

TRANSFORMING MUSIC EDUCATION THROUGH MULTIMEDIA TECHNOLOGY

Anshumati

Research Scholar, Department of Music, Guru Nanak Dev University, Amritsar.

Abstract

The purpose of the present paper is to bring out the importance of multimedia in music education and to find out the impact of multimedia package on the achievements of the students of music through experimental method. In today's scientific era, it is essential to teach scientifically, so we need to adapt our old traditional methods according to the varying circumstances. Consequences of science and technology will surely contribute felicitous direction. Modern music education is proliferating further along with itself taking a very developed and persuasive tradition of India. New technology has been played a significant role in the development of music education. There has been a tremendous development in institutional music education towards using the modern technology. Multimedia technology is in leading edge today and getting popular in education system. Keeping all this in mind the researcher has selected this topic.

Keywords – Music Education, Multimedia, Technology, Teaching.

Introduction

In the Indian culture the music and the music education has received both exclusive and supreme location. Today's Indian music which is in existence was not suddenly created by anyone's intellectual production, its fundamental changes and continuous growth has given it the current form. In the recent times, many advances have been made in the realm of science and technology. A revolutionary change has occurred in many professional and industrial areas due to the new and fast evolving technology. Education is also one such area which is growing very fast in adapting new technology and trends. This tremendous technology advancement all around us has greatly influenced the process of teaching and learning. A large number of teaching aids have been adopted in educational institutions. However, in the field of music, one notices that hardly any such aid is used.

Music Education

In ancient times, music education and training was sincerely imparted through the teacher taught tradition (Guru Shishya prampara). "Since the beginning, we have the evidence of traditional "Seena -ba Seena" teaching method or "Ghrana" System. Later with the efforts of Pt. Vishnu Digambar Paluskar and Pt. Vishnu Narayan Bhatkhande, collective class-room teaching in music was introduced. This method got tremendous popularity as music came out of the clutches of Ghranedars Ustads, who were reluctant to teach this art to a common man and became accessible to all. This has been a very

significant achievement of teaching and learning method during pre independence era, still continuing in the Post-Independence period”

Due to the advances in science and development of new teaching methods, a new teaching technique has entered the world of education which is now a day’s commonly known as multimedia technique. This is becoming very popular and is highly effective as a teaching tool. The world has entered into information and communication technology is going to open up new and cost effective approaches for expanding the reach of education to children and youth.

Relevance of Multimedia

“The means of communication is called media”. According to research reports by Mayer and McCarthy (1995) and Walton (1993), “Multimedia has gained acceptance with many benefits derived from its use. Learning gains are 56% greater, consistency of learning is 50-60% better and content retention is 25-50% higher.”

Usually we take the media word when we talk about newspapers, magazines, radio, TV, audio-video programmes, computers etc. There are many prefixes which are commonly used with the word media such as Multimedia, Electronic media, Interactive media etc. But the most common word which is used in education is multimedia.

“Multimedia presentations may be viewed by person on stage, projected, transmitted, or played locally with a media player. A broadcast may be a live or recorded multimedia presentation. Broadcasts and recordings can be either analogue or digital electronic media technology. Digital online multimedia may be downloaded or streamed. Streaming multimedia may be live or on-demand. Multimedia games and simulations may be used in a physical environment with special effects, with multiple users in an online network, or locally with an offline computer, game system, or simulator.”

Multimedia is extensively used for education and training in schools, business, and the home multimedia education allows you to proceed at your own pace. It brings presentation alive with sounds, movies, animations, and interactivity. “While technology in education covers every possible means by which information can be presented through hardware software technology of education is concerned with several aspects such as learner characteristics and behaviour ,structure of the subject matter as learning and application of appropriate principles of any subject.”

The ten main advantages of Multimedia are as under:

1. Fast – learning speed accelerates.
2. Cheap – The program never ask for a raise the more you use it, the less it cost per use.
3. Consistent – No mood swings, yawns, or lapses.
4. Private – Ask what you want, no one will laugh, no one will scold.
5. Safe – Experience nuclear meltdown without fallout, experience drunken driving accidents or electrocution without blackout or death.

6. Personal - It's never tires of praising and motivating through positive feedback, any time day or night.
7. A strong foundation - On which to build mastery.
8. A tool to make a remembering, longer, easier - Many parts of the brains is stimulated.
9. More information faster - on things a school couldn't afford to teach like space - shuttle repair, brain surgery, black hole sailing.
10. Fun - Like a game,"

How Multimedia Helps in Learning Process

“Scientific research shows that the process of remembering done in the human brain is faster when people receive many emphasizes in various forms for a short period. The concepts of interactivity in multimedia help the human brain to improve the process of learning. In addition, different approaches of multimedia make lessons very entertaining besides giving information more effectively and faster.” Multimedia has becoming extensively useful for education and training in schools, business, and in the homes it also allows to proceed at your own pace. A presentation is always effective with sounds, movies, animations, and interactivity.

