



Quality enhancement in education through technology: Innovation in educational technology

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Abstract

To compete with the competitive complex changing modern trend future prospect educational society along with complexity of scientific edge modern education system never neglect its improvement whatever may be the requirement in technology and science in its developmental process. It takes the help of modern technology as a result technology never think to failed in its associative nature so that educational technology innovates more and more like team teaching, program learning, micro-teaching, individualized instruction, computer assisted instruction, computer networking and so on. The present paper intend to facilitate the concept entitled "Innovation in educational technology".

Keywords: educational technology, innovation, micro teaching, simulated teaching, programmed learning and team teaching

Introduction

Background

Man has always desired for excellence. This desire has given birth to new invention and innovations in all walks of life. Science and technology has always been instrumental in bringing efficiency and improvement in the processes and product of the human work. The world of education has also been influence by the increased use of technology.

This is the age of science, technology and industrial development. Resent technological advances have made rapid stride in every domain of human Endeavour and education is no exception. There is no aspect of human life which is not touched by technology. Starting from who works at home, farmers who works in the field, mill workers, engineers, doctors, and scientist, they all use technology in some way or other. Similarly, a teacher has also started making use of technology to make teaching more easy and understandable. Today's teacher was visual and audio aids in addition to use in age old chalk and blackboard. It is therefore necessary that we understand educational technology properly in order to make its use in a better way.

Meaning of educational technology

Educational Technology consist of two words such education and technology. The word education means training and instructions, designed to give knowledge and develop skills.

- Technology means scientific study and use of mechanical arts and applied sciences. It includes application of arts to practical tasks in education and industry such as; television, projector, computer and hardware aspects as applied to education.

- Educational Technology refers to the use of technology in the field of education. Educational Technology is a systematic application of all the resources of science to the learning process and ultimately a reform of the educational system.

Concept of innovation

- Innovation means creations and treading new paths. Innovations are practices or ideas perceived as new by the adopters. In other words, it is an idea perceived as new by individuals and it is a concept, an attitude, a tool with accompanying skills or two or more of these together introduced to an individual or culture that have not functionally incorporated it before.
- The working document of the third regional UNESCO conference 1971 observes, Innovation, to describe it in simple terms, is the introduction of a new idea, a process or technique and its adoption for wide spread use to replace an existing practice or technique. It is controlled and regulated by testing and experimentation.

General characteristics of an innovation

1. Innovation is a configuration of ideas.
2. Innovation results in new resources of learning.
3. Innovation is planned effort.
4. Innovation is a deliberate effort.
5. Innovation is considered qualitatively superior to the present situation.
6. Innovation has functional utility;
7. Innovation is regarded as new idea.

Table 1: Difference between traditional teaching technology and modern teaching technology

Traditional teaching technology	Modern teaching technology
1. It is based on old techniques of teaching and stress on memorization.	1. It is based on modern scientific principles and discoveries and stress on critical thinking power of learner.
2. Teaching by individual teacher or listening to lectures of teachers.	2. It uses team teaching and gives important on group activities.
3. Little preparation is done.	3. Teaching material is thoroughly prepared.
4. Time for completion is same for all students.	4. Time require to master the material may vary across to students.
5. The teacher is primarily responsible for all subject matter preparation and also must prepare a administer test.	5. The teacher's role is not to teach in the sense of subject matter presentation but to manage the instructional environment and diagnose students.
6. Here, learning is passive.	6. Here, learning is active. l

Innovation in educational technology

Innovation in education refers to the use of new resources for learning and normally considered to include resources such as film and slides. Different technological methods and principles are the tools for the education of children and adolescents, and offer an unprecedented opportunity to satisfy increasingly widespread and diversified demand and maintaining the quality of education.

Computers and multi-media systems, for instance, make it possible to design individual learning paths a long which each pupil can move at his/her own pace.

Hence, there are different innovations in the field of educational technology. They are described as under;

Micro Teaching

It is one of the new software in educational technology. This idea first of all was born in America. It was adopted by Dwight Allen in the year 1963. It is the training concept which is applied in pre-service and in-service stage for professional growth of the teacher. It is the scaled down teaching encountered class size and class time. It is an effective device for change of teacher's behavior and provides opportunity for practice of specific teaching skills.

Simulated Teaching

Simulated teaching is one of the training techniques emphasized for modification of teacher's behavior. It was first of all developed in 1968 by Creuck Shank in the name of role playing, artificial teaching and scientific method. It is a mechanism of feedback device for cultivating certain desirable behavior among the pupil teacher by playing the role of teacher in their own group in an artificial situation of classroom teaching. It is a suitable device for motivating student teacher to face actual classroom and develops self-confidence and helps in understanding behavioral problem in the classroom and develop insight to encourage them.

Programmed Learning

Programmed instruction or programmed learning is one of the important innovations in the teaching learning process. Programmed instruction is a carefully specified, systematically planned, empirically established, skillfully arranged and effectively controlled self-instructional techniques for providing individualized instructions and learning experiences to the learner. It was emerged in the beginning of the 20th century from the efforts of American psychologist E.L. Thorndike. It is tailed to the needs of

individual learner in the class. The students learn according to its own capabilities.

