per host and scale up to full-featured Business and Enterprise plans.

# Video Conferencing Tools – Microsoft Teams

A feature of Office 365 Anyone can sign up for the free version of Microsoft Teams using a personal email address; that tier supports up to 300 members, with guest access, one-on-one and group video and audio calls, shared files (2GB per user and 10GB per team), screen sharing, and document coloration using online Office apps. Starts from \$8 per month.

Where Teams begins to deliver its full promise as a video conferencing solution is in an organization that runs on a Business or Enterprise version of Office 365. Team members can share files (up to 1TB per user), schedule meetings directly from Outlook, record meetings, and collaborate on documents using the desktop Office programs and SharePoint Online. Those paid plans also support online training sessions and webinars.

For anyone who already lives in SharePoint and Outlook, Microsoft's conferencing software should be a tight fit.

# Video Conferencing Tools – Cisco WebEx

The free conferencing plan (up to three users) is surprisingly full-featured, with HD video, screen sharing on desktop and mobile devices, and limited recording options; it supports up to 50 participants per meeting, with meeting times capped at 40 minutes and online storage limited to 1GB.

Three paid plans are available: Starter (\$13.50 per host per month, 50 attendees), Plus (\$17.95 per month, 100 attendees), and Business (\$26.95 per month, with a five-license minimum, supporting up to 200 attendees).

# Video Conferencing Tools – Google Meet

The exact feature set depends on G Suite version; the number of participants, for example, is limited to 100 for G Suite Basic, 150 for Business, and 250 for Enterprise. For live streaming (up to 100,000 audience members) and the ability to record meetings and save them to Google Drive, you'll need G Suite Enterprise. Starts from \$6 per month

If your business is standardized on Google's productivity and email tools, this video conferencing option should be on your shortlist

# Video Conferencing Tools – BigBlue Button

This is a OpenSource web conferencing tool.

Enables teachers to share audio, slides, chat, video, and desktop with students. Built-in polling makes it easy to engage students and recording lectures means that one can make them available for later review.

There is a whiteboard tool in BigBlueButton, annotations are automatically displayed back to the students in real-time. Presenters also can zoom, highlight, draw and write on presentations making points clearer to remote students by participating together.

There is no limit on the number of webcams in a session (only limited by bandwidth).

Easily integrable through API with custom applications

# Video Conferencing Tools – Getting Better

There was an admit all button in ZOOM. I found many good comments on this feature. Meet earlier did not support this. Recently Meet has added this feature.

Usually, the first experience is always the best experience. I have found users who first used ZOOM denied to shift to MEET and vice versa.

ZOOM survived their security vulnerabilities and now more secured than before.

Breakout room in ZOOM is useful. Jam board in meet is useful.

GSuite account compatibility with meet is an extra advantage. Sending mail to all participants, or notices to all participants through mail is easier. Google calendar is updated for all participants.

# Cost Comparison Video Conference

ZOOM	FREE	\$90 Education (150) / Year / License	\$90 Education (200) /year	\$350 / Year / License
	100 Participant	100 Participant	300 Participant	300 Participant
	40 min Unlimited 1:1	30 hours	30 hours	30 hours
		1GB Cloud storage		1GB Cloud storage
MEET (Otherwise integrated with Gsuite – client specific – sometimes FREE)	FREE	\$96 / Year / User	Enterprise	
	100 Participant	150 Participants	250 Participants	
	60 min	300 hours	300 hours	
	(Sep 30,2020) 15GB per user	100GB per user	Unlimited storage	
TEAM	FREE is time limited	\$60 / month / user	\$150 / Year / User	\$240 / Year / User

# Bandwidth Comparison

	Zoom	Googlemmeet	Teams	Jitsi
Uplink/down link				
720pixel	540 Mbytes	2,160 Mbytes	2,160 Mbytes	2,160 Mbytes
720pixel	1,080 Mbytes	4,320 Mbytes	4,320 Mbytes	4,320 Mbytes
1080pixel	1,600 Mbytes	6,400 Mbytes	6,400 Mbytes	6,400 Mbytes
1080, group	2,400 Mbytes	9,600 Mbytes	9,600 Mbytes	9,600 Mbytes

Note: Bandwidth may vary proportionately with increase/decrease in participants.

Reference – Indonesia REN July 2020 by Basuki Suhardiman

# Conclusion

At present, most of the frontline products are very competitive and updating their software features very frequently. So, our focus should be to select such tools that meet our objective. It is not the tools that make us special, it is the effective use of that tool that make us successful.

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Q & A