The Role of Multimedia Technology in the Enhancement of Teaching Learning Process

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ARTICLE DETAILS	ABSTRACT
	Role of multimedia technology in the enhancement of the teaching-learning process. Multimedia technology significantly enhances the teaching-learning process by making learning more engaging, accessible, and interactive. By giving abstract ideas tangible visual representations, dynamic components like interactive films and animations can greatly improve learning. This paper explores the impact of multimedia technology on pedagogy, highlighting its potential to transform traditional classrooms into enriched learning spaces that align with 21st-century educational goals.

Introduction

Teachers are the focal points of quality development, according to the International Commission on Education and the National Policy on Education (NPE). As a result, the most crucial topic for discussion is teacher development. In the past, the teacher served as the class's main source of information, its leader and instructor, and its supreme authority. India is currently undergoing significant change, particularly in the social, cultural, and economic spheres; as a result, the teaching-learning process as a whole is undergoing a revolution. These days, educators must instruct their students on how to obtain information as well as how to choose and use it. A teacher's conventional function shifted from being merely a conduit for information to becoming a facilitator.

Educational Technology

The term educational technology comprises two words.

Dedicated educators, driven kids, and eager parents with high standards all share a dedication to education. Beauprez, Bob (1948) It is the process of learning and passing along attitudes, abilities, and knowledge.

A body of knowledge committed to the development of tools, processing operations, and material extraction is called technology. It is also a science of strategies and techniques for completing tasks associated with any profession, art, or science.

National Policy on Education (1986) recommends that "educational technology will be employed in the spread of useful information, the training and retraining of teachers to improve quality, sharpening awareness of art and culture, inculcating abiding values, etc., both in the formal and non-formal sectors. Maximum use will be made of the available infrastructure." The utilization of different tools, supplies, and machinery for teaching is referred to as educational technology. For both individual and group learning, it uses electronic tools such as projectors (OHP, LCD), movies, radios, tape recorders, teaching machines, and computers. It is a field that applies a sophisticated integrated process to examine and resolve learning-related issues..

Scope of Educational Technology

The theory of education and the creation and use of educational materials are the subjects of educational technology. The goal of educational technology is to raise the standard of human learning. Technology in education has an infinite range of applications. It offers a variety of approaches and strategies for crafting behaviorally-based teaching objectives. It enhances and gives greater purpose to the teaching-learning process. The notion of teaching, the analysis of the teaching process, the variables of teaching, the phases and levels of teaching, the principles and maxims of teaching, and the connection between teaching and learning are all attempted to be covered. In addition to providing teaching and learning resources, it allows us to create a sound environment and interactive instructional services.

Teaching Aids

A medium is essential for the process of the transfer of knowledge in the teaching-learning process. Teaching aids are the tools that the instructor utilizes in the classroom to help the pupils grasp the ideas she presents. These teaching tools might be anything from the beans that kindergarteners count while

learning basic math to the pictures of well-known individuals and locations that teachers put on display during a history lecture. The teaching-learning process is excessively complicated at colleges. The teacher should be required to employ teaching aids in order to simplify the teaching-learning process. Today's aids help to retain more concepts permanently in the mind of the child. Teaching aids attract the attention of the child, and they act as a motivator.

The following lists the fundamental characteristics of instructional aids.

Relevance: Must have a direct connection

Accuracy: The image should be correct.

Comprehensibility: Needs to be affordable and efficient.

Availability: It must be simple to find.

Transportability: It must be small and lightweight.

Appropriateness: In line with intelligence and age.

We know the fact that our senses are the gateways of knowledge. Here comes the importance of educational technology, which constantly tries to solve persisting problems of teaching and learning

Multimedia Approach

In the teaching-learning process, a multimedia approach makes use of a variety of media, tools, and strategies. It can present pupils with a wealth of information and numerous venues from which to obtain it. The teaching-learning process will be enhanced by a multimedia approach, which is not limited to any one learning style. In order to accomplish preset goals, it can support a variety of activities designed to offer meaningful learning experiences through a variety of media. Care must be used while selecting the media to avoid undermining or diminishing the impact of the other. In other words, every medium needs to enhance the others.

The Oxford Dictionary defines "multimedia as a combination of media, such as film, tape recordings, slides, and special lighting effects, used for entertainment or educatio"n. There has been a virtual explosion of computer-based multimedia educational programs since these media can now be incorporated utilizing a computer.

