

INNOVATIVE STRATEGY OF MULTIMEDIA IN TEACHING AND LEARNING

Mrs. SUSHMA GABHANE
Assistant Professor
Shri Laxmanrao Mankar College
of Education, Amgaon
Email: @gmial.com

Ms. JYOTI TEMBHARE
Assistant Professor
Shri Laxmanrao Mankar College
of Education, Amgaon
Email: @gmail.com

Abstract

It is difficult in the era of globalization for the academic world to keep pace with the change in terms of technological advancement and knowledge explosion unless the quality and standard of teachers, curriculum and higher education institutions are enhanced and sustained at a high level through innovation, creativity and use of technology. Train the trainer is the backbone of all the changes. The role of the teacher educators is most important for modeling and preparing teachers for the current scenario. This educational industry of shaping minds and harnessing skills to meet the challenges of globalization.

Reference to this paper should be made as follows:

Received: 06.12.2020
Approved: 15.12.2020

Mrs. SUSHMA GABHANE,
Ms. JYOTI TEMBHARE

INNOVATIVE STRATEGY OF
MULTIMEDIA IN TEACHING AND
LEARNING

RJPSSs 2020, Vol. XLVI,
No. 2, pp. 302-309
Article No. 32

Online available at:

<http://rjpss.anubooks.com>
[https://doi.org/10.31995/
rjpss.2020v46i02.32](https://doi.org/10.31995/rjpss.2020v46i02.32)

Introduction

This is an attempt to describe how to bring change in teacher education through innovation, creativity and use of technology. The need of the hour is to bring revolution in the class room teaching - learning process through Multimedia and ICT. The traditional teaching may be synchronously blended with multimedia for effectiveness and efficiency in Teacher Education. The present paper focuses on the use of multimedia as an innovative teaching learning strategy during constructive approach to learning which says that students build or construct new ideas on the already existing schemas in the brain. Multimedia strategy is the best strategy to allow students and teachers to experience common activities, to use and build on prior knowledge and experience, to construct meaning and to continually access their understanding of a concept. Multimedia strategy very well supports the 5E phases of Constructivism i.e. engage, explore, elaborate, explain and evaluate to promote effective active learning. Education is such an instrument which determines the level of prosperity, welfare and security of the people. The success of education systems largely depends on the quality of teachers,

Objectives

The present paper is explanatory in nature. The main objectives of this paper are to answer and explain the following questions:

- i) What is Multimedia?
- ii) Why use Multimedia in the classrooms?
- iii) How to implement Multimedia strategies in the classrooms?

What is Multimedia?

Multimedia is more than one concurrent presentation medium through CD-ROM or a Web site. Although still images are a different medium than text, multimedia is typically used to mean the combination of text, sound, pictures, animated images, motion video etc. Its components are as follows:

- Text, sound, and still or animated graphic images
- Text, sound, and video images
- Video and sound
- Multiple display areas, images, or presentations presented concurrently
- In live situations, the use of a speaker or actors and “props” together with sound, images, and motion video

Multimedia is different from traditional motion pictures or movies both by the scale of the production. Multimedia is usually smaller and less expensive and of the possibility of students’ interactivity or involvement. In this case, it is usually called

interactive multimedia. Interactive elements can include: voice command, mouse manipulation, text entry, touch screen, video capture of the user, or live participation in live presentations.

Multimedia tends to imply sophistication and relatively more expense in both: production and presentation than simple text-and-images. Multimedia presentations are possible in many contexts, including the Web, CD-ROMs, and live presentations in classrooms. For multimedia Web sites, popular multimedia (sound or sound and motion video or animation) players include: MPEG, VLC Media player, Window Media player.

Multimedia Strategy and Learning

Multimedia is vital in our life. This is because it is a power pack tool with various elements such as text, graphic, sound, video and animation. It is also used in various fields such as in education, training, business, games and science and technology. In fact, multimedia is changing the ways of learning. Instead of just limiting you with a linear presentation such as reading text from a book, multimedia makes many improvement in learning by bringing various elements in order to make it more dynamic, interesting and appropriate for all.

“Multimedia is a synthesis: a hybrid offering the advantages of the user-driven book with the wonders of electronic technology” -Robert Winter; UCLA Roundtable in Multimedia. The use of multimedia as educational aids helps to provide a real-world example using a computer with high-quality content. The various type of software available on the market can also help to provide a friendly interactive method of learning. Multimedia and electronic tools such as the internet can provide teachers an instant excess to millions of resources available worldwide. These materials can help the teacher to provide the students with cooperative learning, critical thinking, discussion, and problem-solving. Therefore, we can say that multimedia strategy in education provides many advantages over the traditional method of teaching.

