An Analytical Review of E-Learning Methods and Processes

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Abstract- **E-learning is a swiftly growing technology which provides the users with the access to fetching the data from internet sources. Since e-learning is developed in comprehensive change mediator in advanced education; it has become more assorted in its form and applications. As E-learning is aflexible approach, it has got supplementary demand amongst the group. This improved diversity has complicated our ability to share research findings because we lack a joint set of definitions to differentiate among the many variations on e-learning that have taken place. The comparison analysis of current e-learning and traditional learning is considered. The overall benefits of e-learning include the promotion of learning, independence, and person satisfaction, learning at anytime, anywhere and with any environment, learning without the same fundamentals, speed and process of learning due to individual needs, as well as cooperative learning, saving time and costs significantly. This paper shows the trend of e-learning enhances the stimulus of the students for the learning course of action along with positive and negative aspects of that.**

Keywords- **E-learning, Blended learning, Synchronous, Asynchronous**

1. INTRODUCTION

The traditional courses were the firstDistance learning courses but with the initiation of E-learning, it becomes the latest strategy for delivering higher education information over a long distance [1]. The Internet is new potential and now any type of learning content is available on it, it may be for secondary level, graduate or masters level, research action or another type of academic information

Figure 1: Representation of E-learning mechanism

called e-Learning. e-Leaning has previously established its roots and its

recognition can be noted as the delivery is not restricted to basic text but has also crossed boundaries to video creating virtual classrooms via video conferencing. The introduction of numerous technologies has made it achievable to convert it from the remote to the highly interactive medium of pedagogy (the art with the science of teaching).[2] The Internet is the vital way to construct the available resources for research and study for both teachers and students to share and gained information [1]. Technology-based elearningencompasses the requirement of the internet with another essential technology to produce data for learning and also standardize courses in an association. [3]. The internet plays an essential role in the availability of resources for further learning and enhancement of knowledge by making the resources available globally. E-Learning is fundamentally defined as learning that uses an association for delivery, communication, or facilitation. It is referred to as network which enables exchanging of knowledge as well as skills to numerous recipients at the similar/dissimilar period. Prior, the consideration ofe-learningwas not there as it was taken as a system that lacks the human connection required in learning. But, later it was considered and used in various aspects. The numerous benefits associated with it are quality of learning and efficiencyofteaching. It is designed at a fast pace due to the internet. E-Learning is a technology that supports learning and teaching using computer web technology [4]. The use ofnew multimedia technologies and the Internet has improved the quality of learning by offering access to resources ands services as well as remote connections and group effort.

E-learning can be categorized into two types as defined below:

1. **Synchronous** means "at thesame time," involves communication of participant with a trainer by the network in the required time. For instance – VCRs (Virtual classrooms) that are similar to real classrooms which are performed virtually. The interaction between both ends i.e. instructor and participant takes place via immediate messaging, audio with video conferencing etc [5]. Its benefits are:

• Ability to track learning activities.
• Continuous monitoring and rectification is possible

• Possibilities of global connectivity and Association opportunities amongst the learners.
• Capacity to conduct the training process for each learner.

2. **Asynchronous**, which means not occurring at the similar instance, permits the users to finish WBT (Web- based training)with exact speed, without live interface with the trainer. Essentially, it is data which is available on a self-servicing. It provides the learners the type of information required. It even has interface surrounded by participants through message boards and discussion forums. These comprise of CBTs (computer based training ;) modules on CDROM's and the training being accessed on the basis of the web via intranet or in the course of well-printed articles and another document. Its benefits are:-
• Available all time for immediate learning and reference.
• Flexibility to access data from any place at any instance.
• Ability to reach altogether a limitless number of employees.
• Standardization of content and onetime cost of production.

