IJCSE International Journal of Computer Sciences and Engineering Open Access
Review Paper Volume-3, Issue-2 E-ISSN: 2347-2693

A Comparative Study of E-Learning Methods with Traditional Learning

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Available online at: www.ijcseonline.org

Received: Jan /11/2015 Revised: Feb/03/2015 Accepted: Feb/19/2015 Published: Feb/28/ 2015

Abstract — E-learning based methods offer important teaching methods. E-learning offers pupils to have interactive e- content that comprises of multimedia. E-learning has great impact on learning process. The present work presents a comparative study of e-learning based methods with traditional teaching methods. The comparative study is performed on various user groups confirms the preference of e-learning based methods over traditional teaching methods. The feedback of the two methods is collected from different user groups consisting of researchers, students, instructors, and staff. E-learning based methods offered better feedback as compared to traditional teaching methods.

Keywords— E-learning; Traditional learning; LMS; Palmtops; WebGuru

I. INTRODUCTION

Electronic learning or E-learning, is the delivery of learning and training material thru any digital resource(s). E- learning offers formalized learning using electronic devices like palmtops, laptops, computers, tablets, web-based learning, virtual classrooms, video modules, micro learning, and even thru mobiles phones that are connected to the cyberspace. It becomes easy for the users to learn from anywhere, at any time, with less constraints. It is a type of education which is delivered online with the help of a computer or mobile or any other digital device. Now days, there have been significant improvements in the development of software in the educational domain [1]. In order to enhance learning different learning methods such as multi-channel, multi-modal, and multi-source learning are combined. E-learning methods assist the beginners to develop and improve their learning capabilities. E-learning also assists the learners to self-manage learning to best suit their style of education and their way of working. E-learning software applications are frequently developed with web 2.0 tools like mobile-based learning applications, YouTube, twitter, slide-share, wiki-media, Picasa etc. E-learning is a form of distributed learning, online or virtual learning or networked learning. It also offers methods for testing and examining the feedback of students as well as instructors. E-learning also offers effective communication amongst the instructor and the learners [2, 3]. E-learning is well suited for fully employed people and have decided to continue their education or professional training. The percentage of companies offering e-learning assistance to their staff has increased from 38.5% in 2007 to 51% in 2011 [1, 2, 3, 4]. Any e-learning system not only comprises of the learning content, but also the entire infrastructure that permits methods of content creation, the storage and access of content and the deliverables. E-learning provides methods for effective management of the learner and the learning process. So, e-learning is a term used to define the fields of online learning or is simply usage of technology to impart web-based training and educational materials [5]. Although numerous users have different opinions about e-learning. E-learning has also given rise to less personal teacher-student relationships [2]. A big question here is how instructors can inspire students in e-learning, the factors that can improvise e-learning [2, 7, 9]. E-learning can take numerous forms, consisting of online courses, virtual classrooms, interactive modules, webinars, educational applications, and digital learning resources. It allows learners with the suppleness to access educational content at their own pace and from anywhere with an internet connection.

Nowadays various e-learning platforms in use are Learning Management System (LMS), Moodle etc. Apart from these there are social media platforms also. Social media platforms provide widely suitable avenues for e-learning. Social media has become a famous learning platform in part because services like Facebook, Twitter, YouTube and LinkedIn also provide good tutorials to many. Social media platforms are appropriate for bringing groups of learners together and thus allowing them to share e-learning content. Social media websites like Facebook and LinkedIn can create groups to share information and ideas, and members of various groups can freely interact about the shared material. Groups created on LinkedIn might be viewed as to have an added level of reliability because users display their career credentials on their profiles. Twitter can be exercised to link learning groups over a specific topic or event by using a hashtag. YouTube users can also post and freely access the

educational content on YouTube, as well as comment on and rate the videos.

