

Chapter-1

Literature Review-I: Theoretical Background of Study

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CHAPTER 1**LITERATURE REVIEW- I: THEORETICAL BACKGROUND****1.1 INTRODUCTION**

With the wide expansion and fast development of English language at the global level, it has turned into a significant mode of communication among the people of different cultures and languages. The current status of English language in India is very high in comparison to what it used to be the last several decades. English is the medium of teaching in a significant part of the curriculum in the Indian educational system. Numbers of English language learners are increasing in academics and non-academic fields. Therefore, various teaching methods, approaches, and teaching materials have been implemented to achieve the effectiveness in English language teaching (ELT). According to Rana (2013) "...technology has become an essential aspect of society that helps students to understand the bigger picture of the world and not just confined to what schools and teachers teach them within their classroom". Indeed, multimedia technology rapidly replacing the conventional language teaching in all over the world.

In recent times, new technology has given a lot of challenges and responsibilities to the English language teacher. The method of English language teaching has significantly changed with the remarkable advancement and adoption of modern technological aids such as computer-assisted multimedia technology. Computer based multimedia provides a large number of choices in making language teaching live, interesting, productive and meaningful because multimedia technology has the characteristics to motivate and attract the attention of language learners (Pun, 2013). Graddol (1997) comments "...technologies lie at the heart of the globalization process; affecting educational work and culture." Therefore, multimedia technology is one the important tools for social as well as linguistic change. The number of English language learners is increasing in India and language teachers are using different teaching approaches, methods and teaching materials for the effectiveness of their instruction.

In recent times, the use of multimedia materials in the ELT classroom is one of the innovative methods in order to develop English language contexts. Rana states that

“...the technology is not something that students need to be separated from; rather it is something that students need to embrace” (Rana, 2013). Multimedia supports the learners to integrate and learn according to their interests. Several studies on instructional multimedia materials have been tested successfully in classroom situations and proved that it is an extensively accepted tool for English language teaching (ELT) at the global level in general and in the Indian context in particular. In short, multimedia is increasingly being utilized in language classroom to meet the requirements of the ESL students and bring improvement in modern approaches to language teaching and learning (Pun, 2014).

1.2 WHAT IS MULTIMEDIA?

The Columbia Encyclopaedia has defined multimedia as “personal computing, software, and applications that combine text, high-quality sound, two and three-dimensional graphics, animation, images, and full motion video” (Lagasse, 2000).

Multimedia is a technology which has different meanings for different people. It is a medium of communication, means for business transaction around the world and it might be an important tool for teaching, learning, evaluation and feedback tool for some. Newton defines multimedia as “...the combination of different types of media in the communication of information between users and their computers. The format in which the information for communication exists differs, but it usually includes voice communication, sound processing, and image processing. Multimedia means that convergence of technologies from different industries into a communication medium that presents the synthesis of interactive computers, high fidelity video, and sound. Multimedia is thus the combination of standard data processing with text, graphics, animation, sound and video” (Newton, 1998).

Commonly multimedia technology encompasses the combined form of text, audio, still images, animation, video and interactive materials. The introduction of interactive multimedia technology in teaching and in a communicative environment has the strength to change a passive recipient of information into an active participant. Simply, it is the media materials which applies multiple forms of information stuff and information processing, e.g. text, audio, graphics, animation, video, interactivity to share knowledge, information and entertain the consumers (Agnew, Kellerman, & Meyer, 1996).

While we are talking about the multimedia, the term CALL Computer Assisted Language Learning which is widely used in educational set up we mean presenting text, graphics, video, animation and voice in an inclusive way. Therefore in teaching learning process especially with the integration of technology CALL should not be ignored (Zhen, 2016). Defining multimedia, it is important to integrate multiple media and at least one of them should be active media. At this time web pages are one of the examples of active multimedia (Syed 2002).

Multimedia technology exposes us to the real world feeling with the integration of multi-sensory experiences. In the process of teaching and learning, particularly in the real classroom situation, various types of multimedia technology are adopted for better learning outcome such as radio, T.V, video, video tape recorder, computer and movie projector (Agnew, Kellerman, & Meyer, 1996). Thus, the synchronous use of more than two variant forms of media (text, graphics, animation, sound, and video) for better and effective communication is multimedia (Stubley, 1994).



Figure 1.1 Multimedia Elements

1.3 THE MAJOR COMPONENTS OF MULTIMEDIA

Multimedia is composed of numerous components such as text, graphics, animation, sound, and video. These elements help in different ways in learning the content materials. There are five important components of multimedia technology: text, sound, images, animation, and video which are made clear in detail as under (Vaughan, 2008).

