

Modern Tools and Technologies for Interactive Learning

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ABSTRACT

E-learning can provide a learning environment without the boundaries limit of time and location. Our previous assumption for teaching and learning is Pen, Paper, Blackboard, and a class room but now we have lots of different technologies which change the view of learning concepts and put striking effect on teaching and learning through which teaching and learning can be made more effective, powerful and easily accessible. Here we have defined some of the tools and technologies through their use teacher can provide interactive and challenging learning. These are the Course Management System (Moodle, Joomla, OLAT, JOJO CMS), Interactive Board (eBeam, SMART boards) and SmartPen

KEYWORDS

E-learning Tools and Technologies, Course Management System (CMS), Moodle, Joomla, JOJO CMS Interactive Whiteboards, SMART Boards, eBeam, SmartPen.

1. INTRODUCTION

E-learning tools and technologies are not less than a blessing for the 3rd world countries where literacy rates are very low [26]. Tools and Technologies on the other hand have a potential for catering needs for all levels of education irrespective of time and place. With the advent of web technologies, Learning Management Systems (LMS) come into existence through this system the classroom boundaries will extend and to deliver the lecture was also become more flexible. [22]

E-learning tools and technologies can evolved in large number of people in learning; moreover it makes classes interactive and saves time and effort for learning. [14, 16] The method has universal application in terms of its efficiency, effectiveness and economics. The educator and learner were taking the advantage of this facility. As we know that the tradition teaching requires huge infrastructure and massive expenditure which is generally missing, moreover the availability of a quality teacher in comparison to the large population which is a roadblock in education. The first section of this paper defines the Course Management System how it is how it is beneficial to the educators and learners and then gives light upon the latest technologies through which are learner get interactive and enthusiastic learning and at the last we discuss some pros and cons of technology in learning

2. E-LEARNING TOOLS FOR EFFECTIVE TEACHING:

The Tools of e-learning plays a vital role to make change in our learning methods and for imparting quality education. There are several tools are available in the market for learning purpose, through which the learner can get the opportunity to learn in interactive Environment .these tools can easily be customize by the learner or the instructor according to their requirement instead of knowing less about Information Technology by just choosing the tools that support their e-learning efforts.

These are some tools that help in making our learning environment effective:

3. COURSE MANAGEMENT SYSTEM (CMS)

CMS is an application software designed to support teaching and learning in an educational setting.

CMS provide tools and framework that allow easy creation of online course content and the subsequent teaching and management of that course including various interactions with students taking the course. CMS provides framework that helps us in easy creation of E-learning contents and then after in teaching and managing the course content. It also provides interaction with the students enrolled in course. To develop a CMS has different tools for creation & assessment and communication of course content and also for progress and students Interaction with the e-learning system these tools don't need any special software they just need a web browser. Anyone who has a little knowledge of a computer can develop their own web for teaching and upload their Lectures, Assignments and Plans [3, 19, 9]. With these tools Trainer can take the online discussion of there Students. CMS was created for distance education but are now most often used to supplement traditional face to face classroom activities. These tools generally require no special software, just a web browser [4]

3.1 MOODLE

Modular Object-Oriented Dynamic Learning Environment is one of the fortunes for e-learning. It is a free open source Learning Management System through which user can post information on the web without knowing any computer Language or even HTML. It also provide a framework that allows easy creation of online course content and the subsequently teaching and management of that course, including various interactions with students taking the course. [5] It provides all the sophisticated high level functionality of an educational Course Management System. More and more

colleges, universities and even business industries are turning to Moodle to deliver courses online. It gives you the original innovations like its filtering system and can also be used in many types of environments such as in education, training and development and business settings [10, 11, 12]. To Download a Moodle you can just visit to <http://moodle.org>

3.1.1 For Teacher View

Easy to upload their course content so that learners can easily access it. It creates online interactive environment so that educators can directly interact to the student. It also prevents unauthorized access and allows only those students to take the content material or attend the class who are allowed to join the course.

3.1.2 For Student View

In this busy world where everyone is somehow busy in his own work, it provides the facility to students or learners to take the advantage from the course anytime from anywhere. [19]

3.2 JOOMLA

Joomla is an open source content management system platform for publishing content on the World Wide Web and intranets as well as a Model-view-controller (MVC) Web application framework. It is a part of Learning Management System which can help the educator to upload their course content for the learner and and give the better learning environment

It provides fully functional eLearning platform with innovative training / testing options (self-assessments) and advanced conferencing applications, thus, allowing access to web conferences, chat and discussion boards and moderate it. It is written in PHP language and stores data in MySQL. It also includes features such as page caching, RSS feeds, printable versions of pages, news flashes, blogs, polls, search, and support for language internationally [23].

We can access these tools easily as there are numerous web hosting companies who provide a control panel which automates the deployment of a basic Joomla web site. Create powerful online learning content using various web-based tools. [6]

3.3 OLAT

Online Learning and Training is an open source software it is a Java based Learning Management System which has been developed in 1999 at the University of Zürich. It provides the facility of online learning, Synchronous and Asynchronous communication between the Instructor and learner, exchange of files, and provide instance Messaging. Learner is not bound with time and Location he can learn according to their need. Over 700 students can be entertained simultaneously [20]. Instructor can easily add, modify and delete the learner from the list and also personalize the learning environment. For download Visit on <http://www.olat.org>.