Another form of learning is termed as blended learning as a mixture of synchronous and asynchronous learning methods. By means of together online training and via effective classrooms and also provides CD's and material of study for self-study is currently being ever more chosen over some particular type of training. Asynchronous methods are accessed in unusual situations, mainly when [6]:
• The topics are common business topics like management training, financial training, or time management etc that are not particular to a certain organization or process. In those cases, asynchronous training is functional and cost-efficient.
• Traditional e-Learning courses via prerecorded CDs and documentation utilized with more budget and more time span.
• Projects that need broad computation such as control systems of industries; flight computation are fine candidates used for asynchronous methods in which virtual classroom teaching is not mandatory. Training with more span of time –similar to an organization's profile and beginning might be good for using asynchronous-Learning. Because of more production traditional e-learning cost for making audio-visual content, CD's,Presentations etc, it is costly to change content continually, therefore, it is top suitable for training material that is fixed.
• Even, process-dependent training is best executed via asynchronous technique in which the trainer gets pre- recorded

material of study studied at required time span and can place the question to the message boards and seminars.
• The basic benefit of a self-paced training is ease. Participants can get the training they need at some moment in time

allowing for a greater degree of flexibility. Synchronous e-Learning (Virtual Classrooms).

Table 2: Comparison of Asynchronous and Synchronous E-Learning

	Asynchronous	Synchronous
When?	Reflecting on complex issues. When synchronous meetings cannot be scheduled because of work, family etc	Discuss less Complex issues. Getting acquainted. Planning tasks.
Why?	Students have more time to reflect because the sender does not expect an immediate answer.	Students become more committed and motivated because a quick response is expected.
How?	Use asynchronous means such as email, discussion boards, and blogs.	Use synchronous means such as video conferencing, IM, chat, and complement with face-toface meetings.
Exam ples	Student expected to reflect on a course topic and maintaining a blog journal. Students may critically assess their peer's ideas through a discussion forum.	Students expected to work in groups may be advised to IM as support for getting to know one another, exchanges ideas, and planning tasks. The instructor

	wants to present concepts from the literature in a simplified way by giving an online lecture using video Conferencing.	

This type of e-Learning is fundamentally needed an the amount of cases in which the traditional methods would not transport the required goals, like:-

• Online mentoring for instructors is best needed for students, who need concept –based training and help with their regular studies. There needs to a regular interaction between the teacher and student to clear doubts and to understand difficult concepts and methods through easy explanation and clarification of doubts through techniques and examples.

• It is utilized in soft skills in interpersonal diversity with training distant languages. Blended learning is considered by various people as a procedure with suitable e-Learning modules asa pioneer to the classrooms of training session's i.e. both the methods are effectively used in training [7].More and more organizations are using the blended technique for a complete training solution.
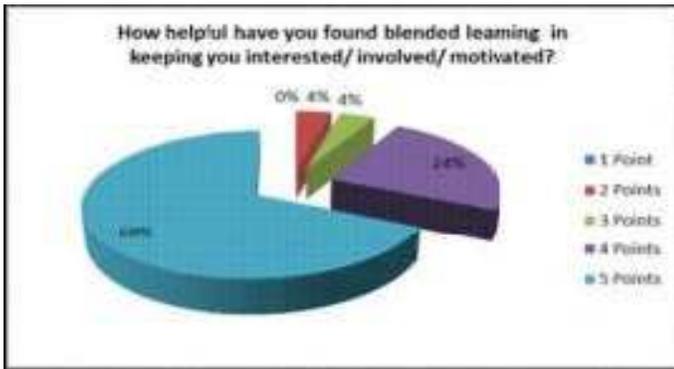

Table 1: Comparison analysis of current e-learning and traditional learning system

Quality	Current elearning	Traditional learning system
Face to Face	Less	High interaction.
interaction		Interaction.
Student Concentration	Low, sometimes will be disturbed due to the change of environment	High will not be disturbed due to the environment
Ability to understanding concepts	High, selfpaced learning give the opportunity to understand concepts in his/her own pace.	Medium
Comfort Level	Medium	High

1.2 Significant Advantages of E-Learning for Students

In today's era, every learner wants appropriate, transportable, self-paced, and modified content. This requirement is satisfied with learning by means of an online mode in which the learners can study at an individual comfort with the respective condition [8]. The advantages of online learning depend upon the subsequent factors:

a) Online Learning Accommodates everyone's Needs: The online system of learning is most excellent suited for every person. This digital uprising has resulted in significant changes in the assessment of content,

inspired, argued, and divided. These courses could be considered by office people and others too, at the time which suits them. Depending on their accessibility and ease, many people choose to learn at the time which best suits them.

