

# ‘ROLE OF ICT IN E- LEARNING

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“Education is not the amount of information that is put in your mind and runs riot there undigested all your life. The use of higher education is to find out how to solve the problems of life.”

Swami vivekanand.

“Education means enabling the mind to find out that ultimate truth which emancipates us from the bondage of the dust and gives us the wealth, not of things but of inner light, not of power but of love, making this truth its own and giving expression to it.”

Gurudev Rabindranath tagore

## ❖ 1.1. INTRODUCTION:

### ● E-LEARNING:

- E-learning is an systematic mode of studying where students learn by interacting with various tools of ICT.
- “ E-learning is the use of electronic media and information and communication technologies (ICT) in Higher Education ”.

E-learning is an inclusive term that describes educational technology that electronically or technologically supports learning and teaching . " This broad interpretation focuses on new applications and developments, and increases quality of teaching and learning in higher education.

1. E-learning refers to the use of technology in learning and education. There are several aspects to describing the intellectual and technical development of e-learning, which can be categorized into discrete areas. These are addressed in turn in the sections of this paper. e-learning as an educational approach or tool that supports traditional subjects;
2. E-learning as a technological medium that assists in the communication of knowledge, and its development and exchange;
3. E-learning itself as an educational subject; such courses may be called "Computer Studies" or "Information communication technology (ICT)";
4. E-learning administrative tools such as education management information systems (EMIS).

. E-learning is broadly inclusive of all forms of educational technology in learning and teaching . E-learning is inclusive of, and is broadly synonymous with multimedia learning, Technology-enhanced learning (TEL), computer-based instruction (CBI), computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), online education, virtual education ,virtual learning environments (VLE), (which are also called learning platforms), M- learning ,and digital educational collaboration. These alternative names emphasize a particular aspect, component or delivery method.

E-learning includes numerous types of media that deliver text, audio, images, animation, and streaming video, and includes technology applications and processes such as audio or video tape, satellite TV, CD-ROM, and computer-based learning, as well as local intranet/extranet and Web - based learning. Information and communication system , whether free-standing or based on either local networks or the Internet in networked learning , underlie many e-learning processes.

### 1.2. E-learning includes technology as,

- Multimedia learning,
- Technology-enhanced learning (TEL),
- Computer-based training (CBT),
- Computer-assisted instruction (CAI),
- Internet-based training (IBT),
- web-based training (WBT),
- online education,
- Virtual education,
- Virtual Learning Environment (VLE)
- M-Learning
- Digital educational collaboration,
- Distributed learning,
- Computer-mediated communication,
- Cyber-learning,
- Multi-modal instruction
- Video conferencing by Internet Mode
- Teleconferencing by Internet Mode
- Virtual Laboratory
- Virtual Library
- Virtual classroom

In practice, as technology has advanced, the particular "narrowly defined" aspect that was initially emphasized has blended into "e-learning."

### ❖ 1.3. EDUCATIONAL IMPORTANCE:

The extent to which e-learning assists or replaces other learning and teaching approaches is variable, ranging on a continuum from none to online distance learning . A variety of descriptive terms have been employed to categorize the extent to which technology is used. For example, 'hybrid learning' or blended learning may refer to classroom aids and laptops, or may refer to approaches in which traditional classroom time is reduced but not eliminated, and is replaced with some online learning 'Distributed learning' may describe either the e-learning component of a hybrid approach, or fully distance learning environments. Another sources described the level of technological support as 'web enhanced', 'web supplemented' and 'web dependent',

### ❖ 1.4. E-LEARNING AS LINEAR LEARNING:

Computer-based learning or training (CBT) refers to self-paced learning activities delivered on a computer or handheld device such as a tablet or Smartphone. CBT often delivers content via CD-ROM, and typically presents content in a linear fashion, much like reading an online book or manual. For this reason, CBT is often used to teach static processes, such as using software or completing mathematical equations. Computer-based training is conceptually similar to web-based training (WBT), the primary difference being that WBTs are delivered via Internet using a Web browser .

Assessing learning in a CBT is often by assessments that can be easily scored by a computer such as multiple choice questions.

### **1.5. SYNCHRONOUS AND ASYNCHRONOUS LEARNING:**

E-learning may either be synchronous or Asynchronous. Synchronous learning occurs in real-time, with all participants interacting at the same time, while asynchronous learning is self-paced and allows participants to engage in the exchange of ideas or information without the dependency of other participants' involvement at the same time.

