Paper – Process of Education

INTERACTION BETWEEN ICT AND TEACHING-LEARNING PROCESS

(Dr Guneet Toor, Assistant Professor, GHG Khalsa College of Education, Gurusar Sadhar)

Key words

ICTs =‘information technology’ and ‘communication technology’.

Information technology: technologies that help in processing, organizing and storage of information. (Computer and the technologies related to it)

Communication technologies: technologies that enable dissemination of information. (radio, television, and the Internet technology)

Definition of ICT:

Technologies which are capable of handling information and tools to process, organize, produce, store, distribute, collate and generate knowledge and to enhance capabilities of human beings.

It has opened new avenues, like, Online learning, e-learning, Virtual University, e-coaching, e-education, e-journal, etc. The ICT brings more rich material in the classrooms and libraries for the teachers and students. It provides opportunity for the learner to use maximum senses to get the information. It has broken the monotony and provided variety in the teaching – learning situation.

Types of ICT:

1. Traditional ICTs:

The traditional ICTs may include the following mans and media

- ***Printed media*** in the form of textbooks, resource books, journals, news items and other literature available in the school and public libraries.
- ***Verbal information*** and ideas exchanged with the peers, teachers, parents and other members of the society.
- ***Graphical material*** such as pictures, charts, maps, posters and cartoons.
- ***Three-dimensional aid materials*** such as specimen, model, puppetry and mockup.
- ***Audio-visual hardware equipment*** like radio, television, slide projector, overhead projector, motion pictures, tape recorders, audio- visual recording device and teaching machines.

2. Modern ICTs:

The modern ICTs are not single technologies like traditional technologies. They are a combination of hardware and software, media and delivery systems. In addition they have gone digital. Some of these may be named as below:

- Digital video camera
- Multimedia PC
- Application softwares
- Multimedia projector
- LAN and MAN(Metropolian Area Network) and WAN(Wide Area Network)
- Digital libraries
- E-mail, internet and WWW.
- Computer-mediated conferencing, etc.

ICTs at school and higher education levels:

The ICT being latest, it can be used both at school and higher education levels in the following areas.

1. Teaching-learning process
2. Diagnostic Testing
3. Remedial Teaching
4. Evaluation
5. Psychological Testing
6. Development of Virtual Laboratory

7. Online Tutoring
8. Instructional Material Development.

INTEGRATION OF ICT IN TEACHING LEARNING

I. TECHNOLOGY LITERACY:-

Basic digital literacy skills to use technology, ability to select and use appropriate software available including internet in computer laboratories or with limited classroom facilities to complement standard curriculum objectives, assessment approaches, lesson plans and didactic teaching methods, able to use ICT to manage classroom data and support their own professional development.

II. KNOWLEDGE DEEPENING:-

(1) Ability to manage information, structure problem tasks, integrate open-ended software tools and subject specific applications with student centered teaching methods and collaborative methods and collaborative projects in support of students deep understanding of key concepts and their application to solve complex world real problems

(2) Use network resources to help students collaborate, access information, communicate with experts to analyze and solve their selected problems and use ICT to create and monitor individual group plans.

III. KNOWLEDGE CREATION:-

(1) Design ICT-based learning resources and environments use ICT to support the development of knowledge creation and critical thinking skills of students, support students' continuous reflective learning, and create knowledge communities for students and colleagues.

IV. IMPACT IN CLASSROOM:-

— Opportunities to deploy innovative teaching methodologies

— To deploy more interesting material that create an interest in the students,

— Enable better management of classroom and students

— Enables the teacher to concentrate on other tasks

— Enables optimum utilization and sharing of resources among institution

— To find appropriate online resources that can be used offline or converted to a paper based resource.

Eg:-NRICH website offers enrichment materials for mathematics to pupils of all ages.

STEPS TAKEN TO INTEGRATE ICT

- Eleventh Five- Year Plan (2007-2012) importance of ICT in education has been emphasized.

- "National Curriculum Framework"(2005) emphasized the judicious use of technology to increase the reach of educational program , facilitate management of the system as well as address specific learning needs and requirements.

- Government of India has set up a national task force on information technology and software development to universalize computer literacy.

- Intel Teach to future program is a world wide effort to integrate technology in classroom.

Organisations contributing for ICTs in education:

1. NIIT: (National Institute of Information technology):

- An independent unit which is contributing to bring ICT in classroom.
- Working in India as well as abroad.
- Got partnership with 11 states (AP, TN, KA, HP, WB, Assam, Meghalaya, etc.) in our country.
- Provides facility to 9000 schools, 70,00,000 students, 40,000 computers.

2. IT for change (ITFC):

- It is a research aimed body.
- They engage with education policy makers.
- They work on capacity building and demonstration projects.
- Give training to teachers.

3. Azimpremji foundation:- Aims at

- Talent creation
- Knowledge creation
- Facilitate adjust, equitable, sustainable society.

4. Excel soft:

- Provides innovative technology solution in education and training.
- Aims at product development, individual development, contents development, and support services.
- Enhances m-learning also.

ICT enhancing teaching and learning process

According to Cabero(2001), Integration of ICT into teaching learning process contributes to increase the interaction and reception of information.

- By nature they encourage and support independent as well as group learning.
- Quality of education can be improved.
- Strengthening teaching and helping schools change.

According to ***Zhao and Cziko*** (2001) three conditions are necessary for teachers to introduce ICT into their classrooms:

Teachers should believe

1. In effectiveness of technology.
2. Use of technology will not cause any distractions.
3. They have control over technology.

Use of ICTs in Teaching- learning process results in:

- — developing understanding and application of the concepts
- — developing expression power
- — developing reasoning and thinking power
- — development of judgment and decision making ability
- — improving comprehension, speed and vocabulary
- — developing self-concept and value clarification
- — developing proper study habits
- — developing tolerance and ambiguity, risk taking capacity, scientific temper.
- — Giving update information.
- — Providing Online interaction facility.
- — Providing interactive learning experiences.
- — Stimulating and motivating students to learn.
- — Helping students to gain valuable computer skills.
- — Catering to different learning styles.
- — Aids in collaboration and group work.
- — Providing comfortable learning.
- — Providing multi-cultural education.
- — Developing communication skills- one-to-one, one-to-many and many-to-many.
- — Creating open-ended classroom
- — Creating virtual environment.

Conclusion:

The adoption and use of ICTs in education have a positive impact on teaching, learning, and research. ICT can affect the delivery of education and enable wider access to the same. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers. It can influence the way students are taught and how they learn. It would provide the rich environment and motivation for teaching learning process which seems to have a profound impact on the process of learning in education by offering new possibilities for learners and teachers. These possibilities can have an impact on student performance and achievement. Similarly wider availability of best practices and best course material in

education, which can be shared by means of ICT, can foster better teaching and improved academic achievement of students.

References:

— Essential of educational psychology by S.K.Mangal

— http://learning.wales.gov.uk/docs/learningwales/publications/121122ictlearningen.pdf

— http://education.qld.gov.au/smartclassrooms/documents/enabling-learners/pdf/teaching-and-learning-with-ICT-part3.pdf

— http://www.esa.edu.au/projects/ict-everyday-learning-a-toolkit-for-teachers

— http://www.educationscotland.gov.uk/usingglowandict/roleofictinlearning.asp