Instructional Design through multimedia

The goal, the order of the information, the media options, and the evaluation options are the most crucial factors to take into account while creating a multimedia instructional design.

Objectives

One of the most important things is to specify the multimedia learning package's goals. The learning objectives can be basic, complex, or lower or higher order, and they should be expressed in behavioral and quantifiable terms.

Content arrangement

The chosen material should be arranged and sequenced from basic to advanced degrees of complexity in accordance with the stated learning objectives.

Media options

We have to select appropriate media in order to disseminate information or knowledge. Multimedia self-learning through tailored instruction includes text, audio, video, graphics, animation, and more. A suitable combination of content-related media elements and types allows the learner with individual differences to meet all of the learning goals.

Evaluation options

Multimedia is crucial since it assesses students' development both during and after the learning process. That is evaluation, both formative and summative. Performance exams, paper-and-pencil tests, online and offline assessments, etc., can be used for both of these.

Test

It is the most common medium of presenting information and also the elements of multimedia. With the help of these, we can communicate an idea or a concept. For a self-posed instruction, it is very useful. The main important factors included in the technical communication ae typefaces, fonts, styles, etc.

Graphics

It is an important factor of multimedia Commonly used multimedia presentations are graphic based. With the use of scanners, the still images can be transformed into digital format. GIF (pronounced "jiff"), JPEG ("jay-peg"), and, to a much lesser extent, PNG ("ping") files are the most widely used graphic file formats.

The GIF file format

It makes use of Lempel-Ziv-Welch, or LZW, a comparatively simple type of file compression that eliminates storage inefficiencies without erasing data or changing the image.

JPEG graphics

The Joint Photographic Experts Group (JPEG) compression system is another popular visual file format on the web for reducing graphics file sizes.

PNG graphics

These offer a variety of appealing characteristics, such as a wide range of color depths, support for advanced image transparency, improved interlacing, and automatic corrections for display monitor gamma. They are specifically made for usage on web sites.

Animation

The act of producing motion and form change through the quick presentation of a series of still images that are just slightly different from one another is called animation.

2D animation

On a computer, 2D animation figures are made and/or modified using either 2D vector graphics or 2D bitmap images. Among them are automated computational renditions of classic animation methods like interpolated rotoscoping, onion skinning, and interpolated morphing. There are numerous uses for 2D animation, such as PowerPoint, Flash, and animation.

3D Animation

An animator uses digital modeling and manipulation to create 3D animation. A 3D polygon mesh is often created by the animator for manipulation. In order to give a 3D object or environment the impression of form, a mesh usually consists of several vertices connected by edges and faces. An

internal digital skeleton known as an armature is occasionally added to the mesh so that it can be controlled by weighing its vertices. When combined with keyframes, this technique—known as rigging—can produce movement.

Audio

This is used for presenting the information orally. Compressed and uncompressed audio formats that contain waveform data that may be played with audio playback software are included in the Audio Files category. These are typical audio file extensions. Audio Interchange File Format, or AIFF. MP3 (compressed file format) , and MIDI (Musical Instrument Digital Interface)

Video

A vast variety of video formats that employ various codes to encode and compress video data are included in the Video Files category. Video project files and video information files, which might not contain video data, are also included in this category.

WMV (Windows Media Video File), RM (Real Media File), and MPG (Moving Picture Experts Group) are examples of common video file extensions.

Interactivity

It means the interaction between the learner and the learning system. The multimedia technology adds advantages for instruction. The teacher should act as a designer of instruction.

Discussion and Conclusion

By using technology, a teacher can implement a variety of learning activities for different subjects. It is a teaching aid for different teaching styles. This new technology reduces a gap between the teacher and the students. The role of teacher in using multimedia technology is important. So the teacher has to ponder the following things.

➢ If the teacher wishes to adopt multimedia Technology, he/she has to make some necessary adjustments
➢ The teacher should aware in using multimedia technology
➢ The teacher should be competent in using this new technology
➢ The teacher should develop a skill to use this.

- ➢ The teacher should change from a knowledge provider to facilitator or manager of activities
- ➢ The teacher can provide rich learning experience

References

1. Molenda, Michael (2008). Educational Technology. New York: Laurence Erlbaum Associates.

2. Prasad, Janardanan (1997). Advanced Educational Technology. New Delhi: Kanishka Publishers.

3. Sharma, Ramnath. (2000). Text Book of Educational Philosophy. New Delhi: Kanishka Publishers.

4. Singh, U.K.(1996). Computer Education. New Delhi: Discovery Publishing House.