



INFORMATION AND COMMUNICATION TECHNOLOGY & ITS INNOVATIONS

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ABSTRACT

Technology is virtually a new source of concern for educators, teachers and students. As with the rapid developing areas, there are problem both internal and external ones - to be confronted and resolved. Now- a- days ,technology is being used successfully in resolving many of our problems :hence its success is generalized to the teaching learning situations that revolute online how education is delivered and received. Cloud computing , e-learning, M- learning are the newer examples of way of technology that can be made integral part of educational institution at a mass.

Introduction

Innovate or die is the clarion call the age. ICT is a important instrument which can be transfer the present isolated teacher centred, book centred learning environment into a rich student-centred environment. This new learning environment developed by the ICT is called interactive learning environment. So all over the world, there is a trend to use ICT in the teaching learning process. ICT is a new paradigm of the teaching learning process. It is presently a large, rapidly changing and rapidly growing field. Similar is its understanding attributed in different contents and times. Information and commutation technologies (ICT) have become common place entities in all aspects of life. The traditional ICT tools like radio, television etcetera are less interactive, but formative. Even these, traditional type of ICT tools, play pivotal l roles in providing learning opportunities, with the help of ICT

revolution. We felt a lessen importance of traditional learning methods. ICT envisages excitement to the learner's eyes, ears and more importantly to the head. It has become one of the basic building blocks of modern society. It has potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers as well as strengthening teaching and helping schools changes (Davis and TICT, Modern ICT tools helps students to think creatively and critically. Technology is evolving at an exponential rate. Teaching demands and the changed farce of education add pressures to an existing teaching populace. 'Technology is the non-linear, tools for accelerated economic growth and the foundation for the sustained development of the nation.' APJ Abdul Kalam, 2010.

We have to realize that ICT is here to stay that, and its infusion into every aspect of daily life cannot be argued or disbanded. So for today's society to function effectively. Good ICT skills in corporate into a new pedagogical approval, the skills and know ledge of the older teacher then evilness into a rice tapestry to knowledge that can only serve to create fuller teaching styles that will ultimately benefit the student and society. Basically ICT is a combination of information technology with other related technologies specially communication technology ICT relates to all those technology that are used for accessing, gathering , manipulation and presenting or communication information. Dr. APJ Abdul Kalam once said "If a country is to be corruption free and become a nation of beautiful minds, I strongly feel there are three key social members who can make a difference . They are the father, the mother and the teacher ICT" is important in teacher training as only teachers have the knowledge, experience and appropriate content for developing digital bearing method. They are with teachers all the time, they see how they react to teaching and they produce as a result. Teachers are best placed to know what students needs if they are to master the concept and cognitive skills of formal learning. The act of teaching provides the fieldwork that needs to be carried out to test, redesign and retest the new methods being developed. Though organizations have started training teachers key using ICT they teacher must master the use of information skills of research, critical analysis, linking diverse types and sources of information, reformulating retrieved data, if they are to teach their pupils to develop these some skills . Thus it can he said that we have to move from "learning to use to using learn"

Characteristics of ICT

1. ICT tools enable clients students to their analyze, share and present information gainedfrom a variety of sources.
2. ICT provides opportunities for students to learn or attempt to learn or work collaboratively.
3. ICT also helps to develop skills which are essential to particifiate effectively in theworld of affairs.
4. ICT integration includes three areas i:e micro (lesson) meso (Topic) and Micro(curriculum).
5. ICT Motivate students and elegizes the classroom.
6. ICT provides opporrtmities to learn of all parts of the curriculum intediscipinany and

cross discipline any thinking.

7. ICT provide “anywhere” access to satiable information ,
8. ICT provide information communication and completing resources in remote areas .
9. ICT as tools is used for making assignment, collection data and documentation and conducting research.
10. ICT helps the teacher education as well as students to accelerate major changes both in pre service and in service teacher professional development.

ICT Innovations

Cloud Computing

Cloud computing is the latest effort in delivering computing recourses as a service .it is a paradigm that focuses on sharing data and compilation over a scalable network of nodes example of such nodes includes ends user computers, data centers, and web service. We term such a network of nodes as a cloud; an application based on such clouds is taken as a cloud application. Basically cloud is a metaphor for internet and is an abstraction for complex information it a conceals the main idea to use the existing infra structure in order to bring all feasible services to the cloud and make it possible to access those services regardless of time and location. Cloud computing use the internet technologies for delivering of various enabled capabilities ‘as a service ‘ to any needed users i.e through cloud computing we can access anything that we want from anywhere to any computer without worrying about anything like about their storage ,cost, management and so on .