Text: Text or the written form of communication in any language is one of the basic medium to convey information and it is one of the fundamental components of multimedia technology. Text includes print media such as newspapers, books, magazines which sometimes use a different type of symbol to display the alphabet, numbers and special characters. Though multimedia technology contains the picture, audio, and video, the text is the most conventional type found in the multimedia

application. The text also gives opportunities to broaden its traditional power of associating with other media and as a result transforming it into interactive media. In the teaching and learning process one can use text or different typographic effects for emphasis or clarification in English language teaching. In order to grab the attention of the readers' teachers may use a different kind of font size, colour and style to present content materials and can also the emphasis on a certain word, phrase or sentences (Vanghan, 2004).

Graphics: It refers to the use of drawings, designs, images or pictures to give illustrations in books and magazines such as a diagram, chart, and photograph which do not have any movement. Andrew Wright stated in his book "Picture for Language Learning" that with the help of graphics one can arouse interest and motivation, develop comprehension ability of the language learner (Wright, 2003). Graphics play a vital role in the language teaching process. "In a static text, the words are laid out to fit in well with the graphical surroundings. The words are built into the graphics and explanation given in the pages of the book, the information is well laid out and easy to read. The learners are able to look at the pictures and the textual information as they are available on the similar screen" (Kindersley, 1996). Graphics help students to make an association between images and words (Wilson, 2001, p.56).

Animation: An animation is the quick show of dynamic pictures or images in a series of 2-D or 3-D format. It is an artwork or model which is used to create an illusion of movement. The range and scope of animation begin right from the basic graph with a simple movement to a full picture with complex motion. An animation is a helpful multimedia application especially when the moving visuals are required to show, while digital video is inappropriate, not needed, or too costly in terms of disc space or memory (Vanghan, 2004). "The moving objects are one of the most appropriate tools to enhance understanding, as they allow the learner to see the demonstration of changes, processes, and procedures"(Earnshaw & Vince, 1995). The English language teachers can use animation in their classroom to highlight key knowledge points and to heighten students' motivation (Vanghan, 2004).

Sound: It is a significant voice or speech in any language through which people interact with each other, right from a whisper to a scream. Simply, a sound is a speech, music, or any other sound which can be stored and re-produced by the

multimedia technology. It gives an opportunity to listen to the pleasure of music, and various sounds, including speech sounds. It can help in giving practice in accent, pronunciation of words in another language (Nielson, 1995).

Video: It can be explained as the presentation of recorded real events on the T.V screen with the integration of sound and moving pictures. In multimedia applications, the video is one of the powerful media to share ideas and information to the masses. It is one of the powerful tools to bring multimedia or computer users closer to the real world (Vaughan, 2008). The Video can integrate personal elements or non-verbal aspects of the presenter that is lacking in other forms of media. It can demonstrate the personality of the presenter (Philips, 1997). The video is the display part of a T.V broadcasting, visual picture of still or moving objects. In comparison to animation, the video can give more clear information (Vanghan, 2004).

1.4 TYPES OF MULTIMEDIA

Multimedia technology can be largely divided into two types: Linear and Non-Linear Multimedia technology. **Linear Multimedia** progresses without any navigational control of the viewer, while the audience interacts with multimedia application in which the content materials are systematically arranged and the viewers are not allowed to control the progress of the content. In this multimedia application, most of the time viewers are inactive receivers of the multimedia content. For instance, a motion picture or film uses a mixture of audio, graphics, and animations, but the audiences have no control over the sequence of events.

Nonlinear Multimedia applications are based on the users' control of the progress of content materials, such as video game, self-paced computer training. In interactive multimedia, users are allowed to use the content materials according to their requirements. It is a two-way communication tool. It can be controlled by the user with help of different buttons, links, and hypertext. Video game, computer based training and hyper-medias are examples of interactive multimedia. It can combine two different media components, for example, audio and video. Live or recorded multimedia is also interactive multimedia. A recorded multimedia presentation may allow the users interactivity through a navigation system. The presenter or performer can make possible interactivity through the live multimedia presentation <http://www.riemysore.ac.in/ict/multimedia.html#types>.

1.5 HISTORY OF MULTIMEDIA IN EDUCATION

Recent developments in the area of science and technology are at their zenith. But from the history of multimedia technology, we come to know that modern forms of multimedia technology are not able to replace the old forms of technology. Interestingly, the novel form of multimedia technologies is supplementing the old media, but it is not acting against them. Consequently, several multimedia tools are combined with each other, and produce new forms of media that comprise the unique feature from each of them. And multimedia mobile is the best example for this.