The LMS provides the facility to the instructors for assessment of student performance in an interactive learning environment [6]. The present work assesses the performance of e-learning suit WebGuru. WebGuru is exercised for teaching learning in Devi Ahilya University for enhancing the teaching learning skills. Comparative study of e-learning suit WebGuru with traditional teaching methods namely Black- Board teaching, student understanding, explanation of the topic and interaction in the classroom is also performed. The present work also shows the results of various experiments performed with various groups of students, research scholars, instructors and other staff. The key features and advantages of e-learning are as under –

1.1. Accessibility

E-learning allows pupils to access educational content and resources at their suitability, eliminating geographical barriers. It permits individuals to learn from distant locations and puts up diverse learning needs and schedules.

1.2. Flexibility

E-learning offers flexibility in terms of learning pace and timetable. Learners can improve using the material at their own speed, revisit content as required, and fit learning into their busy timetables.

1.3. Personalization

E-learning platforms frequently provide personalized learning experiences. Content can be customized according to individual learners based upon their needs, skill levels, and learning styles. Adaptive learning technologies may be used to distribute customized content and assessments.

1.4. Interactivity and Engagement

E-learning uses interactive systems like multimedia presentations, quizzes, simulations, and discussions to involve learners actively. This interactivity improves understanding, retention, and application of knowledge.

1.5. Cost-effectiveness

E-learning is more cost-effective as compared to traditional classroom-based learning. It reduces expenditure related to physical infrastructure, travel, and printed materials. Organizations can also save on instructor fees by using previously recorded or automated instructional content.

1.6. Collaboration and Networking

Many e-learning platforms enable association and networking amongst various apprentices. Virtual classrooms, discussion forums, and social learning features permit apprentices to interact, share knowledge, and involve in group activities.

1.7. Performance Tracking and Assessment

E-learning platforms often consist of built-in assessment tools to assess learners progress and understanding. Performance tracking features offer feedback to learners and instructors, permitting for continuous improvement.

1.8. Scalability

E-learning allows organizations to distribute educational content to a large number of learners concurrently, irrespective of their location. It permits for scaling up the delivery of courses and training programs without important infrastructure investments.

The present work is structured as follows – the Section 2 presents review of the related literature. The Section 3 presents results and discussions. Finally, the section 4 describes the conclusions drawn.

II. REVIEW OF THE RELATED LITERATURE

E-learning is a new technology involved in teaching and learning process. E-learning offers learners to have interactive e-content that is full of multimedia. It has been proved that it has a great impact on the process of learning. The numerous blogs and wikis on internet have stated positive impact on students. Majority of universities have presented e-learning as a significant learning platform worldwide. E-learning is any type of learning that comprises of the use of internet or intranet [5, 6]. In other words, any learning material which is distributed or enabled through electronic media falls under the category of e- learning [8, 9]. E- learning is an evolving and developed technology [4]. Recent literature shows that most of the learners who register for e- learning courses show better performance than the learners who study by traditional teaching methods [3]. A very good example is of American Carnegie Mellon University where the results of examination have confirmed great improvements as an outcome of e-learning teaching methods [6]. But just including technology in the teaching-learning process does not necessarily confirm that students get motivated. The e- learning methods most widely practice online teaching like web-based e-learning, virtual learning and distributed teaching [5]. In e-learning the lecture delivery, information transfer and communications technology can choose for either synchronous or asynchronous modes. Synchronous e-learning refers to real-time interaction among learners and instructors or peers. It includes activities that occur concurrently and require participants to be online at the same time. Some important examples of synchronous e-learning include live webinars, virtual classrooms, video conferences, and chat-based discussions. Asynchronous e-learning refers to self-paced learning where students access and engage with educational content as per their ease. It does not require synchronized

participation by all participants. Examples of asynchronous e-learning include pre-recorded video lectures, online discussion boards, email-based communication, and accessing learning materials thru any LMS. In practice, a blended approach joining both synchronous and asynchronous e-learning is frequently used in e-learning programs to pull out the benefits of each approach. This hybrid model offers a balance between real-time engagement and self-paced learning, providing flexibility while still allowing for interactive learning experiences. It is clear from the information available, the role of communication and information technology is to provide chances in the fields of storing, capturing and distributing important information [7]. Different media like radio and television also play a vital role in communication [8, 9]. Video clips are used for role-play-based learning, have made the learning and teaching experience more appealing and revolutionary [7]. Some of the researchers are of the view that learning is achieved not only with the growth in technology alone but also thru the content and also how its explanation is delivered to the students.