3.4 JOJO CMS

It is PHP based open source Course Management System and was developed in Auckland, New Zealand for building websites, distributed under the LGPL license. JOJO CMS provides a framework for developers to build Websites and an administration interface for editing page content. To extend the JOJO CMS is also easy by just using the plugins and themes, and a number of these are supplied by the developers. It can also provide the facility of Multisite installation through which web developers can install lots of sites on single serve and also resizes all images on the fly from a large original image kept on the server. Images can be resized to any dimension, cropped square or cropped to fit simply by changing the URL of the image [24]

3.5 DRUPAL

It is a free and open source modular framework and Course Management System written in the programming language PHP with MySQL as a backend. It is used as a “back end” system for many different types of Web sites, ranging from small personal blogs to large corporate and political sites.

4. E-LEARNING TECHNOLOGY FOR EFFECTIVE TEACHING:

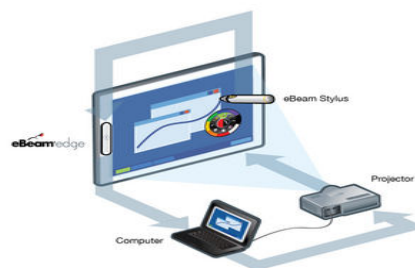
As the use of technology is constantly increasing and evolving in every field and learning is not left untouched by the use of these technologies learner get the interactive and entertaining learning these Technologies help people to learn irrespective of time and place and with better enthusiasm and dedication. These are some technologies that help in changing our learning environment: [13, 15, 17, 18]

5. INTERACTIVE BOARD

5.1 SMART BOARDS

As the use of technology in the classroom is constantly increasing and evolving. The Invention of SMART Board has revolutionized the teaching. It is touch sensitive computer screen which makes practice easier in the classroom. With the help of number of different pens for writing on the board it makes learning even more attractive. Students now have access to technology and are more engaged in lesson plans, and teachers have adapted their teaching styles to accommodate the use of interactive whiteboards. [2]

5.2 E-BEAM:



eBeam is an interactive whiteboard system which works with computers and digital projectors. With the help of this technology any standard whiteboard or other surface like wall etc. can be transformed into an “interactive whiteboard”. Now we do not have to limit our self to the boundation of surface of whiteboard only but now our screen could be widened as per the need, making it both user and viewer friendly. So it save our money and make session more interactive. [7]

The hardware and software products allow text, images and video to be projected onto a variety of surfaces, where an interactive stylus or marker can be used to add notes, access control menus, manipulate images and create diagrams and drawings on the surface. The presentations, notes and images can be saved and emailed to class or meeting participants, as well as shared in real time on local networks or over the Internet which is a good combination of visual effect and afterward reference.

This technology uses infrared and ultrasound receivers.

5.3. SMART PEN

Smart Pen is a new gift of technology to the learning and teaching environment. SmartPen was developed by Livescribe in March 2008 “Now forget to lose what you write because everything which you write is in your pocket”.

It automatically captures everything as you write and draw, speak or hear and allows you to transfer those notes to your computer. It simultaneously records audio and links it to what you write. [8]. To find missing information which you capture is very easy. It can also provide the facility of listening which was missing while writing. It allows the facility of backup, search, and replay notes. It also converts notes into PDF and Flash Movies. Online sharing is also possible. To perform all these operation we need dot paper which has micro dot printed on an ordinary paper and an active ink when u link the pen to the computer then by default the ink is displayed in Green in color. This pen has inbuilt infrared camera, a mic, and a timer There are two version of smart pen is available in the market

5.3.1 Pulse

It is available with either 2 or 4 Gigabytes of flash storage. The 2 GB model holds about 200 hours of audio depending on recording quality settings.

5.3.2 Echo

It comes in two memory size 4GB or 8 GB of memory, it is released in just after two years of pulse release is less round in shape, and uses more standardized connection ports. The Echo integrates with the Desktop software via a standard micro USB cable and can connect to headphones with a 3.5-millimeter jack. The Pulse requires a special USB cradle and uses a less-common 2.5mm headphone jack [25]

6. PROS AND CONS OF E-LEARNING

Today E-learning tools and technologies are warmly welcomed in every country because it makes learning more enjoyable and interesting and utilizes time and resources very effectively.

There are positive feedback on the benefits of integrating technology for teaching and learning. This encourages technicians to make such kind of things. Although it is very effective but it is not without its limitations. Often these technologies are quite expensive and henceforth mostly the developed countries take the benefits out of it.

CONCLUSION

In this paper we have examined how technologies can help us in providing quality education to avail access to resources that generally were not supposed to be accessible to normal students. We have discussed that how present day technology can improve the education system and its accessibility. These technologies are better substitute for providing education to one and all but there is a need of better implementation of these technologies. We are working on a Multi-Agent System for Interactive E-learning to provide a better E-learning system that is easy to implement and affordable to all and also help in the spreading e-learning platform.

FUTURE SCOPE

By the use of these technologies learner get the interactive and entertaining learning these Technologies help people to learn irrespective of time and place and with better enthusiasm and dedication

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