Use of Multimedia Elements in Education

Generally, Multimedia elements are classified into five types. With the help of a computer software such as Adobe Photoshop, Adobe Illustrator and Adobe Flash one can create and combine various multimedia elements to create a great project/ presentation. The description and use of these elements are given below:

Audio

Audio has been used in education for many decades. Because everything that we learn can be recorded, it is an effective tool for the students because they

use it to interact with the course content provided by their teacher at any time and any location that they want. Audio also eases the students by conducting live online discussions via audio tools and platforms. There are a few widely used software that can be used for this such as WeChat, WhatsApp, Line and Skype. This will not only save some time rather than meeting face-to-face it is also frequently used for long-distance learning. Sound can also be used by teachers to present a lot of information at once. This will help the teacher to explain the content of the topic in much more interesting ways which will help the students to understand the topic. Learning by using audio also can help disabled people such as blind people to learn as shown in Figure 3. This is one of the few ways for them to learn because they cannot see and read. This shows that the use of sound in education can benefit a lot of people if used in the correct way.

Animation

Animation are created using continuous motion and shape change combined together to produce an animation. This happened because of a biological phenomenon called persistent of vision and psychological phenomenon called phi. This enables us to see animation the way it is. Animation are different than video. This is because video is taken from real life event while animation is usually taken from drawing sequencing pictures. There are a few animation software that are used in educational field such as Adobe Flash, Autodesk, pontoon, Adobe Animate etc. By using this software, students can use their own creativity and idea to present a project that they like. This will certainly help to improve their creativity while bringing fun in learning. Animation also can help students to learn faster and easier. For example, the flow of blood throughout the body cannot be seen. It is difficult for students to understand the function of heart in blood circulation in the beginning. By providing a structural animation of human circulatory system and the heart, students can see clearly how it works. This can help them to provide a better understanding about the topic. With the help of computer animation, learning and teaching can be much easier, faster and amusing.

Graphics

Graphics are two-dimensional figures or illustrations. It is the most creative way of showing a graph, photograph, drawing, or picture. There are many types of picture formats such as GIF, JPEG and PNG. The use of these graphics in education will increase the student's understanding and creativity. It will also enhance long-term memory, and retention power because a picture speaks more than a thousand words. This is because image uses a massive amount of cortical skills such as color,

form, line, dimension and imagination. This will help the students to get a clear picture of what they are learning. Eg. Storytelling through pictures

Text

Text is the most basic element in multimedia and it is very easy to use. It is the most powerful element to leave first hand impression on the students. Text contains fonts which are wide collection of characters of a single size and style to make it more eye catchy and interesting In general, texts are used in order to provide important information. This is because texts are more direct and easy to understand rather than the other multimedia elements.

Video

Video is a widely used multimedia element. It also has the highest performance on your computer or device among the five elements. There are a few standard video formats for educational use such as MPEG2 which is used for Digital Versatile Disc (DVD) playback or MPEG4 for home video. Sometimes, using text or other multimedia elements to convey information is hard and complex. The videos provide visual stimulation for students so that they can have a better understanding of learning. The teacher can also ask their students to make a video project. This will help them to provide firsthand experience with the real elements of what they are learning and show it to their other classmates. By recording a video, the students will be exposed to the outside element rather than just sitting in the classrooms. So, they can gain more experience and improve their critical thinking, problem solving skills.

Advantage of Multimedia Strategy in Education

There are many advantages in using multimedia in education. Multimedia enables students to represent information using different media. By using multimedia elements, they can present their project in more creative ways. Moreover, multimedia strategy also provides flexibility of time, space and pace. Multimedia approach also helps the students to develop a higher order thinking skills. By using the multimedia elements, students use their own idea and creativity to combine the elements of multimedia to produce something innovative and informative. Furthermore, multimedia strategy is much more engaging compare to the traditional teaching strategy. With multimedia, interactive learning can be done with live-action video, feedback, question answer to keep the students engaged, interested and help them enhancing their skills.

Collaborative Learning with Multimedia

The Multimedia can support different forms of collaborative interaction depending on what form of collaborative activity is wished. When trying to solve a problem while participating in computer-based group work, the focus should be on a

clear task structure and the provision of feedback on solutions made within the group. Multimedia offers unique opportunities for the production and representation of shared classroom experiences. 'Use of ICT will never replace communication between teachers and learners; among learners rather it holds the potential to resource their collaborative endeavor in new and exciting ways' .(Littleton, 1999, p. 193). Multimedia elements support students' involvement in conversations with peer group with whom they can exchange ideas and articulate general conceptual issues about the presented subject. 'The interactive character of modern technology can support reasoning by amplifying the nature and boundaries of scientific models of objects and events. But \the full realization of the potentials of such experiences will still rely on students' access to conversation partners who carry on discussions in which these models and concepts are validated. The creation of knowledge is essentially a matter of learning to argue, and no technology will ever replace the need for learners to participate in ongoing conversations with partners sharing interests and commitments. Technology should not be seen as replacing such communication but rather as providing a resource for supporting it' (Säljö, 1999).

