Impact of Multi-media Approach in teaching learning of Social Science at secondary school level

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Abstract:-

When a person imparts information or skills to another, it is common to describe the action as teaching. Imparting may mean to share experiences or communicating information, for instance, lecture. Teaching is regarded as both an art and science. As an art, it lays stress on the imaginative and artistic abilities of the teacher in creating a worthwhile situation in the classroom to enable students to learn. Teaching is not a cup of tea to drink easily; it is process where teachers role and mastery of subject matter and mastery of pedagogy of teaching. Today teaching-learning process get weakling due to lack of innovative methods of teaching and lack of usage of multimedia instructional materials in teaching learning process. The present conceptual paper high lights the importance of multimedia instructional materials in teaching learning process and to enhance the quality of teaching in school level.

Key words:-Multimedia, projected aids, Non-projected aids, SMART board & E-Plash charts

Concept Of Multimedia in Education
Multimedia:

Multimedia is an advanced technology that facilitates integration of text, data, image, graphics, audio, video animation in digital form. It provides new ways to enhance the delivery of information and its impact on the user. Multimedia is information displayed in picture/sound form and it does not include plain text exclusively. Thus it includes pictures, audio and video which are captured and digitized by input devices to get the information ready for manipulation by the computer.
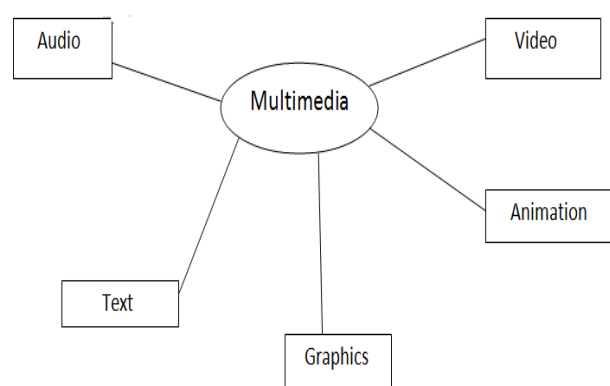
Meaning & definition of Multi Media

The Columbia Encyclopedias has defined multimedia as "in personal computing, software and applications that combines text, high quality sound, two and three dimensional graphics, animation, images, and full motion video."

According to Vaughan "multimedia is any combination of text, sound, animation and video delivered by computer or other electronic or digitally manipulated means. It is a woven combination of digitally manipulated text, photographs, graphic art, sound, animation, and video elements.

In other word we can say that Multimedia is a combination of text, graphics, audio and video. It is a new trend in one computer science because it combines different media in one computer application, it is called multimedia. This enables the computer to be used as an entertainment and educational tool besides just a business tool.

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Computer stores multimedia information in a variety of standard formats. We can display multimedia information on output devices.

Text: Text is one of the most important parts of multimedia. The design and content of multimedia text are different from other types of texts like newspaper and book text.

Graphics: Pictures, photographic, images and other artwork are called graphics. Computer graphics deal with the generation, representation, manipulation and display of pictures with the help of a computer. Graphics is one of the most important components of multimedia because by it we can illustrate information in picture form.

There are two types of graphics
1. Line drawing
2. Images

1. Line Drawing Graphics: Line drawing graphics lie in the form of 2D and 3D pictures using mathematical representation of simple objects like lines, circles, arcs etc. The area of computer graphics that deals with this type of picture is known as generative graphics.

2. Images Graphics: In this graphics photographs composed of a collection of pixels, which are arranged in 2 D matrix. The area of computer graphics that deals with this type of pictures is called cognitive graphics.

Animation: Animation is one of the most dynamic forms of multimedia. An animation is created by recording a series of still image of drawings, objects, people etc. Animation consists of a series of drawings or photographs on paper that viewed with a mechanical device through a hand held sequence of images.

Audio: Audio is Speech, music and other types of sounds. Audio element is used to improve the normal multimedia environment.

Video: Video is display the sequence of images with recording. Each human being image in sequence is called a frame.

