

**ICT – FOR TEACHING AND LERNING PROCESSES**

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**ABSTRACT**

The Information Communication Technology (ICT) has vast, vivid and varied applications in several field s including business, industry, surveillance and education. Its need has abruptly cropped up in the field of education particularly in India.

In order to continue teaching and learning, ICT was brought into operations in educational institutions all over the country whereby the students can receive the instructions from their teachers through computer sitting in their houses. But due to several structural, financial and technical reasons it could not be efficiently brought into use. Attitudinally teachers and students both despised the ICT system which is devoid of human elements essential for teaching and learning which is described in this paper.

**Key words**

Blended learning, integrated learning, active learning, Collaborative learning.

**Introduction**

Teaching and/or learning are the two most fundamental capacity generating activities in almost everyone's life. Exponential expansion of knowledge and information is certainly unfathomable in every field of human operations. Unless knowledge and information are communicated to those who really need it for their sustainable development, they are void and useless. Hence, their creation and communication are being simultaneously carried out, today, by what is being called as 'information communication technology (ICT). This ICT has successfully resolved the problems massive expansion and communication of knowledge and information breaking the barriers of space, time and people.

Today, teaching is the most challenging profession because on the one hand the knowledge is expanding fast, and its accessibility is becoming easier to everyone on the other hand. At times, the smart students secure the information even before the teachers convey them. Unless the teachers constantly update their knowledge and internalize it as quickly as possible, they could not meaningfully facilitate learning techniques.

Recent developments of innovative technologies have provided new possibilities to teaching profession but how to use these technologies in their teaching is more important. Moreover quality of teaching has been raised by the development of new broadband communication services and convergence of telecommunication with computers. Information and communication technologies (ICTs) are widely believed to be important potential levers to introduce and sustain education reform efforts. Teachers have to essentially attune themselves to adopt and be adept in adaptation of information communication technology (ICT). Fast acquisition and assimilation of knowledge for effective teaching are inevitable for successful teachers.

Ravi Chandran ((1) has made a most pertinent remark in these words, “Undoubtedly the effectiveness of teaching in class rooms will always remain superior to any other method because of its human touch and humane approach”. He further added saying that ICT is useful in certain conditions of impermanent nature”. ICT has its own advantages and disadvantages in the profession of teaching and learning. In order to examine the efficacy of adoption of ICT, the paper attempt to carry out the following objectives.

### **Objectives**

The objectives of this paper are:

- [i] to highlight the few significant methods of ICT in the profession of teaching for learning;
- [ii] to examine the ways and means for improving the efficiency of its techniques; and
- [iii] to find out the problems in dissemination of knowledge through ICT.

### **Hypotheses**

The above objectives are formulated on the grounds of the following hypotheses, namely:

- [a] The ICT is found to be considerably useful in certain impermanent situations beyond control' and
- [b] Its efficacy in the educational field is not as much appropriate as in the fields of business and industry.

### **Importance**

Information and Communication Technology is becoming crucial part of the education system. ICT has changed the grace of functioning of the educational system and its governance. This paper considers the rapid spread of ICT applications which has brought

radical technological, social and economic revolutions. These changes have caused educational institutions, administrators, teachers to reconsideration their roles, teaching and vision for the future. The sustainability of a nation in the era of knowledge and its economy depends on the effective educational system. It is considered as the comparative analysis of the inputs and outputs. In educational system, the inputs are teachers, students, classroom materials, equipment's of teaching, methods of teaching and the outputs are quantity as well as quality of student learning. The proper integration of ICT with learning environment increases the chance of attainment education along with improved productivity. ICT provides various opportunities to learners and make teachers aware of their new roles & responsibilities in educational set up. The growing use of ICT will change many of the strategies employed by both teachers and students in the learning process. The role of ICT in the educational administration is recurring and unavoidable. The paper discusses various functions discharged by ICT in the field of Education and its most new usages. In general, ICT is going to play a vital role in bringing about qualitative change in every aspects of our life.

### **Methods of ICT**

#### [1] E-learning:

It is a learning program that makes use of an information network- such as the internet etc. This network functions in different fields with different range and aspects .

#### [2] Blended Learning:

It refers to learning models that combine the face-to-face classroom practice with e-learning solutions. The continuity of process of seeking and delivering is not hindered.

#### [3] Active learning:

ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information in order to provide a platform for student inquiry, analysis and construction of new information.