“Multimedia education proves to be more effective than traditional printed material because the dynamic and interactive settings are more expressive in presenting abstract concepts and can inspire creative thinking and engagement. After observing the additional of many students to playing videos and online games, research studies suggest that curriculum contents embedded in a game like environment enhanced with acoustic and visual effects can be an effective tool for attracting students to learning.”

Development of Multimedia

There are various steps while creating a multimedia package. As we mention earlier that multimedia is comprises of different media like text, audio, animation and video. To create a perfect and attractive multimedia the basics of developing multimedia should be known to a creator.

“Text in Multimedia

Text is the most common medium of presenting information. It is also used to communicate a concept and idea. While dealing with text in multimedia it is very important to note that, it is not only means of communication. In multimedia, text is most often used for title, headlines, menus, navigation and content.. It is recommended that text should be presented in combination with graphics. Some important concepts in text are discussed in details below:

Audio in Multimedia

Audio is another vital medium in a multimedia presentation. Audio is available in different file formats and the appropriate file format is chosen to its performance..The most common sound file formats are WAV, AIFF, AU, MP3, QT, SWA.The choice of

the right format to use depends upon the file size, the nature of application and the operating system.

Video in Multimedia

Video in multimedia is an extremely useful communication tool for presentation. It illustrates ideas and concepts besides capturing real world events. Video formats are, AVI: MOV, MOOV, and QT, MPEG, MPG: MPGE. Colour Depth for Digital Video set at 24-bit are recommended for windows.

Graphics in Multimedia

Graphics is the most commonly used element of multimedia. The richness of multimedia and the effective communication are through graphic presentation. The attributes of colour, texture, pattern and animation enrich a multimedia presentation. Some of the important Graphic formats are GIF, JPEG, PNG, PNG-24 format holding 24 bit of colour format (Similar to JPEG)

Animation in Multimedia

A very popular and a chief element of multimedia is animation. Animation is designed as a simulation of movement created by displaying a series of pictures or frames. Animation strictly is a visual illusion. It builds dynamism, energy and motion to inanimate objects. It also adds the dimension of time to graphics. Computer animation is relevant to multimedia as all the presentations are developed on the computer.

Animation File Formats

The file formats for animation depends on the nature of software used. Based on this, one can have .dir (for Director), .fla (for flash), .max (for 3D Studio max), .dcr (for shockwave animation file), etc.”

Multimedia in Music Education

Music education has two parts, theory and practical. Though music is predominantly a practical subject, still the theory aspect cannot be underestimated in schools and colleges. Theory is usually taught by lecture method, which is not a very interesting and effective method of theory teaching. Fortunately, due to the advances in information technology, more effective techniques of teaching various subjects and contents are available to the teachers. Techniques like programmed learning, Team Teaching and Multimedia Packages are available which are very effective and potent in delivering the goods. Multimedia Self-learning Packages have been developed in many contents areas and have been found to be very effective in helping the students learn the content at their own pace. Such packages are badly needed in teaching of Music so that on the one hand the pressure on the music teachers is reduced and on the other, the students of Music are able to learn various concepts of theory of music at their own pace.

Review of related literature

Shinivasalu G N, Vijayalakshmi S, (2010) Effectiveness of computer multimedia package (SLM) on achievement in social sciences. An Experimental study.

The results of the study revealed the superiority of multimedia package SLM over traditional method. Therefore, it is more psychological to view this as a high individualized instructional process for better learning. Simultaneously the problem of indiscipline can be solved very easily by creating an atmosphere for learning.

Gupta, Poonam Rani (2007), Multimedia in education for physically challenged persons Information and communications technology (ICT) can support learners with physical disabilities by enabling them to access the curriculum alongside their peers. People with physical challenge either temporary or of permanent nature put limitations in learning process of an individual as it can limit accessibility, it can hamper understanding or it may result in slow learning thus making it difficult for such persons to be at par with their peer group.

Jereb, Eva & Branislav Smitsek (2006). Applying multimedia instruction in e-learning.

This article describes the designing of multimedia instruction and its advantages in higher education. The researchers conducted a survey among students who used the multimedia instruction in their course. Students involved in the survey found the lessons understandable and systematic, very interesting and very carefully prepared. They felt that these lessons would enable them further independent study. They were enthusiastic about the self-assessment tests, which helped them to find out whether the information learned was right or wrong. The study showed that students were satisfied with this kind of studying and were looking forward to using computer-based multimedia learning material for other subjects as well.

