ONLINE LEARNING: A 21ST CENTURY APPROACH TO EDUCATION

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ABSTRACT: Online learning (e-learning or e-education) is a learning/teaching system based on utilizing electronic resources, with a network enabled transfer of skills and knowledge, in which delivery of education is made to a large number of recipients at the same or different times. E-education is popular because every day people turn to the internet to access information, online courses are now inevitable like never before, virtual classrooms are on the rise, and the number of students registering for online courses has increased tremendously. Online learning activities are increasingly being used by personnel in the corporate sector. The World Wide Web (WWW) is being used to improve communication, collaboration, sharing of resources, promoting active learning, and delivery of education in distance learning mode. Hence, this research explores online learning as a 21st century approach to learning.

KEYWORDS: Distance Education, E-learning, E-education, Online learning, 21st Century, Education/Learning Approach

INTRODUCTION

Online learning includes but are not limited to courses offered by tertiary institutions, these courses are 100% virtual, barring Massive Open Online Courses (MOOCs), Virtual classes or web-based learning, offered over the net, is stood out from the old courses taken in an exceedingly physical staff building. it's the latest improvement in separation instruction that started around the mid-1990s with the expansion of the net and furthermore the World Wide Web. A greater part of organized foundations or institution uses a Learning Management System (LMS) for the organization of online courses. By a wide edge the most standard methodology today is E-Learning. What does this e stand? Almost everything in 21st century has linked with e which means electronic. As demonstrated by the Online Learning Consortium (OLC), online enrolments continue creating at faster rates foundations of cutting-edge training, which envision that the pace of advancement will continue growing.

Definition of Online learning

Online learning is defined by many people, in many ways, since the term online learning is used inconsistently, in order to gain a clear understanding of what online learning is, here are a few definitions of online learning. online learning would incorporate all educational activities that are carried out by individuals or groups working online or offline via networked or standalone computers, laptops, tablets and other electronic devices.

• *Brandon Hall* defines Online learning as: "instruction that is delivered electronically, in part or wholly via a Web browser, through the Internet or an intranet, or through multimedia platforms such as CD-ROM or DVD."

• *Rosenberg*: "Online learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance." Rosenberg claims that online learning is based on three fundamental criteria:

Online learning is networked, instant updating, storage and retrieval, distribution and sharing of information is therefore possible. Online learning is delivered to the end-user via a computer using standard internet technology. Online learning focuses on the broadest view of learning: Learning solutions going beyond the traditional paradigms of training.

• *Derek Stockley* 2003 - Online learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.

• *Allison Rossett* (2001) defines online learning as: Web-based training (WBT), also known as online learning and online learning is training

that resides on a server or host computer that is connected to the World Wide Web.

• *Jereb & Mitek*, 2006 -"Online learning refers to educational processes that utilise information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities"

• *Alonso et al.*, 2005- "Online learning is the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services, as well as remote exchange and collaboration"

• *Koohang & Harman*, 2005 - "Online learning is the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media".

Thus, Online learning is the use of technology to enable people to learn anytime and anywhere. Online learning can include training, the delivery of just-in-time information and guidance from experts. Online learning could also be considered distance education in an evolved form, which has taken advantages of all the emerging technologies for enhancing the learning experiences of every learner. In that sense online learning could be considered as a new generation of distance education.

Types of Online Learning

Online learning is a comprehensive term which include a number of instructional environments and approaches.

✓ Asynchronous Online Courses

These types of course offerings do not take place in real-time. Students are provided with content and assignments and are given a time frame to complete course work and exams. Interaction usually takes place through discussion boards, blogs and wikis. As a result, there is no class meeting time. Asynchronous online learning environments are effective for students with time constraints or busy schedules. There are various platforms used for this, an example is the 'Forum' activity in the LMS platform of NINLAN.

✓ Synchronous Online Courses

These types of course offerings require the instructor and all enrolled students to interact online simultaneously. Similar in some ways to a webinar, participants interact through text, video or audio chat. Synchronous learning environments enable students to participate in a course from a distance in real time. The LMS platform comes with a chat option under activity and resource, a class can be scheduled and a reminder will be sent out to all participants (everyone registered for that course) when it's time for the class.

✓ Hybrid Courses

Hybrid courses, also known as blended courses, are learning environments that allow for both in– person and online interaction. Typically, hybrid courses meet in person several times during a semester and provide for computer–based communication in between those face to face sessions.