Nature Of Multimedia Approach ·
- ➢ Multimedia approach uses a number of media, devices, and techniques in the teaching learning process. ·

- ➢ Multimedia approach can convey vast information and provide many sources from which student can access the information.
- ➢ Multimedia approach will improve the teaching learning process.
- ➢ Multimedia approach is not restricted to a single type of learning style.
- ➢ It can provide the support of a wide range of activities.
- ➢ Multimedia approach aims at providing meaningful learning experience via a mix of media in order to achieve predetermined objectives.
- ➢ Multimedia approach provides the opportunity to gain mastery of competencies and skills. · The choice of the media has to be done carefully so that one does not hamper or reduce the effect of the other. That is each media must complement the other.
- ➢ Multimedia approach will enable the learner to get access to information in dynamic environment.

Types Of Multimedia Instructional Aids

Projected & non–projected Aids, Projectors, Radio, Tape Recorder, Television, Films, Computers, whiteboard, Smart board, e-Flash Cards, Educational Toys

Projected visual aids:

Projected visual aids are pictures shown upon a screen by use of a certain type of machine such as a filmstrip projector, slide projector, overhead projector or TV/VCR.

Advantages of projected visuals.
- ➢ Provides greater enjoyment in learning
- ➢ Stimulates more rapid learning
- ➢ Increases retention: larger percentages and longer
- ➢ Makes teaching situation adaptable to wider range
- ➢ Compels attention
- ➢ Enlarges or reduces actual size of objects ·
- ➢ Brings distant past and the present into the classroom ·
- ➢ Provides an easily reproduced record of an event
- ➢ Influences and changes attitudes

Non-Projected Aids

1. Graphic Aids: ·

- **Graphic aids** are visual aids such as graphs, diagrams, charts, etc…,and are represented on plane surface .Graphic aids help to present data systematic ally in an abridged form. Graphics could truly be considered as the short hand language of the idea conveyed by the data concerned. The principal categories of graphic aids are described below.

- **Graph**s: The nature of the relation of two dependent variables could be very easily presented by graphical representation. Graphs could be interpreted and inferences drawn easily. Line graph, bar graph, pie graph, etc are different types of graphs.

- **Diagrams:** Diagrams could be used to easily ex plain many facts at the same time, by using a variety of symbols and labels. Diagrams can explain fact more vividly than charts.

- **Posters:** Posters are bold and attractive representations of an idea concept and are usually given in color. Poster captures the eye and conveys the desired message. · **Maps:** A map is a acute representation of the boundaries and other details of the continents, countries, etc. on a plane surface, in the form of a diagram drawn to scale. A variety of geographical details like location of mountains and rivers, altitudes of places, contours of the earth surface, important cities and other places etc can be represented accurately with reference to a convenient scale & following a suitable color scheme.

- **Cartoons:** A cartoon is a metaphorical, humorous & exaggerated caricature of a person or a situation, in the form of a picture or a sketch. By the humorous or satirical presentation, it attracts the attention of viewers.

- **Comics**: A comic strip is a form of cartoon depicting a story in sequence. The events are arranged in the proper order in an attractive pictorial form that is normally appealing to lower age groups.

- **Flash cards:** Flash card is an aid liberally used in language lessons, especially in the lower classes. This facilitates immediate feedback of comprehension and skill in silent reading; hence, the name flash card.

- **Pictures & photographs:** Pictures & photographs play a significant role in making ideas clear & comprehensive.

- **Charts:** A chart may be defined as a combination of graphic & pictorial media designed for the orderly & logically visualizing of relationship between key facts & ideas. The most used charts are flip charts, flow charts, display charts, tabular charts, tree charts & time chart

2. Display Board: The stereotyped atmosphere of the traditional classroom, libraries & corridors of schools is recently giving way to attractive & educative surrounding with a wealth of display materials. Display may be categorized into three main types according to functions they perform, namely, motivational, developmental & summarizing.

Types of Display Boards

- **Blackboard:** It is one of the simplest & oldest of visual aids. It is like a magnifying glass in the hands of teacher. Blackboard planning is precious skill to be developed by any teacher.

- **Roll –up chalk board**: These are usually made of thick rexin cloth. The charts & pictures can be drawn on it well in advance and presented as & when required.

- **Flannel board:** Flannel boards have a fiber surface to which similar materials will adhere. This can be prepared by stretching a suitable size of flannel cloth on a heavy cardboard. Only flat, light weight teaching materials can be used on flannel boards.

