

**INFORMATION TECHNOLOGY AND COMMUNICATION TECHNOLOGY** ICT constitutes “Information Technology” and “Communication technology” both of which are developing at a very high speed. 1- Information Technology (IT): Oxford’s Advanced Learners Dictionary defined IT as the study or use of electronic equipment, especially computers for storing analyzing and sending out information.

It deals with the use of computer and its software to convert, store, protect, process, transmit and retrieve information. In the United Kingdom’s education system, IT was formally integrated into the school curriculum. It was quickly realized that the work covered was useful in all subject. With the arrival of Internet and Broadband connections to schools, the application of IT knowledge, skills and understanding in all subjects become a reality.

This change in emphasis has resulted in a change of name from IT to ICT i.e Information and communication Technology. Thus information Technology (IT) comprises the knowledge, skills and understanding needed to employ information and communication technologies appropriately, securely and fruitfully in learning, employment and every day life.

### **ICT AND TEACHER EDUCATION**

**ICT AND TEACHER EDUCATION** Success of any educational reform depends on the effective learning process which in turn depends on the quality of teachers. The government and community endeavor to create condition.

Which will help motives and inspire teachers on the constructive and creative lines. Teachers should have freedom to innovate and device appropriate methods of communication and activities relevant to the needs and capabilities of the communities.

To effectively harness the power of new information and communication technologies( ICTs) to improve learning, teachers must have the knowledge and skills to use the new digital tools and resources to help all students to achieve high academic standards.

A teacher will be able to integrate the use of ICTs into training/teaching effectively if he develops various competencies like creatively, flexibility, logistic skills and collaboration skills.

ICTs can help educators/teachers in the different ways. It enables them: • To enhance the initial preparation by giving good teaching materials.

- To have access with colleagues, institution and universities and national organization like UGC, NCERT, NCTE and NAAC etc.

- To interact with students over a physical distance. • To access online libraries, journals and researches to enable individual learning.

### **COMMONLY USED ICTs IN EDUCATION**

**COMMONLY USED ICTs IN EDUCATION** The new digital technologies are no single technologies. They are combination of hardware and software media and delivery systems.

Following are the types of ICTs commonly used in education:

- Multimedia PC, Laptop Notebook
- Digital video/Still Camera
- LAN and other Networks/Mobile Phone ○ www (World Wide Web)
- CD ROM & DVD
- E-mail & Chat
- Digital Libraries
- Computer Conference (Video/Audio)
- Application S/W such as word processing spread sheets, power point and stimulation and speech recognition.
- Integrated Based Research
- Integrated Learning System (ILS).

**ICT** is used for **social integration** in many ways. The internet and online itself is a form of Information **Communication Technology**. **Social** media make us aware of our culture. It has continuously been hybridizing our culture through various process - renewal, assimilation, erase, enculturation and interculturalization.

**What are the four types of ICT?**

Each of the **different ICTs**—

- 1) print, audio/video cassettes
- 2) radio and
- 3) TV broadcasts,
- 4) computers or the Internet

may be used for presentation and demonstration, the most basic of the five levels. Except for video technologies, drill and practice may likewise be performed using the whole range of technologies..

**THE INTEGRATION OF TECHNOLOGY (ICTS) INTO THE TEACHING OF SOCIAL STUDIES**

The Social studies project was initiated as a response to the following Challenges:

- 1) decline in student performance in Social studies
- 2) teaching and learning of social studies was mainly based on traditional teaching methods and use of technological innovations such as (ICTs) was minimal
- 3) social studies teachers tend to rely more on teacher centric instructional pedagogy with very little variations.  
The Project Assumptions were as follows that
- 4) It would integrate ICTs as tools with pedagogy to improve instruction and develop desirable teacher competencies.

- 5) ICT would capture the attention, interest and motivate students into learning.
- 6) empower teachers in the acquisition of relevant educational ICT skills.
- 7) motivate teachers to engage in self-development and focus on the development of integrated classroom based educational technologies.
- 8) to develop social studies lessons based on clear instructional objectives.
- 9) to encourage the use of free web based resources for generating and sharing of educational information by teacher and students
- 10) Create forums for information sharing by primary stakeholders in the Education system.
- 11) above all to improve Social Studies Examination results.

