**ICT IN CLASSROOM INSTRUCTION**

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**INTRODUCTION**

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. So the teacher needs to be adequately prepared to implement a state-of-the-art ICT curriculum. Therefore ICT in all aspects of teacher’s professional tends to improve student learning and the management of learning process in all aspects. ICT is playing a vital role in the field of education to meet the requirements and expectations of the learners in large scale. It is difficult to perform the same using any traditional institutional system due to its limited resources.

ICT has various proven tool and technologies to meet the requirements of a learner at various phases. Globally, educational systems are under great pressure to adopt innovative methodologies and to integrate New Information and Communication Technologies (NICTs) in the teaching and learning process, to prepare students with the knowledge and skills. Apparently, teaching profession is evolving from an emphasis on teacher-centred, lecture-based instructions to student-centered interactive learning environments.

**ICT IN THE PROCESS OF EDUCATION**

ICT can be used as a Tool in the Process of Education in Following Ways

- **Informative Tool:** It provides vast amount of data in various formats such as Audio, Video and documents.
- **Situation Tool:** It creates situations, which the student experiences in real life. Thus, simulation and virtual reality is possible.
- **Constructive tool:** to manipulate the data and generate analysis.

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• **Communicative Tool:** It can be used to remove communication barriers such as that of space and time.

Use of ICT in education develops higher order skills such as collaborating across time and place and solving complex real world problems. It improves the perception and understanding of the world of the students.

**VARIETIES OF ICT TOOLS**

The following are some of the ICTs tools that can be used effectively in the classroom instruction like e-Learning, m-Learning, Computer Assisted Instruction (CAI), Virtual Learning Environment, On-line learning, Blogs, Podcasting and Videoconferencing etc.

**E-learning**

E-learning which refers to the electronic learning promotes innovative strategy in teaching methods with information diversified learning environment. It has more variety of information resources in learning experience with the use of multimedia and non verbal presentation by teaching material that encourages more and more self-learners to continue life-long learning without limitation of space, time and profession. It is a single point of access that serves as a gateway to variety of e-resources.

These various types or modalities of e-learning activity are represented in the following

- Individualized self-paced e-learning online (Internet or Local Network)
- Individualized self-paced e-learning offline (CD Or DVD)
- Group-based e-learning synchronously( Real Time Chat or Audio-Video Conference)
- Group-based e-learning asynchronously(Not in Real Time)

**M-learning**

Mobile learning is termed as m-learning which is enabled by the use of portable computing devices such as PDA’s, Palmtops, Smart Phones and Tablet PC’s communicating over wireless networks. The use of computing in teaching and learning is being extended to spaces beyond the traditional class room and within the classroom; the teachers and learners are gaining more flexibility. It provides new opportunities for interaction with each other through Short Messaging Service (SMS). Downloading the course-content where lessons are provided in bit-sized format, a fact that is appealing to busy students through Bluetooth connectivity easily without internet connectivity.
Virtual Learning Environment (VLE)

Virtual learning can be described as online domains that permit synchronous, collaborative interaction among teachers and students, while also providing asynchronous learning resources for individual use by students at any time. Virtual learning offers a learning system, made up of many components, with all the advantages of computer based learning but with the added advantages of access and use over the internet.

VLE is a set of teaching and learning tools designed to enhance a students learning experience by including computers and internet in the learning process. The principle components of VLE package include Curriculum Mapping, Student Tracking and On-line support for both teachers and students. Virtual learning environment can offer a flexible, self paced, self-centered learning experience that better suits the time table of the students and their perceived learning needs.

Students of Virtual learning environment are able to view course material, work on projects in small, collaborative groups, engage in discussion, access reference material, self-assess their understanding of content and concepts and communicative with their peers and their teachers. The material available in virtual mode included computer aided learning programmes, lecture notes and special self assessment modules. The virtual resource room offers a student-centered, self-paced format and encourages students to take responsibility for their own learning.

On-line learning

In the light of ICTs, net oriented technologies and interactive tools are increasingly being adopted at any educational levels. On-line educational environments address the educational objectives by putting the learner at the center of the educational experience. In on-line educational environments actions can be taken to eliminate unproductive phases and materials, and to stimulate learners to dig for information and practical examples. Planning an online educational experience starts with identifying some stages through which learners will gather the information and develop the expertise needed to reach the educational goal. In a learner-centered online collaborative environment, students work together to construct knowledge through group-based collaborative learning activities.

Blogs

The term ‘Blog’ is a blend of the term, ‘web’ and ‘log’ leading to ‘web log’, which finally becomes “Blog”. Blog as an educational tool can be integrated in multifaceted manner to accommodate all learners. As they are easy to create and update efficiently they can be used to inform students of classroom requirements, post handouts, notices, home work and assignments or act as a question and answer board. It provides conversation between the batch-mates in larger classes. A teacher can create and manage a blog to his/her professional interest and disseminate academic information and give instruction to their students on-line. The information or instruction through Blogs can be accessed by the
students through the Internet connectivity everywhere even after the classroom hours

MERITS OF ICT IN EDUCATION

ICT enables educational collaborations between individuals and group of people. ICTs lead to access to educational resources from outside the institution on a global basis at less cost. ICT helps the teacher for the best lecture/demonstration with Audio-Visual presentation through the use of multimedia PC/Laptop.

Generally, the following functions of the use of ICT in education are described in literature (SER, 1998, Moonen and Kommers, 1995, Pilot, 1998)

- ICT as object - It refers to learning about ICT. Mostly organized in a specific course. What is being learned depend on the type of education and the level of the students education prepare students for the use of ICT in education, future occupation and social life.

- ICT as an ‘assisting tool’ - ICT is used as tool, for example while making assignments, collecting data and documentation, communicating and conducting research. Typically, ICT is used independently from the subject matter.

- ICT as a medium for teaching and learning - ICT as a tool for teaching and learning itself, the medium through which teachers can tech and learners can learn. It appears in many different forms, such as drill and practices, exercises, in simulations and educational networks.

- ICT as a tool - for organization and management in schools. ICT have to be used as an aid to instruction, assessment and the routine work that students do as an aid to learning and to demonstrate their learning.

Thus ICT have the potential to enhance access, quality and effectiveness in education in general and to enables the developments of more and more better teachers. ICTs have the potential enhance access, quality and effectiveness in education in general and to enable the development of more and better teachers.

CONCLUSION

Technology in education is an unavoidable element of in present age. The teacher was responsible for disseminating information to students. The present teachers are needed to adopt ICT otherwise they would be eliminated from the present educational systems. The present teachers are expected to meet challenges which resolve an effective medium and an indispensable aid in the teaching -learning process. Transition, transformation and revolution is the scenario of today's educational system. All process of learning is soon cross boundaries and barriers. So it requires a change in knowledge competencies and skill to deal
with technological advancement in networking which is necessary to establish a network between students, educators, parents, institutions and libraries and the world over. The four approaches which adopted in the ICT technology such as emerging, applying, infusing and transforming will represent a continuum. The present age is the age of technology where by technology plays a key role in daily lives. This also includes the education system. There are endless possibilities with the integration of ICT into the education system.

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