

Use of Information and Communication Technology in Teaching-Learning Process

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ICT and Education

This article provides a glimpse of the use of information and communication technology (ICT) in every walk of our life and it discusses the various modes for the teachers and teacher educators as well as students to make use of these technologies for the classroom transaction. It gives a brief account of blending technology with other methods in our classroom to make children learn more efficiently taking advantage of knowledge and information explosion. The article argues in favor of looking beyond the current class room and to think of the technology as an integral part of the schooling process. This is what the concept of Smart School is all about. Give the technology to the students and get the best out of them is the theme of this paper.

Education is often regarded as synonymous with learning, as the acquired intellectual, emotional or sensorimotor experience. Education is a product of experience. It is the process by which and through the experience of the race, i.e., knowledge, skills and attitudes are transmitted to the members of the community. John Dewey speaks of “education as that reconstruction or reorganization of experience which adds to the meaning of experience and which increases ability to direct the course of subsequent experiences.” The child is subjected to certain experiences that are intended to modify its behaviour for proper adjustment to a changing environment.

Education adjustment of the child is conditioned by the nature and demands of the society to which the child should be adapted and attuned: so what could pass for superior adjustment a few centuries ago needs modification. The most distinctive feature of the modern society is its information and communication technology. The main aim of education was interpreted to be the preservation of this accumulated treasure. And knowledge in every subject is cumulative, so that

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as each year passes, there is more to be learnt, and keep pace with this advance in knowledge. For all this ICT provides the necessary answer to all these queries.

ICT influences nearly all aspects of human life and are become part of our daily experience at an increasing pace. The educational administrators and teacher educators' have realized these rapid advancements in ICT and its tremendous potential to revolutionize education, particularly school education. This implies that the curriculum for all pupils will have to place some emphasis on technological change and its implications. Such a curriculum should ensure that all students, no matter what their future holds, are able to use technology, to communicate effectively with and through the communication technologies to appreciate their limitations. Since our society heavily depends on ICT in many aspects of work and personal life. It will expect our schools to familiarize pupils with computers and their application during their schooling. Hence the National Curriculum Framework for School Education (2000) rightly states that "the new technology has tremendous potential to revolutionise education and transforms school dramatically ... Integration of ICT into schooling would promote computer aided learning and finally computer based learning throughout the country.

Learning through ICT

Like other teaching aids, computer and the internet (computer mediated communication) are effective only when they are used to meet specific learning needs and when they enhance the learning experiences for the students. Computer assisted learning does not mean replacing teachers with computers but it only means that has to do with anyone or a combination of the following:

- Reinforcement of important concepts using drill and practice software packages.
- Construction of a question bank giving appropriate feedback during preparation for examination.
- Study of simulation software to model real world problems or simulate experiments, which would be impractical to perform in the laboratory.

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- Students acquiring a range of ICT skills like word processing, presentations, use of spreadsheets, email, publishing newsletter in the web, handling databases, and use different types of computer assisted material.
- Introducing new concepts via micro-environment, which allows students to structure their own learning.
- Information retrieval exercises from the internet pertaining to the curriculum.
- Collaborative projects using e-mail, video conferencing, a shared website or a local network.
- E-mail notice boards to encourage student's discussion.
- Establishing a newsletter, notice board for a course or module.
- Resource materials and teaching points posted in the web to help students prepare for tutorials.

Based on the above, we can make use of the following for the teaching learning process:

1. **Drill and practice mode:** In this mode the computer is programmed so as to present the learner with a number of exercises which she/ he must complete by providing some response. It is possible to build a performance profile on the basis of responses for individual learners. If the software packages can utilize the computer potential to make drill and purposeful to each learner then effective learning would be achieved.
2. **Tutorial mode:** In this mode of learning, learners are seated in front of the computer all learning takes place in their own way and at their own pace. Intelligent tutorial programs provide control over both strategy and manipulation of content and are an improvement over the conventional tutorials, they can support student defined goals and request for help with much greater flexibility.
3. **Stimulation and games mode:** The design of simulation is based on popperian scientific method. Namely a paradigmatic learning situation that

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can acts a model. As a scientists learns about the real world, so the students learns about the world modeled by the computer (Laurillard 1987).

The advantages of using computer as a teaching learning tool when simulation software is used are as follows:

- Many scientific experiments would be far too expensive in materials and equipment. Hence, computer based simulations might provide some experience of investigating the phenomenon involved in such experiments.
- When experiments are presented are presented on the screen of a compute, variable factors are under the learner's control. They can take a greater part in controlling the direction of their investigation.
- The activities undertaken in simulation make far more sense to young learners than decontextualised exercises focusing on isolated skills.

4. Modelling mode: Modeling on the computer with suitable software is similar to the simulation. In that both help the learner to learn by working with an analogue of a real life system or a phenomenon.

5. Word processor: A word processor is an extremely useful package in that student will be able to write a good story or write out a neat laboratory is their editing capacity.

Information applications and communication system have the following characteristics which are useful to both the teacher and learner.

1. Electronic information course with access to worldwide databases of information.
2. Interactive and easy to use information exchange medium
3. A tool to facilitate collaborative learning projects.
4. An access to publish electronic portfolios of teaching activities in the web.

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To conclude we are gratified at the significant advances in the field of education, in its basic theory as well as in its tools and techniques as these augur well for human welfare. At the same time we are aware of the conflicts and contradictions that have appeared o the educational arena. Recent developments like performance contracting, cost effectiveness and accountability give the noble task of teaching.

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