Characteristics of online learning

- □ Online learning is Learner-Centric Learning: The learner centric online learning model makes learner, who is free to choose when, where and how to learn.
- □ **Online learning for lifelong learning:** With increasing access to technologies and its ever-increasing sophistication this approach to learning facilitates lifelong learning among various stake holders.
- □ **Online learning is Flexible Learning:** No space or time is required for Online learning education, various technologies can be used to link learners, instructors and resources.
- □ **Online learning is Social:** Online learning seeks to foster collaboration and peer's interaction. Various online learning technologies facilitate various types of collaboration among learners and teachers.
- □ Online learning is Personalized: Usually online learning system permits its users to personalize the learning by tailoring its offerings to their learning style, job requirements, career goals, current knowledge and personal preferences.
- Online learning Involves Effective Communication: The effectiveness of online learning also depends on establishing two-way communication between teachers and learners, and among learners themselves

Online learning Tools and Technologies

| Conte | Content creation tools | | Communication and Collaboration Tools | |
|---------------------------------|---|--------------------|--|--|
| 0 | Tools for creating avatars (virtual characters) | 0 | Discussion boards and forum tools | |
| 0 | Course and lesson authoring tools | 0 | E-mail tools | |
| 0 | E-book tools | 0 | Live support tools | |
| 0 | Graphics and animation tools | 0 | Meeting and teleconferencing tools | |
| 0 | Image galleries and sound effects libraries | 0 | | |
| 0 | Assessment tools | 0 | | |
| 0 | Pdf tools | 0 | Social book marking and file | |
| 0 | Video and simulation tools | | sharing tools | |
| 0 | Web page authoring tools | 0 | Wiki tools | |
| 0 | Survey and polling tools | | | |
| Delivery and distribution tools | | E-learning Systems | | |
| 0 | Podcasting tools | 0 | Content management systems | |
| 0 | RSS tools | 0 | Learning management systems | |
| 0 | Web casting and streaming tools | 0 | Course management systems | |
| 0 | Presentation tools | | | |
| 0 | Mobile learning tools | Hard | ware Tools | |
| User Tools | | 0 | PC/laptop/ net book | |
| 0 | Operating system | 0 | Smart phones/ palmtop computer | |
| 0 | | 0 | Printer / scanner/ speaker | |
| 0 | Media players | 0 | Microphone /speaker/ web ca7 | |
| 0 | | | | |
| 0 | Pdf reader | | | |
| 0 | Word processor | | | |

Communication Tools of Online Learning

Commonly used Communication tools used in online learning include, e-mail, Instant Messaging and Blogging.



E-mail: E-mail stands for electronic mail; e-mail is defined as the transmission of messages over communication networks. There are many e-mail service providers and the most famous ones are Yahoo mail and G mail. Exchanging-mail messages with a mentor or peer is an online learning experience. **Instant Messaging (IM)**: Instant messaging is the exchange of text messages through a software application in real-time. Instant messaging allows learners to chat with one another through text messages. This has become very popular as here, everything is performed in a faster, more reliable and cohesive manner. Instant messaging helps teachers to create subject specific groups for exchange of information and sharing of resources. Instant messaging applications like WhatsApp are extensively used by teaching community as reliable communication tool. This helps us disseminate information, notes and other important materials. **Chat:** Chat is synchronous communication tool facilitating online communication. This tool helps teachers and learners to schedule a discussion on a particular question or theme and later save the chat discussion for later use. The chat tool is an integrated tool in all the LMS and there are many standalone chat applications which can be used outside the LMS.



Blogging: A blog is your own website that you are going to update on an on-going basis. A blog is a frequently updated online personal journal or diary. It is a place to express yourself to the world and to share your thoughts and your passions. In blogs entries are commonly displayed in reversechronological order. Most blogs are interactive, allowing visitors to leave comments and even message each other via widgets on the blogs. It is this interactivity that distinguishes them from other static websites. Many blogs provide commentary or news on a particular subject; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, Web pages, and other media related to its topic. The ability of readers to leave comments is an interactive format is an important part of many blogs. Most blogs are primarily textual, for instance the places or links we click on to read news or gossip, like the Linda Ikeji blog on https://www.lindaikejisblog.com/ or the Nigeria Gossip Milll on http://www.gossipmill.com/ there are other different types of blogs although some focus on art (art blog), photographs (photo blog), videos (video blogging), music (MP3 blog), and audio (podcasting).

