Google Apps: An Alternative to Learning Management System

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Abstract: *Technology is used in education for increasing the effectiveness of teaching and learning. It helps in sharing, collaborating, communicating and creating a cohesive learning environment. One of the technological initiatives was the introduction of Learning Management system (LMS), which is considered to be revolutionary aid for teaching and learning process. However, everyone could not use them because they were expensive and were not able to meet every learners and teachers requirements. There were even criticisms on its efficiency and effectiveness. Development of Cloud based services and other tools have created alternatives, which can be seen as alternatives to LMS. The most popular is the cloud based Google Apps. These google apps can be creatively used to function like LMS. In this paper, I have explained how to use Google Drive and Google Sites as LMS. These apps were used by me for delivering and managing the course content, communicating, collaborating, just like it is done in LMS. The implementation methodology of Google Drive and Google Site for effective teaching-learning is elucidated. The comparison of Google Drive and Google Site over the LMS, along with its benefits are also explained.*

Keywords: LMS, Google Apps, Google Drive, Google Sites

I. Introduction

Technology today is being used in every domain of our lives, be it education, business and even in our household work. For instance earlier, technology in education was a topic of debate among academicians. Everyone had their own views on education and making it technology aided. A large number of pros and cons of use of technology in education were discussed and debated. But, gradually it was accepted that technology aids positively in education. Technology and education are a great combination if used together with a right reason and vision [1]. Technology fills classrooms with digital learning tools, such as computers and hand held devices; expands course offerings, experiences, and learning materials; supports 24 x 7 learning; builds 21st century skills; increases student engagement and motivation; and speed up learning. Technology also has the power to transform teaching by bringing in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning.

In late 90s the Learning management system was introduced to use technology for increasing the effectiveness of teaching and learning. But, over a period of time they lost their charm and were criticized severely. Academicians began to search for simpler and cost effective alternatives which could be customized. The advent of cloud based apps such as Moodle, Edmodo and Google Classroom proved to be fruitful. The free google apps such as google drive and google site can be used as a replacement to LMS.

II Learning Management Systems

Today there are numerous technologies used in education to enhance teaching and learning techniques. One of the most widely used is the learning management systems. The emergence of LMS in late 1990s was considered as a significant technological innovation. A LMS (sometimes also called Course Management System, Pedagogical Platform or an E-Learning Platform) is a software system that delivers courseware plus e-tutoring over the Internet [2]. The typical features of a LMS are:

- Course Management, e.g. lists of courses, registration, credit information and syllabus, pre-requisites
- Teaching Materials, i.e. courseware
- Self-assessment quizzes
- Lessons tools: Authoring for contents (structured XML or HTML) and quizzing/testing (e.g. Java Script generators) or alternatively ability to import standard IMS or SCORM packages developed with an external tool (e.g. Dreamweaver).
- Asynchronous Communication: email, forums

- Synchronous Communication: chat, whiteboard, teleconferencing
- Student tools: Home page, self-tests, bookmarks, progress tracking, etc.
- Student Management Tools: progress tracking, on-line grading (assessment)

Due to this excellent feature it was presumed that LMS would certainly enhance the quality of teaching and learning. It was also presumed that over a period of time the LMS would be deployed widely across the world for educational delivery. The type of LMS suited for a particular organization would depends the organizational needs, audience, digital ability, the LMS's complexity and budget of the organization [3]. This above organizational factor necessitated the need of developing custom made LMS. It became difficult for the vendors to make such custom made LMS. This led to huge criticism against LMS in recent years. Some of the major criticisms against LMS are

1. *LMS are very expensive to support*
2. *Running and using an LMS requires significant technical expertise*: IT staff need to be trained to support and maintain the LMS and even faculty and students need to learn how to use the software effectively. LMSs is not easy to use. There is a learning curve.
3. *LMS tends to reinforce a teacher and content-centered approach to education and maintains a transmission model of teaching*: Research shows that faculty tend to make much greater use of tools that have an administrative and teaching focus: things like the gradebook, announcements, assessment and course material distribution and much less use of the tools with a learning focus like the discussion forums, blogs, and collaboration spaces.
4. *Learners are disconnected from the open internet and networks:*
5. *LMSs also hinders continuous learning:* Students enrolled in the course can communicate with peers and instructors is confined to the course term. Students spend 12-15 weeks building connections with their peers and developing their networks only to have this discontinued at the end of each term as the courses and all the interactions are deleted. The idea of sharing contents and reusing products generated during classes does not exist in the world of "LMSs"[4].
6. *LMS are closed circuit platforms (logins, restricted access to classes):* LMS are closed circuit platforms (logins, restricted access to classes). The resources could not be shared outside the course. Students could communicate only with the peers in classroom and not with outsiders.

Thus, there is a need to look for an alternative to LMS and thankfully today there are multiple options, as Moodle, Edmodo or Google Classroom many others. One of them is using Google Apps. To understand this lets try to understand what are google apps.