Objectives

Following were the objectives of the study:

1. To develop multimedia self learning instructional material on selected topics.
2. To find out the effectiveness of multimedia self learning instructional material in relation to the achievements of students of music.

Hypothesis

Following Hypothesis was test:

There will be a significant difference in the achievement of students learning through multimedia and students taught through traditional method.

Plan and Procedure

Development of Multimedia Package

1. The investigator developed multimedia self learning package on the construction and playing of Tampura, and Tabla from the syllabus of 9th.
2. The video recording and textual matter for training to the concepts were used for developing a multimedia package with the help of appropriate software.
3. This package was tried out on five students of music of 9th in order to find out any shortcomings of the package.

4. After this initial try out the content and presentation of the package was modified in the light of the feedback given by the sample.

5. The investigator also developed a set of instructions for the experimental group on the use of multimedia package.

Plan and Procedure

Development of Multimedia Package

1. The investigator developed multimedia self learning package on the various basics topics of music from the syllabus of 9th

2. The video recording and textual matter for training to the concepts were used for developing a multimedia package with the help of appropriate software.

3. The investigator also developed a set of instructions for the experimental group on the use of multimedia package.

Experiment

The experimental group was explained the purpose of the experiment and was given written instructions along with one C.D. containing multimedia package. The group used the C.D. individually for forty minutes every day for one week under the guidance of the local teachers and the investigator.

Before the start of the experiment both the groups were tested for their knowledge for particular theory which was selected for the developing multimedia package.

Sample

A sample of thirty two students of 9th class studying in school was selected randomly for the experiment. Out of these, sixteen students were put in experimental group and other sixteen formed the control group. This grouping was done randomly.

Design

Pre test -post test control group design was used

Tools

1. Multimedia Self-learning Package

2. Criterion Test

Both the tools were developed by the investigator.

Statistical Technique

For finding out the difference in performance of both the groups, t-test was employed

Comparison of post-test scores of Experimental and Control Groups.

The scores obtained by the experimental and control groups were subjected to statistical treatment to determine the significance of difference between their means. Though the sample was selected randomly from a large population, still the investigator wanted to make sure that the both the groups were equal as far as their knowledge of Music was concerned. Table 1. gives details of the analysis.

Table 1 : Mean, S.D. and 't'-value of scores of experimental and control groups on pre-test

Group	Mean	S.D	't'
Experimental	13.125	9.5	3.152
Control	3.480900267	3.011090611	

The calculated value of 't' is 3.152. The Table value of 't' for $df=30$ at 0.01 level of confidence is 2.457. Calculates of 't' is more than the Table value of 't' and hence it is significant at 0.01 level of confidence. Thus we may infer that there is a significant difference between the academic performance of both the groups. On the perusal of the means, it is clear that the mean of Multimedia Group (13.125) is greater than the mean for Traditional Group (9.50).

Hence it may be inferred that Multimedia group performed better than the Traditional group. Hence the hypothesis that There will be a significant difference in the achievement of students learning through multimedia and students taught through traditional method, is confirmed.

Delimitation

1. Study was be limited to 9th class students
2. Study was limited to only one school of district hoshiarpur.

Conclusion

Multimedia technology has now become increasingly popular in the field of education. Interactive multimedia courseware in particular, developed on a CD is adding a new and interesting dimension to both teaching and learning. This new approach can effectively complement the conventional methods of teaching and learning. The multi-sensory input of this media provides possibilities for higher performance rating and higher retention. With effective feedback, this method makes teaching and learning more effective. Students with different learning abilities can work at their own place, time and pace and with interactive and self -assessment, it can make learning a highly personalized, independent and a rewarding experience

References

- Mrs.Srivastava Kinshuk,New Frontiers in teaching and learning Methods in Indian music, Exploration in Indian Music ,An Overview ,Edited by Dr. Lovely Sharma Page no-23
- Dennis P.Curtin, 1999, Information Technology Page-216
- [www.cemca.org/emhandbook/section 5/page-32](http://www.cemca.org/emhandbook/section%205/page-32)
- <http://en.wikipedia.org/wiki/Multimedia>
- C.Naseema, From Blackboard to the web-Integrating technology and education ,page no-4.
- PC World magazine (October1993)"Ten Reasons to Use Multimedia in Education
- A Survey of the Application of multimedia in the process of teaching and learning in KUITTHO, Malaysia page-56

Information Technology, Dennis P. Curtin, Kim Foley, Kunal Sen, Cathleen Morin page- 32

Www.tech4learning.com

Iron Cheng, Luis Vincent Safant, Anup Basu, Multimedia in Education Adaptive , learning and testing2010. Chapter 1 page 3

cemca.org/EM Handbook/Section7.pdf)



Pratibha
Spandan