Collaboration Tools

We see most of the online learning is also social. The learners learn through collaboration with peers in smaller or larger groups. The online learning technology offers a number of collaboration tools to learn from one another, to work on assignments, Projects in groups and the like. Some of the popular collaboration tools include Chat, forum, wiki, online groups, audio/video conferencing, social bookmarking and social networking. Collaborative learning forums promote learner interaction through message boards, where students can post questions and answers; text chat or forums, where learners can communicate outside the main





classroom; and threaded discussions, where facilitators and students can discuss a given topic and review each other's responses.

Wiki: A wiki is a collaborative web site that collects and organizes content, created and revised by its users. The most well-known example is Wikipedia. Wikis. There are many software(s) which help to create online wiki and one of the most famous one among that is

Wordpress. Wiki is also a feature available in all the Learner Management System. In an online learning context wiki permits teachers to give many kinds of task to the learners to collaborate and create content on any topic. Wiki platforms are used extensively to create and share open educational resources and in Karnataka the KOER initiative is developed on a wiki platform.



Social Networking Sites

Social Networking site is the phrase used to describe any Web site that enables users to create public profiles within that Web site and form relationships with other users of the same Web site who access their profile. Social networking can be used effectively for online learning by creating specific interest groups. The learners within this group can share information, photographs, videos, graphics related to a particular topic. This can also be used by teachers to collaborate in generating and sharing resources online with ease thereby facilitating learning.

Web Conferencing: Web conferencing is highly interactive, Internet-based applications with a rich collaboration feature set (e.g. audio/video from presenters and learners, application sharing, white boarding and markup tools, breakout rooms, polling, quizzing, hand raising and emoticon responses, slides and media, Web site tours, public/private text Chat). It is capable of scaling from small groups to hundreds or thousands of simultaneous users. In "synchronous online learning," we refer to Web conferencing. Web conferencing technologies offer tremendous potential for robust interactivity and collaboration through their versatility and rich feature options. There are many online tools for organizing video/web conferencing to facilitate collaborative learning. Applications like Big BlueButton, Google meet, the Zoom application are a few we are all accustomed to.

EPUB: Wikipedia defines EPUB as an e-book file format with the extension epub that can be downloaded and read on devices like smart phones, tablets, computers, or e-readers. It is a free and open standard published by the International Digital Publishing Forum (IDPF). The term is short for electronic publication and is

sometimes styled ePub. Sigil is an open source epub authoring tool and caliber is an open source epub reader.

Podcasting: Podcasting is a form of audio broadcasting on the Internet. The audio files are developed and distributed using RSS to the computers of subscribed users. These files may then be uploaded to digital music or multimedia players like the iPod. A podcast can be easily created from a digital audio file. The podcaster first saves the file as an MP3 and then uploads it to the Web site of a service provider. Vodcasting (video-on-demand casting) is the same principle as Podcasting with the addition of video.



Podcasting/Vodcasting allows educators to reach students using a medium they are accustomed to. It can be used to interact with students and parents beyond the school hours and can be a great facilitator to increase student engagement. Student created podcasts/vodcasts give students the opportunity to enhance their organization, communication and technology skills. Podcasts can be used to record classroom lectures, provide supplemental information, provide review sessions, record classroom discussions, interview with experts, student projects, and many more. Therefore, podcast is a versatile medium for delivering online learning specifically audio content.

Audio/Video Streaming: Streaming Audio/Video is content sent in compressed form over the internet and displayed by the viewer in real time. With streaming video or streaming media, a Web user does not have to wait to download a file to play it. Instead, the media is sent in a continuous stream of data and is played as it arrives. The services offered by YouTube are valued by online learning providers world over. Many institutions have created their own exclusive channels for providing their e-content to the end users using YouTube. Online learning professionals use to make their online learning courses more interactive, fun, and informative using YouTube. In fact, it has the power to transform a potentially dull or complicated subject matter into an overall exciting and engaging online learning experience. Online learning providers like Khan Academy uses YouTube extensively in delivering their econtent.

Types of Learning Experience Face to face learning

This is where the teacher and the student meet in a set place for a set time, for either one-on-one learning or, most commonly, in group class lessons examples are what happens in a typical school setting. Face to face learning is a really effective way to learn knowledge and skills because it often combines different ways of learning including writing, reading, discussion, presentations, projects, group work, film clips, demonstration and practice. It can also be known as teaching with no use of technology, which therefore is NOT online learning, but 'pure' faceto-face teaching. However, teaching without any technology is very rare these days, at least in formal education.