Personalized system of instruction

It was originated by Fred S. Keller in 1965, is a plan of individualized instruction. It is a better approach to learning than the conventional spoon feeding method of lecture in the classroom. Every student with all his intellectual, psychological, socio-economic status, interest and aptitude is considered as a class in himself. Students learn on their own pace and through self-learning. Here, teacher acts as facilitators.

Learner controlled instruction

This method of individualized instruction was developed by Robert Mager in 1951. It is based on the belief that a student should be a source of significant input to the sequencing decision. Here, the learner himself organizes the learning sequence according to his own mental abilities and create a confidence in him. The goal is set by the learners themselves. They become meaningful, realistic, satisfying and helpful in guiding their learning activities. The learner engages in the activities and real life experiences which are related to one another.

Team Teaching

Team teaching is the recent idea in the field of education. It was first developed in 1955 in Harvard University then it was given importance in 1960 in Britain. It is emphasized on assumption that, a single teacher cannot have expertise knowledge in the total courses. He cannot provide justice tom the learners. In this regard, the cooperation among the two or more teacher in teaching a particular subject is useful to teach a subject which is interdisciplinary. Team teaching is a method of instruction in which two or more teachers organized the activity to provide the instruction to a large group of students in a specific time, in a flexible way to achieve the aims and objectives. It improves the quality of instruction and provides flexibility in grouping the students.

Computer assisted learning

In 1965, Lawrence Stolurow brought the idea of Computer Assisted Instruction. It is the systematic control of instruction by computer. It is characterized by testing, diagnostic learning, prescription and through record keeping. It includes all applications of the computer aid to the instructor in instructional management without actually doing the teaching.

It motivates students to achieve aim in an optimal manner and provide meaningful experiences to the students to achieve aims. It assists in achievement of goals by providing appropriate material for students of diverse capacity and achievement levels.

Constructivist Learning

The latest catchword in educational circle is ‘Constructivism’ applied both to learning theory and to epistemology. The term refers to the idea that individuals, through their interaction with the environment, construct their own knowledge and meaning, this metaphor of construction comes from the idea that humans are builders, shapers and designers. Learning is a personal endeavor. Knowledge is not received from outside, but rather constructed or interpreted by the learner. Constructivists place a strong emphasis on the learner rather than the teacher. It is the learner who interacts with the objects and events and there by gains an understanding of the features held by such objects and events.

Collaborative Learning

Collaborative Learning is an umbrella term for a variety of approaches in education that involve joint effort by students or students and teachers. It refers to methodologies and environments in which learners engage in a common task in which each individual depends on and is accountable to each other. Group of students work together in searching for understanding, meaning and solutions. The approach is closely related to cooperative learning. In other words, it refers to the collection of tools which learners can use to assists or be assisted by others.

Team Teaching:

Team Teaching has been defined as the collaboration between teachers in teaching. In a co-taught class room, two teachers work together to develop a differentiated curriculum that meets the needs of a diverse of students. It can be classified in to three types such as; a team of teachers from a single department, a team of teachers from various departments of a single institution and a team of teachers from a single department of various institutions.

Peer Learning

Peer supported leaning is based on the idea that two, three, or more heads are better than one. Using peers as a resource can be useful in many different situations. It is possible to learn from others in many different situations including tutorial seminar, web based discussions forum, e-mails groups, in class discussions / debates, working as a group on an assignment, meeting up for a chat over coffee.

E-learning

E-Learning is an abbreviation of the term electronic learning. Electronic Learning in its literal meaning stands for the type of learning carried out, facilitated or supported by the use of advanced learning technology particularly calling for the services of computers, networking and multimedia.

Teleconferencing

It is the process through which two or more persons at a

distance are connected, so that they can hear or both see and hear each other. It facilitates two/more groups of persons located at a distance to interact each other through talk-back system, including phone, fax or email. In each other words, e can say the learner’s participants and resource person are present at the time at different places and communicate with one another through electronic media. It can be used successfully not only in the field of distance education but also as a supplementary device in formal education system and it should be useful for delivery of course investigations, lessons, project works etc. by competent resource persons to all target groups.

Web 2.0

The phrase web 2.0 refers to a perceived second generation of web-based communities such as; social-networking, wikis, blogs which aims to facilitate collaboration and sharing between users. The term becomes popular following the first o’ really media web2.0 conference in 2004 and since World Wide Web. It includes blog, wikis, broadcast, digital media uploading websites and new types of online social networking websites.

Innovative evaluation tools

In the field of education, there are large number of evaluation and assessment tools are emerged such as; rubrics, portfolio, concept mapping hot potatoes which helps in assessing the students’ performance effectively.

Conclusion

It is true that education in India still at a primitive stage where traditional methods of instruction rule the roost. From this ongoing discussion it can be concluded that we need to change with the changing times and make our future and present teachers well conversant with all the advancement in the field of instructional technology. And the new innovation in the field of educational technology helps the teaching learning process more effective and efficient.

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