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# EDUCATIONAL TECHNOLOGY: IN THE 21<sup>ST</sup> CENTURY

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**Abstract** Education has been an integral part of our society. Education has been the foundation to the structure of the so called advanced generation. The various method of education combine together to form a single cohesive path that empowers the society in to building up as well equipped for any sort of problems. Over the ages, education has evolved significantly but it is leapfrogging over its own space now. The huge surge in evolution is all thanks to the development of newer instruments and pathways. Technology is the major wheel which is driving the evolution in the field of education. Bringing up of internet and electronics medium as play the greater role in shaping the modern form of education. Educational technology is a systematic way of designing implementing and evaluating total process of learning and teaching in terms of specific objectives based on research in human learning and communication and employing a combination of human and non-human research to bring about more effective instruction.

In education the main driving force are the students and teachers. Technology is the bridge between the forces. To start with, the software approach, Teacher and students interaction has improved a great amount to enhance the transfer of knowledge. Various technical devices that proves usefulness in the reduction to the limitation in the educational process. Devices, painted books, audio visual media are the prime technology that is transforming the education pattern. The concern for rapid evolution of education because of the enhancement in the field of technology can be divided in to few collective points.

- Knowledge and technology are expanding at a fast increasing rate; the education system should be able to import all this knowledge.
- The fast paced knowledge has led to the change in the educational system which adopted the continual education as the integral part of technical curriculum.
- The changes in the technology are forcing both the students and teachers to cope up with the new evolved structure regularly. Thus the need of continual education system in the form of training, study, project work, case studies and seminars.

The importance of education technology are far more than the concerns and then technology is driving education to the next level in the 21<sup>st</sup> century. The usefulness of technology in education is not limited to the class room teaching but also to every household. Parents, Students, Teachers form the trio of new education system which has been encouraging every strata of the society to go for education more often.

The gradual shift towards more student centered approach to learning a trend, which is manifest the increasing emphasis on individualized learning. There have been increased dependencies on information technology. Over the years education system have evolved but confined to the same guidelines. The vastness of knowledge has been left untouched. Thus the introduction of technology in the field of education could well push the system to change the structures and adapt to more problem solving attitude for the society rather than any curriculum based. The above points would be discussed in the paper in elaborated form.

**Keywords:** Technology, Teaching, Learning, Classroom, Computer.

## **Introduction:**

“Technology can become the wings that will allow the educational world to fly farther and faster than ever before – if we will allow it.” – Jenny Arledge.

Education relates to a number of processes in which a desirable state of mind develops. The effectiveness of any form of organized activity largely depends upon an organization’s ability to achieve its goals, fulfill the need of its members, maintain itself internally, and to adapt to its environment. If an organization can do so, it is ‘healthy’ able to learn through experience. And it’s free to change and free to, respond to new circumstances. Educational Technology is concerns with these problems in an educational context, and it is characterized by its systematic approach to a creative organization of “resources for learning”.

This is the age of information technology. The use of science and technology can be seen everyone in our daily lives. Science and technology has been instrumental in bringing efficiency improvement and perfection in the process and product of human work. In case of teaching and learning it also makes its more comprehensive and simple and helps to display more information in a lesser time while making the process more interactive. Educational technology in the wider sense includes the development, application and evaluation of systems, technician and aids in the field of learning and teaching. The three concepts of educational technology are briefly states as follows:

The concept is essentially a ‘hardware’ approach, stressing the importance of ‘aids for teachings’. It’s lies in the application of the physical sciences and engineering to the problems of education. Technology is seen as a means of mechanizing or automating the process of teaching with devices that transmit, amplify, distribute, record and reproduce stimuli materials and thus increase the teacher’s impact as well as wider the potential audience. In other words, teachers can use the teaching aids to deal more efficiency with larger and large groups of students increase the capacity of their reaching, and reach beyond the boundaries of the institute or classroom all without necessarily increasing the cost of reaching.

The second concept is essentially a ‘software’ approach, stressing the importance of ‘aids of learning’. It’s origin lies the application of behavioral sciences to the problems of education. Technology is seen as a means of providing the necessary know how for designing worthwhile learning experiences. Machines and mechanization are viewed merely as instruments of presentation or transmission. The procedures of curriculum and course development as well as instructional development largely revolve around identifying appropriate aims, goals and objectives selecting relevant content and subject matter, choosing varied learning

methodologies, activities and experiences so as to make for a worthwhile and rewarding course of study: and then evaluating not only the success of the resulting learning experiences but also the effectiveness of the techniques employed for their development.

Second with purposeful shaping of behavior, the third is human in its holistic approach. Its emphasis is on a range of varied skills; from which selection can be more depending upon the nature of the problem process is fundamentally a problem solving approach.