The Advantages of Face to Face Learning in the Classroom

- You will be able to concentrate harder on your learning because there will be less distraction than if you were at home or elsewhere.
- You can gain greater understanding, stories and real-world examples from teachers and other students.
- You have a greater chance of completing your course successfully by doing it in a classroom situation. (Completion rate of

Then there is the use of technology as a classroom aid, which may or may not be online learning. For instance, an instructor using a projector and Powerpoint slides would not be using online learning, but students being directed to use a device such as a laptop, tablet or mobile phone to look at a web site during a classroom lesson would be a form of online learning, but the classroom would remain the main means of delivery. However, this could be considered a sub-branch of online learning, called Blended Learning; blended learning can mean a number of things, but in general means a combination of face-to-face teaching and a significant use of online learning, both outside and inside the classroom. This can take a number of forms:

ONLINE LEARNING STANDARDS

According to International Organization for Standardization (ISO), standards can be defined as "documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose". The goal of standards is to provide fixed data structures and communication protocols for learning objects and cross-system workflows. This enables interoperability between application, such as Learning Management System (LMS) or in-house developed content, by providing uniform communication guidelines that can be used throughout the design, development and delivery of Learning Objects. There have been a number of efforts worldwide to develop standards for learning object

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teacher-led classes is almost 5x higher than that of online learning).

- You may feel more comfortable and learn more easily in a familiar, traditional classroom situation.
- You can access more information and richer understanding through teacher and other students' body language and voice.
- You have the opportunity to connect with, problem-solve, and network with other students from a wide range of backgrounds.

A Flipped Classroom is one where student do preparation online before a classroom session (for instance watching a pre-recorded video lecture, and/or online reading);

Hybrid Learning is one where the whole classroom experience has been redesigned to focus on what the instructor thinks is best done online and what is best done face-to-face; in hybrid learning students may spend 50 percent or more of their time learning online.

There's the fully **Online Learning** which involves courses offered by primary institutions that are 100% virtual. Online learning are virtual classes offered over the internet.

The interoperability. standards support-Interoperability, durability, manageability, reusability, and accessibility. These standards focus on content metadata, content packaging, and runtime communication to support tracking of student activities. To this end, there are several organizations working toward standards and to make sure learning content is 'interoperable' with various learning management technologies. In recent years, groups like the Aviation Industry Computer-Based Training (CBT) Committee (AICC), the IMS Global Learning Consortium. Inc.,(Instructional Management System) Institute of Electrical and Electronics Engineers (IEEE), the Alliance for Remote Instructional Authoring and Distribution Networks for Europe (ARIADNE), the Dublin Core, Sharable Content Object Reference Model (SCORM) and CanCore have developed specifications or guidelines for

various aspects of learning object development and use.

Advantages and Potentials of Online Learning

 On-demand availability enables students to complete training conveniently at offhours or from home.

Self-pacing for slow or quick learners reduces stress and increases satisfaction.

✤ Interactivity engages users, pushing them rather than pulling them through training.

✤ Confidence that refresher or quick reference materials are available reduces burden of responsibility of mastery.

✤ Interaction: Increased student to educator and student to student cooperation and conversation; a more understudy focused learning condition; less detached tuning in and progressively dynamic learning; a more noteworthy feeling of connectedness, collaboration.

✤ Inventive Educating: student centered approaches; extended collection and creative mind of learning works out; address different learning styles; changes and updates can document and record online correspondences; ability to regulate surveying on the web.

✤ It's more affordable: Your students can learn with any contraption that is related with the Online. There's no convincing motivation to rent a structure or spread for exorbitant utility tabs that are required to give students a learning office. Furthermore, students and educators will no longer head to class, thusly putting aside them money as well!

✤ It requires some venture: Not simply does taking out the need to drive put aside money, anyway it furthermore saves everyone time. Also, the teacher or mentor doesn't need to give a comparable class on and on to different social occasions of understudies. The person being referred to simply needs to set up the substance once and thereafter share it with different get-togethers at whatever point significant.

✤ It considers self-guided learning: Students can take courses from their own devices at whatever point and wherever. Thusly, the people who don't have vitality for standard classes can learn online whenever they have the chance.