III. Results and Discussion

Webguru software and related framework are used to perform the analysis. E-learning is evaluated on the criterion of the personal experience of instructors and learners. The major focus of instructors is that they are not able to trace the learner's actions during their entire teaching session and the learner's prime worry is about the legitimacy and reliability of the content delivered during the e-learning process. The experiment performed makes use of trials from instructors and learners that are using Webguru as their cybernetic framework for e-learning. For the purpose of experimentation, a sample questionnaire was formulated in order to receive the responses from sample user groups. The questionnaire was assigned to various user groups involving learners, researchers, instructors and other staff members. The questions were based on the method of direct asking means yes or no type of responses. Questions were same for all the respondents and the language selected was English. On the basis of experiments conducted some important results are shown below in Figure 1 and Figure 2.

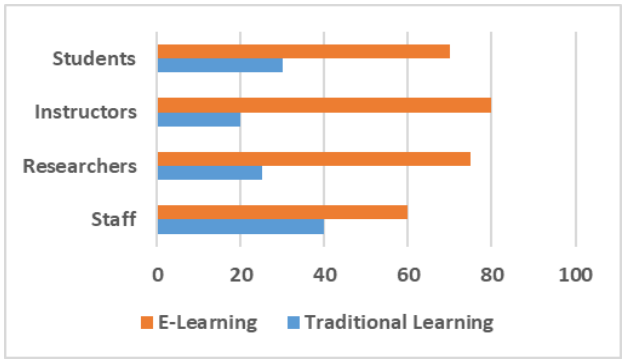

Figure 1 Comparison between both the learning methods.

The Figure 1 above shows the responses from different groups. Further Figure1 also portrays that for all the user groups, the preference is given for e-learning methods as compared to traditional teaching methods.

The Figure 2 below shows the collective feedback collected from several user groups namely students, instructors, researchers and staff. The Figure 2 also depicts that for all the user groups, e-learning methods show outstanding feedback as compared to traditional teaching methods.

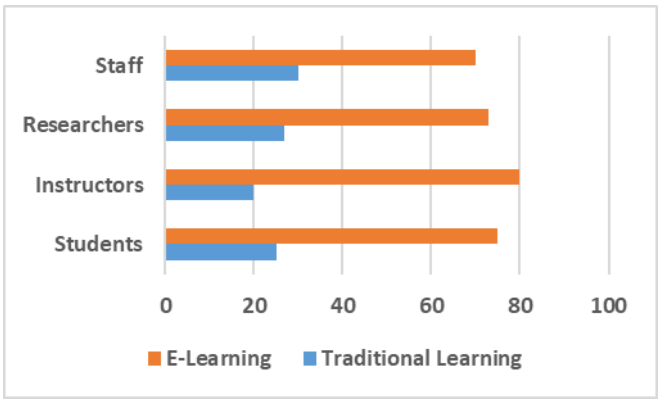

Figure 2 Feedback from different user groups

IV. Conclusions

E-learning provides formal learning using electronic devices such as computers, laptops, palmtops, tablets, web-based learning, virtual classrooms, video modules, micro learning, and even through mobiles phones that are linked to the cyberspace. It becomes simple for the learners to learn from anywhere, at any time with less constraints. E-learning has gained noteworthy fame and has become an essential part of education systems, corporate training programs, professional development, and lifelong learning initiatives. It suggests a flexible and accessible method to receiving knowledge and skills, allowing learners to pursue education at their own pace and suitability. The present work portrayed the efficacy of e-learning methods over traditional teaching methods. The work showed that e-learning methods achieved best response as compared to the traditional teaching methods for all the user groups. Additionally, e-learning based methods showed outstanding feedback as compared to traditional teaching methods.

V. References

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