#### Uses of computers

- 1) Playing **computer** games.
- 2) Writing.
- 3) Solving math problems.
- 4) Watching videos.
- 5) Listening to music and audio.
- 6) Audio, Video and photo editing.
- 7) Creating sound or video.
- 8) Communicating with other people
- 9) Using The Internet
- 10) Online shopping

11) Drawing

12) Online bill payments

### **At work[**

13) Word processing

14) Spreadsheets

15) Presentations

16) Photo Editing

17) E-mail

18) Video editing/rendering/encoding

19) Audio recording

20) System Management

21) Website Development

22) Software Development

## **INTERNET**

One of the most important jobs that computers do for people is helping with [communication](#). Communication is how people share [information](#).

Computers have helped people move forward in [science](#), [medicine](#), [business](#), and [learning](#), because they let experts from anywhere in the world work with each other and share information.

They also let other [people](#) communicate with each other, do their jobs almost anywhere, learn about almost anything, or share their opinions with each other.

The [Internet](#) is the thing that lets people communicate between their computers.

### **What is an intranet?**

Intranets are private, secured networks that are used to share information effectively **within** a company. The goal of an intranet is to ease communication, collaboration and document sharing for people within an organization. Intranets

provide a virtual space for employees to work together, which is great for when people are spread out geographically. Overall, an intranet optimizes exiting business processes to centralize information, reduce complexity and maximize productivity

#### **Use your intranet to provide everyday essentials**

- Company/operational announcements. ...
- Instant messaging and company directory. ...
- Employee social network. ...
- Support services (e.g. IT support, equipment fault reports) ...
- Document sharing. ...
- Access **shift** rotas and request **shift** swaps. ...
- Request time off. ...
- Access e-payslips.

#### **How intranet is useful in an organization?**

- The goal of an **intranet** is to ease communication, collaboration and document sharing for people within an **organization**. **Intranets** provide a virtual space for employees to work together, which is great for when people are spread out geographically.

#### **Businesses can use intranets for a variety of reasons:**

- 1) Streamline day to day activity by making repetitive tasks easier to complete
- 2) Improve internal communication with employee directories, company news and organization charts
- 3) Increase employee engagement by minimizing and centralizing “locked up” information
- 4) Collaboration is made easier as employees can share information across the board
- 5) Provides personalized information and content to users based on role
- 6) Provides easy access to important information including policies, benefits and company updates
- 7) Centralize and organize company data into a single database

## E-learning

**E-learning** includes integration of media into teaching and **uses** a central platform for organizing communication processes. **E-learning** also runs test trials, implements innovative technology (for example Web 2.0), as well as diagnoses **education** problems that **e-learning** can also help solve.

- E-learning definition is defined as providing Training and development to the Students/Employees through various Electronic media such as the Internet, audio, video etc.
- Web-based learning is meant by e-learning which commonly referred to as electronic learning or online learning.
- Today people first search for their queries on the internet rather than looking for books or asking someone. Hence, this has led to the **Importance of E-Learning in Education**.
- There are interactive classes and courses on different topics or program or degree that are delivered completely on the net.
- Emails live lectures, and video conferencing are some of the mediums that enable the participants to give their views on a particular topic and then discuss them further.
- Through video conferencing or live chat, there is a great possibility of discussing different subjects. Static pages like course materials printed for the benefit of all the participants are also made available.
- What exactly is the informed or derived platform of knowledge created by e-learning and its various aspects is worth witnessing.

## Meaning and Concept of e-learning

[Digital Class – Online E-Learning Marketplace for learning new skills Download App from Play Store!](#)

E-Learning is the process of sharing knowledge through various channels such as e-books, CDs, webinars and more.

It has revolutionized the conventional method of chalk and board style of learning imparted to the students.

Unlike this, **e-Learning education** makes giving and receiving simpler, prolific, and productive. Tutors apply the method of teaching purely through the latest technology.

We define E-Learning as Courses which are specifically delivered through the internet everywhere other than the traditional classroom where the teacher is teaching.

## Importance of e-learning

- E-learning has been introduced to empower learners to get basic schooling and enhance skills. Also, they can obtain a degree certificate, without actually attending school or university or any other institution.
- For tutors, it is a great source of earning, wherein they can teach from anywhere in their preferred time.
- Applying e-learning to all levels of schooling helped to ensure students grasp the lessons adequately at a faster pace.
- According to psychology, the audio-visual method of teaching leads to a disciplined learning environment. There are an effective tutor and student engagements.
- One of the **importance of e-learning in education** is that tutors and participants both can develop advanced learning skills. For example, creating and selling ebooks is one such advancement.
- E-learning has worked towards bringing learners, tutors, experts, practitioners, and other interest groups to one place. Thus, there is a good practice of knowledge sharing followed through different online platforms. This is important in current times as competition is rising and the world is also growing. Hence, quick information helps in the better growth of an individual

## Types of eLearning or e-Education

Digital and self-initiated learning can be acquired at the desired locations. One need not wander in search of learning as **e-learning education** is versatile and amply equipped to suit all learning methods.