#### **❖ 1.6. Synchronous learning:**

It involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion is an example of synchronous communications. In e-learning environments, examples of synchronous communications include online real-time live teacher instruction and feedback, Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

#### **❖ 1.7. Asynchronous learning:**

It includes technologies such as email, blogs, Wikis, and discussion boards, as well as Web supported text books hypertext documents, audio-video courses, and social networking using Web 2.0

Asynchronous learning is particularly beneficial for students who have health problems or have child care responsibilities and regularly leaving the home to attend lectures is difficult. They have the opportunity to complete their work in a low stress environment and within a more flexible timeframe. In asynchronous online courses, students proceed at their own pace. If they need to listen to a lecture a second time, or think about a question for a while, they may do so without fearing that they will hold back the rest of the class.

#### **❖ 1.8. USE OF VARIOUS TECHNOLOGY:**

Various technologies are used to facilitate e-learning. Most e-learning uses combinations of these techniques, including blogs collaborative software, - portfolios and virtual classroom, video conferencing by internet mode, Tele conferencing by internet mode, virtual library, virtual laboratory etc.

#### **❖ USE OF AUDIO MATERIAL:**

The radio has been around for a long time and has been used in educational classrooms. Recent technologies have allowed classroom teachers to stream audio over the internet. There are also webcasts and podcasts available over the internet for students and teachers to download. For example, iTunes has various podcasts available on a variety of subjects that can be downloaded for free.

#### **❖ ..USE OF VIDEO MATERIAL :**

Videos allow teachers to reach students who are visual learners and tend to learn best by seeing the material rather than hearing or reading about it. Teachers can access video clips through the internet instead of relying on DVDs. Websites like YouTube are used by many teachers.

### ❖ USE OF COMPUTERS AND MOBILE DEVICES:

Computers and mobile devices allow students and teachers access to websites and other programs, such as Microsoft Word, M.S. PowerPoint, M.S..Excel, PDF files, and images. Many mobile devices support M-learning.

### ❖ BLOGGING:

Blogs allow students and teachers to post their thoughts, ideas, and comments on a website. Blogging allows students and instructors to share their thoughts and comments on the thoughts of others which could create an interactive learning environment.

### ❖ WEBCAMS:

The development of webcams and webcasting has facilitated the creation of virtual classroom and virtual learning environments . Virtual classrooms supported by such technology are becoming more and more popular, especially since they are contributing as a main solution to solving problems with travel expenses. Virtual classrooms with such technology also provide the benefits of being easy to set up.

### ❖ WHITEBOARDS:

Interactive whiteboards , similar in use to smart boards , allow teachers and students to write on the touch screen, so learning becomes interactive and engaging.

### ❖ SCREENCASTING:

Screen casting is a recent trend in e-learning. There are many screen casting tools available, that allow users to share their screens directly from their browser and make the video available online so that the viewers can stream the video directly. The advantage of such tools is that it gives the presenter the ability to show his ideas and flow of thoughts rather than simply explain them, which may be more confusing when delivered via simple text instructions. With the combination of video and audio. From the learner's point of view this provides the ability to pause and rewind and gives the learners the advantage of moving at their own pace, something a classroom cannot always offer.

### ❖ VIRTUAL EDUCATION:

In practice, a "virtual education course" refers to any instructional course in which all, or at least a significant portion, is delivered by the internet. "Virtual" is used in that broader way to describe a course that not taught in a classroom face-to-face but through a substitute mode that can conceptually be associated "virtually" with classroom teaching.

### ❖ VIRTUAL CLASSROOM:

E-learning is increasingly being utilized by students who may not want to go to traditional brick and mortar schools due to severe allergies or other medical issues, do not feel Online schools create a safe haven for students to receive a quality education while almost completely avoiding these common problems.

### ❖ 1.9. ADVANTAGES OF E-LEARNING TECHNIQUE FOR QUALITY ENHANCEMENT OF HIGHER EDUCATION:

- E-Learning is an important learning method.
- Students can learn according to their grasping ability and intelligence.
- When students solve online questions they not hesitate.
- Students can replay the online material many times.
- The speech of excellent personalities in various field can give online by the mode of videoconferencing or teleconferencing.

- Students can observe many experiments by the means of virtual laboratory.
  - In online virtual classes students from all over the world can participate and share their knowledge.
  - In e-learning , there is no limitation of students. At a time thousands or lakhs of students can learn.
  - In this learning method, students can learn 24 hours.
  - If students or any person wants more knowledge/ information , he\she can achieve knowledge by using search engines.
  - We can complete various online courses. and there is no any age limit for study.
  - By using virtual library we can search reference books.
  - In virtual classroom students can get knowledge from expert persons. And there is no need to attend physically classes.
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- Acquisition of technological skills through practice with tools and computers.
  - No age-based restrictions on difficulty level, i.e. students can go at their own pace.

**Conclusion:-** Thus use of ICT in E-learning technique plays a very important role for quality enhancement in Higher Education. It increases the students motivation, interest and engagement by facilitating the acquisition of skills and by enhancing improved communication and exchange of information through use of ICT.

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