✤ It's front line: Most people today need to exhaust content using the Online. The very reality that some of the articles used here in this paper were gotten online is affirmation of that! We directly use the Online to examine the news, watch our favoured TV shows, talk with friends and acquaintances, book game plans, shop, subsequently fundamentally more. Considering the whole of the solace the Online has added to our regular day to day existences, for what reason should studying online remain cautiously ordinary rather than utilizing the good conditions given by the internet?

Potential Drawbacks and Disadvantage of Online Learning

Truly, there are a few hindrances to online instruction, It takes patience: While experience has demonstrated that online studies are constrained to end up being continuously selfeducated, those that stay unengaged could be a test as their activities can't be checked in class.

- Unoriginality: Keeping at the highest point of the need list that your students are using a PC and not being checked reliably; they may fake articles and various assignments.
- Cheating: Along similar lines, it might be less difficult for students to sabotage online tests, but collaboration with various other people would not be noticed. Since the students shouldn't really be present in an examination hall.
- Material Incompatibility: Some materials designed for one particular system will not function properly on another (for example, the Apple Macintosh and the Windows PC). Standards will help in the area.
- Unsuitable for Certain Types of Learners: online learning requires a highlevel of self-discipline and personal time management. E-Learners need to be highly self-motivated to take full advantage of the medium as often the online learning experience can be impersonal. Working through 'packaged' programmes can be irritating.

- Expensive: Start-up cost of an online learning service is expensive and the cost of production of online training materials is very high. Teachers must be confident that the extra costs are balanced with the benefits of delivering a course online. Significant time needs to be invested in course set-up and in ongoing maintenance (checking links, updating course content etc.).
- Social/economic disadvantage: It can limit or prevent access by some student groups (for example, cost of equipment, online access and printing).
- No Match for Face-to-Face Teaching: Some people prefer the traditional teacher and students in classroom setting, electronic communication does not necessarily provide a good match for face-to-face communication and is more linear than face-to-face discussion.
- Too Reliant on IT Skills: Learners may have limited IT skills, or be uncomfortable with electronic communication and need to learn how to use the medium effectively.
- Disabilities: Students with visual or physical impairments may be slightly disadvantaged.

History of The Learning Management System

The history of LMS is a long history, but we won't discuss the whole story here. I'll start from 1920 with the invention of the teaching machine by Sidney Pressey a Psychology Professor. This looked like a typewriter with a window that could administer questions. One window was used to show the question and the other one to fill in the answer. It offers drills and practice experience and multiple type question formatt. Slowly more inventions continued into the market a few examples are

✓ The Problem cylinder by M.E. Lazerte in 1929.

The problem cylinder presented a problem to a student and checked whether the solution steps taken by the student were right.

✓ Adaptive teaching system, SAKI by Gordon Park and Robin McKinnon-Wood In 1956 the first adaptive teaching system was invented. It automatically adjusted questions for learners according to their performing level. Adaptive learning is becoming more and more important.

✓ Desktop by Hewlett Packard

In 1970 Hewlett Packard, or most know him by the abbreviation HP, introduced the first ever desktop. From that day on LMS started taking entirely new face.

✓ TCP/IP by Robert Elliot Kahn and Vint Cerf

In 1982, Transmission Control Protocol/Internet protocol. When you've direct access to the Internet, your computer is provided with a copy of the TCP/IP program. It is the basic communication language or protocol of the Internet. TCP/IP had made online learning possible and this still has a huge influence now.

✓ First Software by SoftArc

The first ever LMS software for MacIntosh platform was launched by SoftArc in 1990.

✓ Open-source internal network, Moodle by Martin Dougiamas

In 2002, an open-source internal network was introduced called Moodle. There are three users for platform. The administrator makes courses for teachers and manages the general settings. The teacher manages one or more subjects. He or she can fill this with information for students. Students can take part in the different subject in which they have access to. This internal network has more than 60.000.000 users in 65.000 schools and is used in 216 countries. Moodle is used for blended learning, distance education, flipped classroom and other e-learning projects in schools, universities, workplaces and other sectors.

✓ Private cloud by Eucalyptus

The idea of a platform for deploying clouds was born in 2008. This enabled LMS to exist entirely online without needing to be installed on an internal network.