E-Learning is conducted and eventuates in many forms and at times is the blend of the following methodologies and practices:

- Completed online – no face to face meetings
- Provided through Mixed Learning – A blend of online and direct communication

### That is in the two different forms

1. Synchronous- the communication between the provider and the receiver happens directly as in chat rooms, or video-audio conferencing.
  2. Asynchronous- The information is passed through forums, emails, wikis, etc.
- It is promoted through the self-study practices also.
  - Web-based learning is another better option.



- CD-ROMs provide subject wise detailed learning
- Audio and Visuals are more supplementary, descriptive and communicative methods.

### Benefits of E-Learning in Education

- 1) An analytical look at the benefits of online learning will make us consider how today's teachers, students, and institutes want to get relevant and easily accessible content.
- 2) This is fulfilled with the online mode of learning as the students can learn at their comfort and requirement.

### The following are the advantages of e-learning which you must not miss.

- 1) Online Learning can accommodate everyone's needs.
- 2) Classes can be taken from any place and at the time which students or tutors prefer.
- 3) It offers access to exclusive, prolific, and updated content and accessibility is open, secure, and uninterrupted. E-Learning lets you be in sync with modern learners and updated with the current trends
- 4) It ensures quick delivery of lessons. Traditional classrooms involve some or the kind of delay. Whereas, eLearning provides expeditious and exclusive delivery of lessons. There is no procrastinator in eLearning. It is a quick way of learning!
- 5) The scalability of learning, content, and duration that is taken can be reasonably measured. It is beneficial to those who feel nervous and disconnected in groups. It helps one learn without having to give up the comforts of the environment. You are at ease with Consistency of exposure, inputs, results, and coordination is highly ranked in E-Learning as it allows teachers a higher degree of coverage to deliver the content regularly. This ensures consistency in learning.
- 6) The method is made available at much-reduced costs. The importance of E-Learning education is that it is quick and does not require much cost. The long training period, infrastructure, stationery, travel expenses, etc. is reduced.

- 7) Effectiveness of the transferred or imparted knowledge and learning is high and powerful. It makes information easy to grasp and absorb. The Audio-Visuals help in remembering knowledge for a longer time. Also, the courses which tutors prepare are well-planned.
- 8) Mobility assured is a very comfortable and affordable option. Taking revision and getting hands-on different courses is not that simple in traditional classes. Contrary to that, missed lessons can always be taken again online. This makes it easier for tutors to impart the right information.
- 9) It promotes a self-paced learning process.

Through e-learning, students can develop a self-paced training schedule. Also, for tutors, things become quite easy. People working 9 to 7 or those who simply don't have the necessary time to conduct physical classes are no longer left behind.

They can take online sessions after work, in the evening, on the weekends, or whenever they are free.

### **Benefits of E-Learning For Students**

Unlike the traditional method of teaching with board and chalk, E-learning is fulfilled with the online mode of learning as the students can learn at their comfort and requirements.

#### **The advantages of E-Learning to the students:**

- You can access the study material unlimited times.
- You can study your Courses anytime and anywhere.
- Students can access updated content when they want.
- Unlike the traditional method of teaching, e-learning has a quick mode of delivery. This indicates that learning time is reduced.
- E-Learning provides scalability which helps in providing training.
- All students can receive the same type of syllabus, study materials and train through E-Learning.

- Through E-Learning, you can save time, money and reduced transportation cost. so, E-Learning is cost-effective compared to traditional learning.
- E-Learning is provided online so No need for papers like traditional learning. Thus, we can save the Environment through this.

One can link the various resources in several varying formats.

- Web-based learning promotes active and independent learning.
- College students, people working full time, homeowners, YouTubers, and coaching institutes can take advantage of **elearning education**.
- One biggest advantage of the internet or e-learning is that one can educate oneself in the comfort of their own home and get a degree.

These are some impossible things which are made possible only because of technology.