- IAAS(infrastructure as a service)model: the main concept behind this model is virtualization where users have virtual desktop and consumes like network, storage virtualized servers, routers and so on, supplied by cloud services provider. It gives more flexibility and also allows users to display any software stack on top of the operating system. However flexibility comes with a cost and users are responsible for updating and patching the operating system at the IAAS level.
- SAAS(software as a service): In this model, the users simply make use of a web browser to across software that others have developed and offers as a service over the web at this model, users do not have control or across to the underlying infrastructure being used to host software. Sales force’s customer relationship management software and Google docsare popular example.
- PAAS (Platform as a service): In this model, cloud providers deliver to the user development environment services where the user can develop run in-house built applications. This service might include an operating system, language execution environment, database and web server. With the help of this model, software can developed, tested and displayed. We can also say that this service model is dedicated to administrators, testers and displayers .Example: Google app engine

(GAE), MICROSOFT Azure, IBM smart cloud, amazon so on.

Advantages

- Cost efficiency are the highest and biggest advantages of cloud computing. It automatically saved content, making it impossible to loss or delete any Valuable material. This means that even if a computer crashes, all documents and content will remain safe, saved and accessible. Cloud allows multiple users to work on and edit documents or lesson plan.
- Blended learning: This is not to suggest that something transforming has been suddenly discovered. Some kind of blending of face to face instruction with various types of technology has always been in practice in academy for a long, but now, more recognition of brain based critical pedagogy and social constructivism, new technology (Personal computer. World Wide Web, internet etc) and now pedagogies, (teaching centered learning to learner centered pedagogy) are bringing paradigm shift.
- Blended learning can be understood as a pedagogical approach that combine the affective and socializing opportunities of learner with the technology enhanced active learning possibilities of online environment, not fixing a ratio of delivery mode. It is not little bit of this and that, rather it should be understood as a pedagogical approach, that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment. According to Dziuban & Joel (2004) blended learning is a fundamental redesign of the instructional mode with the following characteristics
- Integrated formative and summative assessment mechanisms for students and instructor. A shift from lecture to student centered instruction, in which students become active and interactive learners. (This shift should apply to the entire course, including the face to face contacting sessions).Increase in interaction between student instructor, student-student, student- content, and student outside resources; and E-Learning
- E-Learning is referred to the use network red information and communication technology in designing, delivering, selecting and intending learning. It is the convergent of learning and internal. In other words we can say that E- Learning is a concept that utilizes various internets and Web technologies to create enable, deliver, and/ or facilitate lifelong learning, components can include content delivery in multiple formats, management of the learning experience and a developers and experts. It represents the whole category of technology-based learning .While online learning is synonymous with web-based learning. In this case, online learning is actually a sub-set of e-learning's-LEARNING=TECHNOLOGY BASED LEARNING ONLINE LEARNING =WEB BASED LEARNING. Online learning constitute just one part of technology based learning and describes learning via internet, intranet and extranet. A basic online learning programme includes the text and graphics of the courses, exercise, testing and record keeping, such as test scores and bookmarks.
- Mobile Learning: In the past birds, kites, messengers were used for the purpose of communication. But British introduced postal system moreover intention of telegram

and telephones are landmarks in the field of communication. Mobile phones are very handy to use and from anywhere at any time we can communicate. Mobile learning is the ability to obtain or provide educational content on personal pocket devices such as PDAs, smart phones, and mobile phones. Mobile phones are not only used for communication but other features of mobiles are equally important. It is widely accepted that the key to mobile learning lies in taking advantage of the learning opportunities offered by mobile technologies, and that this typically happens when learners are not at a fixed, predetermined location, so that they are able to engage in situated learning and make use of context-specific resources. Mobile learning also enables learners to move seamlessly across different settings and to connect up learning in different locations.

Use of mobile as learning resource

Educational games-various studies revealed that games create interest in learning. Many games are available in the mobile which we can be used for the learning e.g., games related to word building, language games, games related to maths, animals and their organs, sounds maps and identification of locations, general knowledge quiz moreover playing games enhance concentration and eye-hand co-ordination.

Storage of data

Downloaded files also can be stored in the mobile for the later reference e.g. web pages, e-books, etc. Educational lectures, video clips, demos e.g. in the field teacher education demo of various micro skills can be stored. Gone the days when we were keeping bulky dictionaries at home, thanks to mobile that we can keep the dictionaries in the pocket. Searching of a particular word is quite easy in such type of dictionary just we have to type spelling of a word appears. Not only the meaning but mobile gives you facility to hear the pronunciation of a particular word. Besides dictionaries we can store encyclopedias also. So we can keep vast store house of knowledge. Besides reading mobile gives facility to see related movie clips, photographs in the encyclopedia.

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