✓ Then came 2012 with LMS systems hosted in clouds by several companies

Most modern LMS are hosted in the cloud, freeing companies from the burden of installing and maintaining in-house systems. Learning management system (LMS) has become increasingly attractive in the past few years.

Learning Management Systems (LMS)

A Learning Management System (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of e- learning courses or training programs. It can also be described as a portal designed for administrators and content creators used to create, distribute, and manage training content for learning and development.

Companies use LMS portals from their servers or the cloud to administer eLearning through training courses and tests for employee training. The learning management system (LMS) is the educational technology most widely available to students, increased access to and use of the LMS can serve all students, public institutions should aim to increase use of and access to the LMS, since they serve more firstgeneration students, students with dependents, students who are married or in domestic partnerships.

Consistent and widespread use of the LMS and ensured access to it in public institutions can benefit students. Even the basic functions of the LMS, such as posting grades, have been found to contribute to a student's academic performance; access to grades allows for real-time monitoring of their course progress and the ability to make mid-course adjustments as needed. And the convenience of the LMS offers off-campus students much-needed contacting flexibility in instructors and classmates, accessing course content, or taking quizzes.

Most web-based learning should occur through a school's or schools' learning board structure or learning platform also known as LMS. This LMS which is an item application for caring for, passing on, and following enlightening resources. As demonstrated by the EDUCAUSE Center for Analysis and Research (ECAR), use of an LMS is about unavoidable as 99% of schools and universities report having one set up.

While LMSs are used in some schools or organization for the most part being used as a store for course materials (for instance lesson plan, learning content, course guide, course architecture etc.) There have been continuous upgrades on the LMS making them logically customizable through LTI principles. Learning Tools Interoperability (LTI) is an education technology specification developed by the IMS Global Learning Consortium. It specifies a method for a learning system to invoke and to communicate with external systems.

Benefits of Learning Management System

Using a learning management system has some big benefits over the old-fashioned way of learning.

1. Consistency of learning.

Delivering your course through an LMS keeps the content centralized so all the students have a single source of content, instructions and questions. No excuses of old books or last year's material. Everybody is up-to-date.

2. Easy tracking & reporting

With an LMS you can easily track the progress of your students. You can see at a glance who finished the course, who is half way and who didn't even start studying.

3. Create engaging courses

You can easily combine text, images and video in a learning management system. Which you cannot on paper. Through the use of more engaging material your students will keep their focus and learn more.

4. Easy distribution

You can distribute the course content just as easy as sending an email. Just upload your users in the LMS and invite them by email. Or copy-paste the url of the course and send an email through your mail client.

5. Better results through engagement and gamification

Because the learning material is more engaging, users will learn more. And using gamification in an LMS keep your users interested and challenged.

Types of Learning Management Systems

 Webbased LMS vs Installed LMS software. The biggest difference in LMS solutions is between the webbased LMS software and the installed LMS software. You had to install early LMS vendor created software on your own server. It had to be maintained by your own IT. It came with huge setup fees and maintenance agreements. Which cost you a lot of money. Modern LMS vendors develop web based online Learning Management Systems. Pricing for webbased software is a fraction of the big clunky installed software. On top of that, the LMS vendors maintain the software and keep developing and improving their online LMS software. No big setup fees are needed and the monthly costs are much lower than installed software.

2. Saas / Cloud LMS vs Hosted LMS

In the web based software, you have two different views. You can choose for a saas LMS or you can host the software yourself. If you're going to host the software yourself, you're in full control of the server specs. But you're also responsible for the uptime and security of your server. You have to upgrade any updates that come available. If you choose an online saas LMS all those responsibilities are for the LMS vendor. You can concentrate on creating online courses.

3. Free vs Commercial

If you are technically inclined and you are on a tight budget, have a look at the free learning management systems which are available. There are some solutions which you can install and maintain yourself. If you don't want to install and setup software yourself, you have to choose a commercial LMS.

4. Open Source vs Closed Source

In both web based and installed software you have closed source and open source learning management systems. Online Saas / Cloud LMS software is never open source. If you are a big fan of open source projects you don't have to look in to those. Open source gives you freedom, but also responsibilities. If you're a more hassle-free person just go with an online saas LMS.

5. Integrations

As for integrations, you have systems with integrations and systems without integrations. To let data flow free, you have to look into an LMS which offers 3rd party integrations.

Conclusion

Online learning has many advantages and one cannot stand alone in flow of technology. One should learn and adopt technology.