- Another benefit is that eLearning is based upon convenience and flexibility. All the resources for the students as well as teachers are available in one place.
- Anyone can get training on a day to day basis. It can be on weekends or whenever one has the free time.
- E-learning is also beneficial for business. This is because employees should also be educated about new skills. It helps in improving their efficiency and is fruitful for the future course of time.
- There is an easy way for clearing doubts through discussion boards or chat boxes. Tutors can easily answer the queries of students. Thus, it leads to better interaction.
- Global level education- Tutors can provide online education in multiple languages and people from different time zones.
- Last but not the least eLearning is a boon to the environment as the paperless teaching has contributed a lot in saving the trees. Also, tutors are feeling this option great as now the evaluation of each student is done online which is quicker and less tiring.

### **What Is Mobile Learning?**

Mobile learning is very prevalent in the current scenario. Mobile learning is also known as mLearning and is a new way to get access to a variety of content available online through the use of a mobile. Mobile learning is the easiest way for students to get help.

Many schools and colleges are supporting the concept of eLearning and mobile learning. They distribute mobile phones and laptops to students and encourage them to use them for educational purposes. Although mobile learning may be fun for the children if it's used in the right way, it can be very beneficial for the students and adults.

There are many educational apps available online, and they are also gaining huge popularity among the school and college students. It is even useful for teachers/professors/instructors, they can learn a topic or provide notes, examples, and also refer these apps to the students when or if needed.

The best part of mobile learning is that many sources are present online. So, if you don't get it from one place, you can search for it from some other site. Even while using the app; if you do not understand you can easily send your feedback and discuss your query or suggestion with the app developer or app developing company.

Now that you have understood what mobile learning is, let's discuss the pros and cons of mobile learning.

### **Advantages Of Mobile Learning**

Mobile learning is very popular and in the past few years, its use has increased extensively. Mentioned below are 5 advantages of mobile learning and why it should be used:

- 1. Access anywhere and anytime**

Since mobile learning is all about studying through mobile using the internet, it can be accessed from anywhere in the world and anytime.

- 2. Covers a huge distance**

The main benefit of mobile learning is that it covers a huge distance, so even if you are in Canberra, Australia or in California, United States of America, you can access the same content or tests at the same or different times. Distance is not an issue in mobile learning.

- 3. Variety of content**

A lot of content is present online. Due to its huge variety, it becomes very easy for people to access it; and also, a huge amount of people from

different corners of the world can access it for different topics or related to different subjects.

**4. Encourages students**

There are many educational apps that use online quizzes to keep track of your progress (daily, weekly or monthly, depending on firm to firm). The study is presented in such a way that it attracts the students; hence, there are game quizzes that encourage students to perform better from their previous score.

**5. Tests your knowledge**

As discussed in the above point, online quizzes are made and solving these quizzes, puzzles or riddles helps you expand your knowledge.

Apart from just study material, there are different types of other quizzes, puzzles, multiple-choice questions, etc. that are available on the internet; playing these games you can test your knowledge and even increase your IQ level.

## **Disadvantages Of Mobile Learning**

As good and alluring as the advantages sound, there are also disadvantages of mobile learning. Every coin has two sides, so, here are 5 disadvantages of mobile learning, listed below:

**1. Software issues**

Software is an application that runs on a device according to the instructions embedded in the software at the time of coding. Even though it seems like the life of software is smooth, there are other external factors that hinder its smooth life span. These external factors are changing trends in the field of IT. Software compatibility issues, not upgrading to a new version, regular system crashes, etc. are some of the issues that hinder the working of the software, thereby interrupting your smooth mobile learning experience.

**2. Hardware issues**

Unlike the software, hardware uses physical devices. The physical devices used can wear out after a period of time. They can wear out due to overuse, dust, using the device roughly, etc. These are some factors that interrupt the smooth working of the mobile or other devices.

**3. Distraction**

Using mobile learning, also, creates a lot of distraction. Many students open the mobile to learn something and end up using social media websites, chatting, sharing pictures or playing video games. These types of distractions waste one's time, which could have been used to perform a meaningful task.

**4. Misuse**

Many students also misuse the device for different purposes. Some misuse it just for fun, and some have secret, evil intentions which are definitely not good and need to be prevented.

**5. Lack of internet connection or electricity**

This can be a problem in rural areas and in areas where the usage of the internet and electricity is not yet prevalent. When you have a device, but you do not have the electricity or the internet required for you to run the device and avail the facility of mobile learning, then what's the fun? In order to enjoy your experience of mobile learning, make sure you have met all the requirements needed to have the best experience for mobile learning.