III Google Apps

Google Apps is a suite of Google applications that brings together essential services to help the users. This is a hosted service that helps businesses, schools, and institutions to use variety of Google products [5]. The Google apps can be of great use to educational organizations. Some of the products which an educationist can use are:

1. **Gmail/Inbox**: communication, tasks, groups, reminders, pen pals.
2. **Drive**: cloud storage.
3. **Docs**: content production, real-time collaboration, multiple viewing modes (edition, revision, view), peer review, wikis, handbooks, translations, research (through its integrated tools), functionality extension through add-ons.
4. **Sheets**: student lists, grades, peer review, rubrics, charts, inventory, tracking, simple database.
5. **Slides**: lectures, presentations, screencasts, storytelling, comics, flashcards.
6. **Forms**: exams, surveys, classroom check-in/out, registration, summary of results, data collecting from experiments, activity report submission, appointments, requests.
7. **Sites**: bare bone of our LMS.
8. **Calendar**: appointments with students and parents (and assistant teachers), course's events (exams, deadlines), notifications (sudden problems, schedule changes) and tasks (homework).
9. **Hangouts**: online lectures, screencasts, meetings, tutoring, lesson recap.
10. **Google Search** information search, dictionary, Math solver, service locator [6].
11. **Groups and communities**: communication, forum, social interaction, research, sharing.
12. **Youtube (and Youtube teachers)**: documentaries, students' video activity log, dramatization, screencasts, Khan, EdTed. Online video editing.
13. **Analytics**: student behavior inside your LMS (Blogger has its own stats, but both can be combined).

14. **Android and Chrome Apps**: there are tons of them for educational purposes.

Benefits of google apps for educational organization
1. Google Apps for Education includes dozens of critical security features specifically designed to keep your data safe, secure and in your control.
2. With Google Apps for Education, everything is automatically saved in the cloud - 100% powered by the web. This means that emails, documents, calendar and sites can be accessed - and edited - on almost any mobile device or tablet. Anytime, anywhere.
3. Fast, easy collaboration is what makes Google Apps unique. Our website and document creation tools offer real-time editing, powerful sharing controls, and seamless compatibility – an ideal environment for learning in the 21st century.
4. Google Apps for Education can help streamline academic tasks like essay writing and class scheduling. A group of students can work together on a piece of work in Google Docs, seeing changes in real time rather than waiting for versions to be sent via email.
5. Spend less time managing your IT infrastructure. Your students, teachers and administrators always have access to the latest software, including the newest features and security updates.
6. Moving to Google Apps helps reduce both your organization's overall expenses and its environmental impact. Apps is powered by Google's energy-efficient data centers, so it's less energy and carbon-intensive than on premise servers [7].

IV Implementation methodology of Google apps in classroom

In this article I have discussed how Google drive and Google sites can be used as an alternative to LMS. Some of my personal experiences of using Google apps for classroom are shared below. For a classroom one is required to share multiple number of docs, spreadsheets, pdfs and sometimes even videos before and after class. Google Drive can be used for sharing files that are heavy in nature and the ones that could not be shared using Google Gmail and other mail services. Google Drive is a better alternative as it allows to store work permanently and also allows sharing of resources with multiple students having google group account. The students has to create a Google Groups accounts so that everybody can receive the shared content. Google Drive proved to be a better alternative to LMS which one would use for content sharing.

What makes Google Drive preferable over LMS?
Google drive is a cloud based storage platform used to organize files across various devices. It is available form Gmail or Google Apps account and includes 30 GB of storage space (spread out between, photos, Gmail and drive). Natively created files do not count towards space. Ex Google presentation created within Google drive. All files saved to Google Drive are simultaneously synced so you can access the updated information no matter you are using your iPhone, android phone or PC Laptop. It is both a storage solution for any file type and more importantly an editing tool.
To deliver content, one can organize all the modules in folder trees and place the files unit by unit and share with the students online. One can share the files in following ways.
1) Share as edit: so that the whole class can view and edit the files as per their needs
2) Share as view: students can copy, move and view the files in their respective folders
3) Share as view with comments: allows students to leave feedback so that teacher can respond
Thus, the teacher can create (docs, sheets, forms, slides), store, share and manage the content, creating a secure, efficient, flexible and permanent cloud based open learning environment. Additionally, all these features are for free. Some of these features even an LMS may not offer.

Using Google Sites as LMS
Other alternative which can be used is creating a google site. One can build a google site which can act as a LMS. Google site is a best platform because one can use all the Google Apps like google docs, google slides, google sheets, Google Calendars and many more at the same place. One can create assignments, grades, assessments, accouchements etc., the same ways as one does in a LMS.

How Google sites can be used as LMS?

Assignments: In LMS there is usually a page where teacher can place all of assignments and allow students to submit them to the teacher. One can create similar assignment page using a Google Doc and Google form (for objective questions). The responses entered in a google form can be viewed in a google sheet. The teacher use Google Drive to view, comment and grade assignments.

Assessments/Exam/Quiz

One can use Google Forms to create assessments and have the students take them online. The assessment responses all feed to a spreadsheet that allows the teacher to easily grade them.

Grades

All LMS' have a way for the student to check their grades. Google Apps grading can be done in the following way. Each student has their own page in the Google Site. If one is using a Goggle apps account one can secure the page so that only the named student can access it. Gradebook is a spreadsheet that can be created and embedded in the google site student's page

Groups

Just like the chat feature in LMS, Google Groups can be set/created to communicate, share resources between teachers and students.

Calendar

In LMS there is a section for announcement, news, upcoming events and important dates. This can also be done in the google site page by creating a google calendar to highlight important dates, events, holidays, assignment submission dates, exam and project presentation dates. Thus, Google Sites can be used as an alternative to LMS which are free and can be easily customized according to the teachers and students use without much technical difficulties and maintenance issues.

V Conclusions

The Learning Management Systems which was supposed to be used for using technology in education sector has several limitations and thus were not popular. The possible reasons are identified and discussed here. The emergence of cloud based apps such as Google Apps was explored for a possible replacement to LMS. Two Google apps viz Google Drive and Google Site was discussed with the emphasis on its use for educational purpose. The implementation methodology of Google Drive and Google Site for effective teaching-learning is elucidated. The comparison of Google Drive and Google Site over the LMS, along with its benefits are also explained. Finally, it is concluded that Google Drive and Google Site are much better than LMS if used effectively and intelligently.

Acknowledgement

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