In accordance to socio-cultural theories, students need support from responsive and more competent others to think through the many problems to achieve progress. In this regard, cognitive development increases largely because the child gets hints, prompts and assistance from teachers and classmates when he/she needs it and can also benefit from social interactions. Teachers can support students' interactions around digital technologies in different ways. They can encourage and enable learners to practice critical thinking in the classroom by having an exploratory talk. The teacher can act as a model – a discourse guide – 'a crucial mentor for pupils' initiation into culturally based discourse practices' (Littleton, 1999, p. 191). According to Watson (1997), it is very difficult for teachers to build up a culture of collaboration in the classroom. This demands a working partnership between teachers and students. Furthermore, from teachers it requests a deep trust in the creative competencies of school children.

Multimedia activities encourage students to work in groups, express their knowledge in multiple ways, solve problems, revise their own work and construct knowledge. The advantages of integrating multimedia in classrooms are many. Through participation in activities, students can learn:

- Real World skills related to technology
- The value of team work
- Effective collaboration techniques

- The impact and importance of different media
- The challenges of communicating to different audiences
- How to present information in compelling ways
- Techniques for synthesizing and analyzing complex content
- The importance of research, planning and organizing skills
- The significance of presentation and speaking skills

Main Streaming Multimedia in Teacher Education

Mainstreaming of multimedia in Teacher Education is very essential considering the need of the school education and teacher education. Students, in service teachers and the future teachers need to be computer savvy, fully equipped with ICT skills which in turn can handle the school education in a better way to meet out the challenges of 21st century.

The teacher educators' responsibility is to guide, monitor and provide constructive feedback to the student teachers that how creatively, intelligently they have expressed their ideas. The evaluation of student teachers' presentation should not be in terms of quantification rather it should be qualitatively evaluated. There are some constraints in using Multimedia in classrooms, including:

- Non availability of Technological resources, both hardware and software
- Lack of expertise and technological skills among Teachers and students
- Lack of attitude towards using Multimedia and other ICT among teachers and students because they do not want to come out of their comfort zone.
- Time required to plan, design, develop, and evaluate multimedia activities

Therefore, it has become mandatory to bring change in Teacher Education programmes. There are some points which should be taken into consideration in Teacher Training Institutions:

- Inclusion of IT and ICT in course and curriculum of Teacher Education programme.
- Creating proper Media Culture
- Creating a Pragmatic Mindset and learning culture
- Fusion of East and West in terms of socio- cultural environment and preparing teachers for global village.

Conclusion

In conclusion, use of multimedia in classrooms possessed a lot of advantages to make learning effective, efficient and interesting. With the help of its elements, multimedia can invoke creativity in both teachers and students so that they can apply

it in order to teach or learn, to be updated with latest knowledge and equipped with twenty first century skills, to keep pace with the world. On review of the effect of multimedia in the classrooms where it has been used and incorporated in the education system, the following effects were outlined:

- Change in students and teachers role
- Increased motivation and self esteem
- Improved technical skills
- Accomplishment of more complex task
- More collaboration with peers
- Increased use of outside resources
- Improved design skills, creativity and social skills

References

1. Asthana, Abhaya. (2014). Multimedia in Education-Introduction, The Elements of, Educational Requirement. Classroom Architecture and Resource, Concerns, Retrieved from <http://encyclopedia.jrank.org/articles/pages/6821/Multimedia-in-Education.html>.
2. John, Blackwell. (1997). SEED : Multimedia Applications in Education, Retrieved from <http://web.viu.ca/seeds/mm/#Introduction>.
3. JICS Digital Media. (2014). Using audio in teaching and learning, Retrieved from <http://www.jiscdigitalmedia.ac.uk/guide/using-audio-in-teaching-and-learning>.
4. Littleton, K. (1999). Productivity through interaction: an overview. K. Littleton and P. Light (eds). Learning with Computers. London, Routledge. Pg. **179-194**.
5. Säljö, R. (1999). Learning as the use of tools: a sociocultural perspective on the human technology link. K. Littleton and P. Light (eds), Learning with Computers. Routledge: London. Pg. **144-161**.
6. Kalanilayam, Satheesh. (2009). Multimedia Approach to Teaching Learning Process. Retrieve from <http://sathitech.blogspot.com/2018/03/multimedia-approach-toteaching-learning.html>.
7. Tay, Vaughan. (2010). Multimedia: Making It Work Eight Edition, Appleton. McGraw-Hill.
8. Technological Aspects of Virtual Organizations, Alea M. Fairchild, Springer-Science+Business Media, B.V.