The concept of educational technology should not be confused with the electronic technology; it has a wider meaning, as wide as education itself. By this, it means that educational technology is concerned with the design and evaluation of the curriculum and learning experiences provided within and outside the classrooms, and also with the problems of implementing it. Technology has been a part of any learning process from the beginning, whether it was writing instruments, painted books or audio-visual media.

#### **Definition of Educational Technology:**

From the foregoing it is now possible to define Educational Technology thus:-

“Educational Technology is a systematic way of designing implementing and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communication and employing a combination of human and non-human research to bring about more effective instruction. “Let us understand the meaning of the term ‘educational technology’ by splitting it into ‘Education’ and ‘Technology’. Technology refers to the systematic application of techniques and principles of science to achieve an objective effectively and efficiently. ‘Technology’ is the branch of advanced scientific study which involves highly designed and sophisticated engineering software and hardware. It deals with the application of knowledge for practical ends. Technology results in new designs and devices to improve human productivity.

Education is the process modification of social efficiency, acculturation, and adjustment to the environment harmonious and all round development of the human personality. Hence, educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing approaches to teaching and learning through the judicious use and integration of diverse media. Practitioners in educational technology seek new and effective ways of organizing the teaching learning process through the best possible application of technological developments. These activities rely upon a body of knowledge for successful and ethical implementation, rather than as routine tasks or as isolated technical skills.

#### **Concerns of Educational Technology:**

According to the definition just mentioned, educational technology is concerned with increasing the efficiency and effectiveness of the teaching learning process. This is done by application of system approach. This learning process is so designed as to cause effective interaction between the student and the various resources leading to development of certain abilities. Development of such abilities enables the student to conform to the recruitments laid down by the objectives set forth. Through a system of formative and summative education of feedback the learning process is continuously refined to cause a match to occur between the performance of the students and the specifications of the jobs they are required to do in the world of work.

Knowledge and technology are expanding at a fast increasing rate. The sum total of human knowledge was doubling every 10 years by 1950 and every 5 years by 1970. By the year 2040 there will be 200 million different books. The formal technical education system cannot impart all the needed knowledge and skills.

It is not possible to change structured instructional materials at the same speed with which knowledge advances. Nor it is possible for the teacher to keep pace with this change through conventional means. Continuing education has, therefore to become an integral part of our technical institutions.

Fast increase in knowledge and rapid changes in technology make it more necessary than ever before that students are trained not only to undertake jobs for which they have specifically been trained but that they should also be trained to develop the attitude to confidently face problems situations which they may not have come across during, their educations and training programme. Training at technical institutions should inculcate among students the attitude and skills to acquire new knowledge and new skills during the course of their working life. This calls for incorporating in the training programme considerable amount of independent study, project work, case studies, group discussions and seminars.

A most important aspect of training programs is the development of proper attitude and interpersonal skills. Training programmes should have in-built provision to promote these traits among students.

Design development, implementation and evaluation of an interactive teaching learning system for preparing students face the challenges of the fast changing world of work therefore, are the concerns of present day educational technology.

#### **Why Education technology is important in Education today?:**

Here are few reasons:

1. Technology in the classrooms engages students- kids love learning how to use new technology so what better way to capture a child's attention in the classrooms than to combine it with technology; whether kids are using the internet to research a topic or playing a computer game that teaches a concept kids are more likely to learn when they are engaged with their learning.
2. Kids can help parents, and feel useful- usually it is the parents who teach their kids new skills, but in some cases when technology is present it can be the other way around. By letting kids teach their parents about new technologies, they are increasing their sense of self-worth and confidence in their abilities.
3. Kids learn a valuable skill- computers are everywhere, even in places we least expected them. It is important that kids learn how to use computers and what computers can do for them early on so they can get used to using them in everyday life.
4. Kids can do things they never dreamed of many kids have difficulty expressing themselves, either with spoken language or the written word. Computers can offer a method of communication that eliminates these boundaries meaning they can express themselves in new ways.
5. Technology can connect home and school many schools are offering online libraries of school resources that kids can access from home, which makes studying and researching the much easier. Additionally parents and teachers can stay in close contact with e-mails instead of relying on their kids to relay important messages.
6. Technology can save teachers time – we all know that most teachers these days are overworked.
7. This is why technology in the classroom can be an important step in relieving their heavy workload. By computerizing many of a teacher's manual tasks, such as attendance and performance records, teachers can spend more time working with their students. Before you consider introducing technology into the classroom. It is important that you carefully research and plot out exactly what you wish to accomplish. Take a look at what other teachers and schools are doing with technology and whether they are having the desired results, and then decide for yourself what type of technology is suitable for your students.

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