- **Magnetic board:** A magnetic display will be useful to show the relative movement of elements of a visual. A sheet of iron together with a piece of magnet can be used for the magnetic board.

- **Bulletin board**: As the name as indicates, it is aboard for exhibiting bulletins, new items, announcements, and multifarious items of visual displays to be communicated to the students. It is an information-giving device.

- **Marker board:** this is a large sheet of white plastic board with a surface texture suitable for writing or drawing with felt- tip pens, marker or crayons. This can be used in a same way as chalk borders.

Three – Dimensional Aids

Models: Models are concrete representations of objects, their size being adjusted to make it handy & conveniently observable. These are mostly three dimensional or sectional & can clearly exhibit the structure of functions of the original. Most often models prove to be more effective than the real ones.

Objects: Objects may be defined as the real things collected from their natural settings.

Specimen: A specimen may be defined as a typical object or a part of an object, which has been removed for convenient observation. It may a representative of class or group of similar objects.

Mock-ups: When direct firsthand experience is either impractical or impossible, mock-ups can be used. A mock-up is an operating model usually of a process, designed to be worked out directly the learner foe specific training or analyses. Mock –up is an imitation of the real process.

Puppets: Four thousands of year's puppets have been used to stimulate reality, to entertain and to pass on knowledge. The most commonly used puppets are hand puppets, glove and finger puppets, rod puppets, and string & shadow puppets.

Audio aids: Radio & tape recorder are the most important teaching aids used for teaching & learning.

Radio: Radio adds variety experiences. It is a plays a major role in imparting instructions to school children's through educational broadcast provided on specific days at specific school hours. Talks and classes based on prescribed syllabi of the various objects are given.

Tape recorder: A tape recorder is used to record sound on magnetic tape which can be reproduced at will as many times as required. It is a very effective aid for classroom instruction. The recorded tapes consisting of lessons handled by eminent teachers on any subjects can be played in class.

Films: Although the motion film is mostly used in group situations, the librarian should encourage individual use as well. Preparing a film catalog, this quite frequently in a book or as a separate computer listing, is an essential tool for the multimedia center staff and the user. Preparing film programs to coincide with special events, holidays, and cultural affairs that affect the community served by the library. Although some users will want to see a film on the library premises, and many use it in-group situations and want to reserve a film so that it will be available when the group convenes.

Documentary Films: There are many ways to categorize films in the library collection, but it is recommended that they be assigned to three major categories: the feature film, the educational film and the art film, which are called as "Documentaries". The film collection is generally devoted to entertainment, information, and cultural enrichment. The educational film should contain a learning objective; it will supplement, or be supplemented by, other forms of information media. Of the three types of films, the art film usually the shortest, ranging form about 5 to 20 minutes of playing time. Art films are extremely popular in public libraries; they provide users with films that are unavailable from any other source. Subsumed under the categories of feature, educational, and art films are a host of film tapes; history films, science films, cartoons, mystery films, horror films, comedy films, biographical films, and so on. Once the decision is made to acquire a film or a particular type of film for the library collection, the next task is to find what films are available in any given category. The task of selecting a film is a demanding one, but in terms of both the film's relatively high cost and the number of film titles.

SMART Board: A SMART Board is one brand of interactive whiteboard. At its simplest, an interactive whiteboard allows you to project an image and 'interact' with it by writing on it or moving it around. The SMART Board is connected to a computer and works with a projector. The projector displays what is open on the computer and, rather than using a mouse or keyboard (although you can use those also), the SMART Board is a touch screen, which allows you to manipulate anything on the screen using your fingers. It is similar to how you would use a tablet or iPad. Special pens are included in a SMART Board to make writing in different colors quick and easy.

E-Flashcards: In addition to effective methodologies of learning such as mind mapping, note-taking and

analyzing; flashcard plays a vital role in motivating learner's ability to synthesize and memorize information. Flashcard began to appear in the 19th century, bringing significant benefits to learners. Nowadays, it is digitized in the realm of eLearning, which we call e-flashcard. E-flashcard helps with every single basic detail to build a foundation of knowledge. Let's say that e-flashcard provides you with basic but essential elements. Just like when you want to build a house, you need to collect every single brick first. Without this foundation of knowledge, you cannot comprehend the subject or broaden your advanced knowledge. Many subjects use e-flashcards as a tool to help learners better memorizes the facts, notions or formulas. You can also use it to test learner's understanding of different fields such as a foreign language, chemistry diagrams, historical dates, and formulas. E-flashcards make learning available for you in anywhere and at anytime.