#### [4] Collaborative learning:

ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modeling real world interactions, ICT-supported learning provides opportunity to work with students from different cultures, thereby helping to enhance learners teaming and communication skills as well as their global awareness. It models learning done throughout the learner's lifetime by expanding

the learning pace to include not just peers but also mentors and experts from different fields.

[5] Creative learning:

ICT-supported learning promotes the manipulation of existing information and the creation of real-world products rather than the duplication of received information. Such facilities of mutations are useful in grasping its lateral aspects.

[6] Integrative Learning:

ICT-enhanced learning promotes a thematic integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice, which characterizes the traditional approach.

[7] Blended Learning:

ICT-enhanced learning is student-directed and diagnostic. Unlike static, text or print-based education, ICT-enhanced learning recognizes the presence of different learning pathways to explore and discover rather than merely listen and remember.

[8] U-Learning:

Ubiquitous learning, also known as u-learning is based on ubiquitous technology. The most significant role of ubiquitous computing learning in u-learning is to construct a ubiquitous learning environment, which enables anyone to learn at any place.

### **Improvement in Efficiency of delivery mechanism**

Drent, M. & Meelissen, observed (2) that “Efficiency of mechanism of delivery in ICT is not an easy achievement due to structural and operational aberrations particularly in the education field”. Efficient delivery mechanisms are an important component of overall school management. ICTs can provide the efficiency of delivery mechanisms of educational services by supplementing conventional delivery mechanisms:

- (i) Technology’s capacity to reach learners in any place and at any time has the potential to promote revolutionary changes in the educational paradigm. This means eliminating the premise that learning time equals classroom time. Students can be encouraged to revisit the lessons/topics to reinforce learning without active intervention by teachers.
- (ii) Another illustration of efficiency is the domain of virtual laboratories. All school systems want to provide labs because science is empirical. But few schools have furnished them with equipment and supplies and fewer yet are willing to risk using them. Technology allows for video and digital demonstrations as well as digital

simulation of laboratory activities in a very real manner – but without the risks and costs associated with laboratory experiments. Simulations will not replace hands-on activity completely. Rather, they prepare the learner to conduct real-life experiments in the same manner as flight simulations prepare the student pilot for test flying.

- (iii) Multimedia-enabled learning modules can be developed by a group of master teachers and instructional designers, which can then be shared with all schools to assure quality standards of learning delivery.
- (iv) Concerns about costs are always raised in discussions related to technology. Depending on the technology used, start-up costs can be high but economies of scale are significant. That is, the more the technology is used i.e. when more students use the product, the unit costs of producing educational content ware decrease proportionately. Trade-offs must be considered as well when evaluating technology's initial costs.
- (v) The opportunity to choose how they communicate will increase pupils' motivation to do so; and second, by selecting modes of representation they may develop an understanding of how photographs, drawings, text and sound may contribute to the meaning-making process whilst taking part in that process themselves.
- (VI) Produce higher quality output has observed that the quality of students work produced on ICT is generally of a much higher quality than if it is hand-written
- (VII) The computer has been the mechanism by which students have been able to create new and exciting poems, posters, leaflets and newspapers in English.

### **Difficulties of successfully using ICT**

1. Teachers lack in confidence in applying ICT.
2. Educators are not competent in handling the ICT equipments and devices.
3. Normally shortage computers in classrooms disturb the smooth learning process.
4. Most of the students get disoriented due to inadequate computers and other devices.
5. The facilities and varied applications on internet create disillusion in ordinary students.
6. The mechanism of computer set-up is like a black box where the students obtain results without knowing the process.
8. ICT application is appropriate as it requires corresponding change in their pedagogy.

## Summary

The paper attempts to examine the problems of application of ICT in the field of education particularly in teaching the students at different locations. Undoubtedly, the ICT has varied applications to fulfill the different kinds of needs of the teachers. However, the teachers are not able to sufficiently equip themselves to face the problems arising in course of application.

It cannot be denied that the educational environment is not ripe in a large number of schools and colleges. The fact is the need ICT application rose abruptly. Neither the teacher's community had a capacity to handle the operations relating to ICT nor did the students have complete set up of ICT devices. A few of them could own a simple computers or laptops.

Incorporating the technologies successful into schools requires careful advanced planning and preparation. Significantly, adequate financial and technically qualified human resources are required, with training as an essential component of the process. The robust systems must be put in place. Innovators have to be prepared to confront bureaucracy and conservative attitudes, including resistance by teachers and other educational staff. The following points must be kept in mind while designing the content as well as the process of education.

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