b) Lectures Can Be Taken several

Numbers of Times: Not like classroom teaching, with online learning one can access the content a boundless number of periods. This is in particularly required at the time of reconsideration when preparing for an assessment or some interview.

c) Provides access to an efficient content:
The main benefit of learning online is that it develops the users in synchronization mode with arbitrary learners and let the learners execute the updated or efficient content each time when required.

d) Quick Delivery of Lessons: E-Learning is a way to present speedy delivery of lessons. In contrast to teaching methods of conventional classroom, it has the relatively quick release of cycles. It defines the time when the learning is lessened to 27 to 62 percent as contrasted to existing learners. Numbers of reasons are there that depicts the advantages of learning time as contrasted to e-learning:

e) Lessons start speedily and also end up in a single learning session. It facilitates the training programs to simply execute in some weeks or on some days [9].

f) Learners can define their own momentum of learning as an alternative of following the speed of the entire group.

g) **Saves time as a student** does not need to travel to the training location. You can be trained at the comfort of your own place.

h) **Students can prefer** to study specific and relevant areas of the learning material exclusive of considering on each and all region. For example, they can omit certain areas they do not wish to learn.

i) **Scalability**: E-Learning helps in enhancement of creating and communicating new training policies, concepts, and thoughts. Whether it is for proper education or activity, eLearning is a very swift way of learning.

j) Consistency: E-Learning enables the lecturer to attain a higher degree of exposure to communicate the message in a steady way for their learning audience. This ensures that almost each and every learner accepts the same type of guidance with this learning mode.

k) Reduced Costs: E-Learning is rate effective when contrasted to a conventional set of learning. The mean of this value reduction is due to learning through this manner occur rapidly and simply. A lot of time is managed in context to trainers, course
materials, and accommodation. This cost efficiency also helps in improving the profitability of an organization.

l) Effectiveness: E-Learning has a constructive influence on an organization's prosperity. It makes it easy to grasp the content [10]:

☐ It results in improvement in the credentials on certifications and other types of assessment.
☐ The greater number of students can achieve a master level.
☐ Improved ability to become skilled and implement the fresh processes or awareness at the workplace.
☐ Help in retaining information for a longer period.

1.2 Disadvantages of E-Learning
There are a few drawbacks of eLearning, the foremost being that information established on a theoretical source and while the implementation to use whatever is learned, it
would be of slight difference. Face-to-face learning understanding is absent [11].

a) Most of the online assessments are inadequate to questions that are only objective in nature.
b) There is also the difficulty of the extent of the safety of online learning programs.
c) The genuineness of a particular student's work is also a problem as online anyone can be indulged to carry out a project rather than the actual student itself.
d) The assessments that are computer marked generally have a bent of being only knowledge-based and not essential practicality-based.

I. RELATED WORK

E-learning is defined as the utilization of information with the communication technologies for facilitating the access to online learning or teaching resources. [9] It can also be defined; E-learning is a learning method which is facilitated by electronic means. The authors have proposed learning being empowered with the usage of digital methods. It is described as the communication and the information method for supporting the learners for improving the learning criteria (Higher Education Funding Council of England, 2005). [2] describe elearning as the system capability for sending, managing the learning techniques [3]. The tools and the platforms of e-learning are effective and let the users for accessing the information by internet [4]. E-learning enables learning from anyplace and at any time. According to [5] there are statistically important differences among the elements of time regarding learning and average grade. Due to advantages of e-learning, geographical reach, learner and cost efficiency for delivering and managing the professional associations being accepted the e-learning procedure with the implementation of extending the technological platforms [6].

Though, it has some limits. As per [7], there are some barriers and obstacles in using elearning.

CONCLUSION

For effective E-Learning, it is serious that online course must be provided in a manner that keeps the interest of the E-Learner maintained in that particular topic. This is possible by understanding the way adults learn and accordingly a well-managed complete environment of learning should be provided. E-learning at the beginning of its movement towards the future should not be ignored, and the background needed for its use should be provided. With analysis of the literature, it is found that e-learning has an important effect on learning and teaching and should be considered. The numerous benefits associated with e-learning makes it an important tool for further use.

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