Adjusting class room teaching with online or e learning will give countless advantages to the society. The schools which use Online learning technologies are a step ahead of those which still have the traditional approach towards learning. No doubt, it is equally important to take forward the concept of non-electronic teaching with the help of books and lectures, but the importance and effectiveness of technology-based learning cannot be taken lightly or ignored completely. It is believed that the human brain can easily remember and relate to what is seen and heard via moving pictures or videos. It has also been found that visuals, apart from holding the attention of the student, are also retained by the brain for longer periods.

Various sectors, including agriculture, medicine, education, services, business, and government setups are adapting to the concept of Online learning which helps in the progress of a nation. Online learning methods can be classified into Synchronous, Asynchronous and Blended Learning Methods. Modern Technology provides us with a plethora of options for communicating. The most common Communication tools used in Online learning include, e-mail. Instant Messaging and Blogging. Some of the popular collaboration tools of online learning include Chat, forum, wiki, online groups, audio/video conferencing, social bookmarking and social networking.

Some of the Content Creation Tools/Authoring tools are Course and lesson authoring tools, E-book tools, Graphics and animation tools, Assessment tools, Video and simulation tools, Survey and polling tools. A good LMS encompasses all these features, it has evolved over time and will continue to improve, the benefits and uses are almost limitless.

Recommendations

In recent years, online learning has majorly become most reliable source to gain extra knowledge that people seek to gain. There are some following recommendations that I would like to give and they are as follows:

1. Most Institutions should be encouraged to offer online courses or programs, while at it, these Institutions should make an effort to present to faculty the research about the efficacy of fully online and blended learning for achieving student learning outcomes.

2. Institutions that offer online courses or programs should provide incentives to faculty to redesign classroom-based courses for the online environment.

3. Institutions and academic units should provide and actively promote training for students in the use of technologies that students will use in their courses online.

4. Expand student awareness of the benefits, expectations, and demands of blended learning environments.

5. Build collaborative partnerships across campus to increase awareness and better meet the needs of students with disabilities who require assistive/adaptive technologies.

6. Ensure that commuter students have the tools and information they need to take advantage of blended and online learning and leverage their institution's technology or LMS to meet their academic needs.

REFERENCES

Bates, T. (2016). Online learning and distance education resources. Retrieved March 27, 2022 from https://www.tonybates.ca/2016/07/15/onlinelearning-for-beginners-1-what-is-onlinelearning/

D'Agustino, S. (2020). Online learning environments: An introduction [Video file]. Retrieved

from https://youtu.be/BV9ldLkruLM

Economic Times (2022). *Economic Times*. https://economictimes.indiatimes.com/definiti on/online learning. Retrieved March 12, 2022.

Fordham University (2022). *Types of online learning*. Retrieved March 27, 2022 FromCityhttps://www.fordham.edu/info/2488 4/online_learning/7897/types_of_online_lear ning

Headspace National Youth Mental Health Foundation (2020). Face to face vs online learning.

Retrieved March 12, 2022 from https://headspace.org.au/explore-topics/foryoung-people/face-to-face-vs-onlinelearning/,

http://ijariie.com/AdminUploadPdf/A_JOUR NEY_AND_ORIENTATION_OF___E_LEA RNING_BY_WEB_TECHNOLOGY_FOR_ HIGHER_EDUCATION_C_1304.pdf

Mayer, R. E. (2001). *Multimedia learning*. Cambridge University Press.

Mohantay, P. (1992). Mass media in education.
Ashsish Publishing House.
Riemy, S. (2007). More on e-Learning.
Retrieved March 4, 2022 from

https://www.riemysore.ac.in/ict/unit_7_ele arning.html

- Role of Education in the 21st Century (2020). Retrieved March 3, 2020 from http://www.teachercertification.org/a/role-ofeducation-in-the-21st-century.html
- Naidu, S. (2003). E-learning: A guidebook of principles, procedures and practices. Published by CEMCA.
- Teaching in a Digital Age. (2016). Retrieved on
March 7, 2022 from
http://www.biabihar.com/biahome/index.php/
blog/59-a-concept-about-online learning.
- Shourye. J. (2020). Online learning. *International Research Journal of Management Science and Technology*, 11(6). https://www.irjmst.com
- Virtual College (2019). Retrieved on March 4, 2022 from https://www.virtualcollege.co.uk/help/what-is-online learning