Vyas, (2013) states in her study that there are different phases of multimedia technology in the teaching and learning process, particularly the use of the computer in education has five major periods in the history that is discussed below.

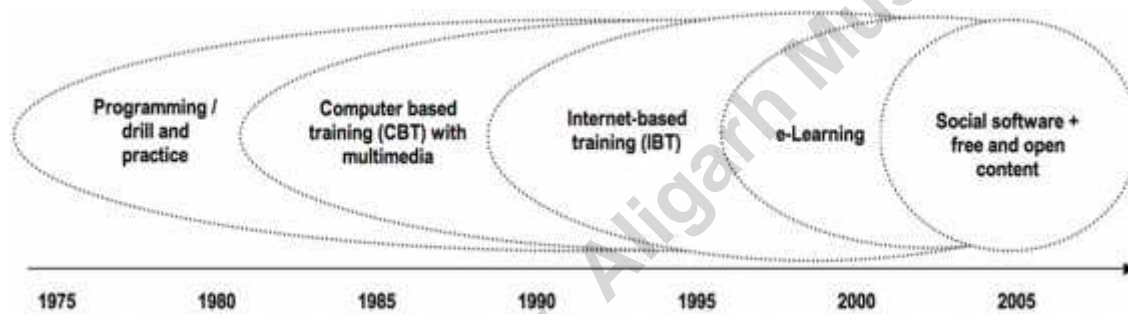


Figure 1.2: History of Multimedia in learning (adopted from blog of Leinonen, T (June, 2005).

i. BETWEEN LATE 1970'S AND EARLY 1990'S: PROGRAMMING DRILLS AND PRACTICES

The objective of teaching programming was not to expertise programmers, but to enhance the logical and mathematical skills of the students. The software was very easy to handle especially for the drills and practice of mathematics and language learning. But these drills and practice exercises did not support comprehensive understanding. It was basically encouraging the learners' short term memory as well as "trial-error" sort of activities. Besides, such programs were not in the favour of all students because outspoken students became passive when the teacher was teaching. Students were passive who are involved more in the programming.

ii. BETWEEN LATE 1980'S AND EARLY 1985'S: COMPUTER BASED TRAINING (CBT) WITH MULTIMEDIA

The introduction of multimedia computer in the late 1980 came with innovative graphics and sound system in the digital markets. And it started to claim that the programming based on drill and practice activity was not successful in teaching because it did not have the multimedia feature. It was argued that learners could learn better watching by content with the integration of animations in colour, video clips and then work on exercises.

The teaching and learning with CD-ROMS and multimedia computer phase was very different, because some students were interested in studying way by watching audio-visual and animated materials, on the other hand some students were learning simply by reading or watching still images. The components of drills and practices were also included in the coloured form. However, the CD-ROMs based MM technology did not make positive impact on the students learning other subjects except language ((Leinonen, 2005, Vyas, 2013).

iii. EARLY 1990'S: INTERNET-BASED TRAINING (IBT)

The use of computer in the teaching and learning process came in fashion after the emergence of Word Wide Web and the failure of CD-ROMs as a pedagogical tool. Because it had the challenge to keep updated the content in the CD-ROMs and publishers also stated that information changes too fast in the new paradigm. One need to keep CD-ROMs updated every day which was quite difficult. The solution to this was provided by internet-based training. Objectives of the integration of internet based training in education were that it is cost-efficient and there was no need of travelling for training from the work place. On the other hand, IBT was very expensive to afford for common students. So students did not learn much through IBT (Leinonen, 2005, Vyas, 2013).

iv. BETWEEN LATE 1990'S AND EARLY 2000'S: E-LEARNING

Between late 1990's and early 2000's the internet-based pedagogy became advanced in the form of E-learning. The persuasion regarding the E-learning is that it is a tool which creates need. It is also clearly publicized in the several media through websites, articles and companies advocate that E-learning something which is associated

essentially with education. The IT professionals, managers and company experts developed the e-learning modules or courses and Learning Management System (LMS) software application to provide educational services and economic gain for their organization. However, the philosophy of teaching and learning behind e-learning was closely associated with computer based training and the objective was to provide innovative courses for students. The digital advancement around the world was emerging very fast. Later, the IT experts and learning platform developers observed that learning needs social interaction, and social activities among teachers and students were important. E-learning nowadays is very wide and substantial and it is very difficult to identify a single pedagogical objective behind the particular e-learning content. Therefore, e-learning is not one, in fact it is multiple. Now, it is believed that all the previous pedagogical paradigms are inherent e-learning (Leinonen, 2005, Vyas, 2013).

v. LATE 2000 AD SOCIAL SOFTWARE AND FREE AND OPEN CONTENT

Since 2000 AD, **social software** and **free and open content** are considered as a great advancement era in the area of information communication technology and multimedia technology. In fact, it brought a great revolution in educational technology too. People have started to use and propagate such innovative technologies in academics. For instances, Blogs and Wikis are supporting the real idea of social software and free and open content. The feature of simple tools is that information, notes and all sorts of texts are easily accessible. They can be shared and edited by the competent people. However, projects like Creative Commons, Wikipedia, and Open courseware are providing free contents to all the people.