Educational Toys: Research shows that learning through play is an important part of a child's development. Though ensuring your child has enough play time is a great benefit to families to allow their children to release some extra energy, a child begins infancy. Even early in development, a child's mind is expanding just by looking at their environment and taking in their surroundings. The use of educational toys can help children learn many different skills they will need in their life. Educational toys can help develop problem solving skills, teach about conflict resolution and how cause and effect work.

Advantages, Limitations And Challenges Of Using Multimedia In Education

Multimedia in the classroom has evolved rapidly with a progression from audio cassettes to internet sites in classroom learning. Examples of multimedia in the classroom include the use of video, the creation of video by students, the creation of spreadsheets or the development of a website displaying student work.

Advantages of Multimedia

- Increases learning effectiveness
- Gains and holds attention
- More appealing
- Reduces training cost
- Easy to use

- Give information to individuals
- Provides high quality of presentations
- Multi-sensorial
- Integrated and interactive·
- Can be used as a wide variety of audience
- Entertaining and educational

The pedagogical strength of multimedia is that it uses the natural information processing abilities that we already possess as humans. Our eyes and ears, in conjunction with our brain, form a formidable system for transforming meaningless sense data into information. The old saying that "a picture is worth a thousand words" often understates the case especially with regard to moving images, as our eyes are highly adapted by evolution to detecting and interpreting movement.

Disadvantages of Multimedia:- The following are the few limitations of multimedia

- Expensive
- Not always ready to configure
- Requires special hardware
- Not always compatible
- Takes time to compile
- Information overload
- Misuse and/or overuse
- Limitations of technology

Multimedia requires high-end computer systems. Sound, images, animation, and especially video, constitute large amounts of data, which slow down, or may not even fit in a low-end computer. Unlike simple text files created in word processing, multimedia packages require good quality computers. A major disadvantage of writing multimedia course ware is that it may not be accessible to a large section of its intended users if they do not have access to multimedia-capable machines. For this reason, course ware developers should think very carefully about the type of multimedia elements that need to be incorporated into applications and include only those that have significant value.

Implication Of Multimedia In Teaching Learning.

The revolution in the information and communication technology arena has produced a techno-savvy and media-hungry generation, which uses digital media as a way to learn and share with each other. It is affecting communication strategies in

education environment and influencing the ways teachers teach and students learn.

Multimedia or the use of multiple digital media elements in an interactive learning application is becoming an emerging trend in the communication of educational information. Multimedia offers an excellent alternative to traditional teaching by allowing the students to explore and learn at different places where every student has the opportunity to learn at his or her own potential. People enjoy multimedia and they prefer multimedia learning materials because the multiple media help them to learn. Many educators now consider multimedia as a burning topic in education, because it represents the topic through various media elements and introduces new ways of thinking in the classroom. Studies have shown that multimedia based instruction increases effectiveness at least 30% more than the traditional or any other form of instruction.

Multimedia is a fertile ground for both research and development of new products, because of the breadth of possible usage, the dependency on a wide range of technologies, and the value of reducing cost by improving technology. The technology is being used in developing many applications for primary as well as higher education, entertainment, health services, public places and many more. With the advent of low cost computers and easy to use word processing software, computer based image processing techniques paved way for digitized information comprising textual to multimedia - data consisting of text, images along with digitized voice and video. Thus the information stored in libraries has taken a major shift from volume-limiting printed to limitless multimedia digital form. All these resources are either organized on shelves in the multimedia library or in a digital multimedia library having different content forms. i. e. text, music, videos, images, which can be accessed simultaneously from geographically distributed areas through internet.

Conclusion:-

Multimedia is an advanced technology that facilitates integration of text, data, image, graphics, audio, video animation in digital form. It provides new ways to enhance the delivery of information and its impact on the user. Thus, Multimedia with its capability to present information using multiple media is being increasingly used worldwide in e-learning. E-learning is the use of new multimedia technologies and the internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration. Multimedia is used in distance learning through stored presentations, live teaching, and participation by the students.

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