The pedagogical philosophy of **social software** and the **free and open content** are found in the cultural-historical psychology and in the constructivist theory. In short, learning with multimedia technology and computer technology are not the matter of programming or drill and practices, neither about regular update or nor the matter of cost efficiency. They are completely based on the idea of collaboration, knowledge contribution and sharing information (Leinonen, 2005, Vyas, 2013).

1.6 WEB 2.0

Nowadays, a lot of consumers are using Web 2.0 as a tool. But, people do not have an exact or single view regarding the definition of Web 2.0. Some define web 2.0 a second generation of World Wide Web that provides opportunities to the people to share knowledge and collaborate through the internet easily. The definition of the Web 2.0 varies according to the use of the person. *Web 2.0 is "a Web technology that aims to enhance creativity, information sharing and collaboration among users"* (Blocher & Ntoruru, 2008). How one could use Web 2.0 in English language teaching is determined by the some important terms used in the definition i.e, “creativity, information, sharing, and collaboration.”

English language teaching materials in the conventional class room are generally static and less motivating. In fact, the English language teacher should bring those materials in the class which develops interest, interactivity and dynamism among the learner and in the learning environment. The application of web 2.0 has features to develop interactivity in English language teaching. English language teacher and student can benefit lots from Web 2.0 tools which can be incorporated in language teaching (Rizvi, 2016). Some of the Web 2.0 tools Ba al & Aytan, (2014) which are as follows.

- www.blendspace.com: “Blend space is a kind of a content creation tool. It allows teachers to create a lesson by combining a great variety of resources”.
- www.padlet.com: “Padlet, a virtual notice board, teachers and students can also export the digital wall they create in a variety of formats including pdf, image, csv, etc. and share it via social media sites”.
- Google drive (forms, documents): “Google drive is a cloud-based storage service for storing all kinds of documents. It can also use document section of Google drive for collaborative projects”.
- www.voxopop “is a web based



Figure: 1.3 Web 2.0

audio tool that allows users to record their speaking on a given topic”.
www.lessonwriter.com: “Lesson writer is a website for creating reading lessons”.

1.7 SOCIAL NETWORKING

Currently, the use of multimedia materials is one of the reasons for changes in the learning environment (Uzunboylu, Bicen & Cavus, 2011). The widespread popularity of Web 2.0 in everyday life and the application of multimedia materials as an educational tool give great opportunities and advantages to the students. For instance, the wide acceptance of Facebook and Twitter and growing number of social media users provides huge materials in terms of learning and sharing. One can develop one’s own social network, for the promotion of one’s product, share ideas information, news, academic videos and interesting stories. It also provides an opportunity to follow another social network user (Schaal, Grubmeyer & Matt, 2012, Bicen, 2015). Many studies have confirmed that with the use of multimedia materials and social networking sites, like Facebook and Twitter, people are able to like and follow the pages according to their interest and requirements. It also helps in the language learning in a variety of ways (Bicen & Sadikoglu, 2015). It has been found that social networks have a favourable impact on the learners (Bicen & Uzunboylu, 2013).

1.8 MOBILE LEARNING

The trend of mobile learning has started in the last few years. Mobile learning refers to that learning in which time and place are not fixed people can learn anything anywhere with the use of their mobile phones. Mobile phones are the most common and widespread device among the people. Mobile learning is also explained as “any service or facility that supplies learner with general electronic information and educational content that aids in acquisition of knowledge regardless of location and time” (Sarica et al. 2009). Students can use mobile phone for searching anything on the websites and they can develop their vocabulary from the digital dictionary. Students can learn new vocabularies and do exercises in English (Lehner & Nosekabel, 2002). In addition, through mobile phones students can interact with their friends and teachers and they can ask question by using Short Message Service (SMS). Similarly, teachers can also use mobile phones give reply or feedback to their

students. The mobile phones have multiple functions; one can also exchange text and voice messages and emails through it (Cooney et al. 2007).

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