

The Significant Use of Multimedia Technology in Facilitating EFL Teaching and Learning Processes

MAI MAHMOUD MOHAMMED
MOHAMMED BAKRI HADEEDY
MONTASIR HASSAN MUBARAK
Sudan University of Science and Technology

Abstract

This paper aims at investigating the use of Multimedia Technology to facilitate the EFL teaching and learning processes. The researcher has adopted the descriptive and analytical methods. The population of the study was drawn from different Sudanese universities in Khartoum state. The questionnaires were used as a tool for data collection. The sample of the study composed of (50) teachers whom are teaching in different Sudanese universities and students whom are studying at Ahfad university for Women. The data were analyzed by SPSS programme. The study concluded that using multimedia technologies in EFL classrooms are highly motivaing factors and help learners achieve their desired learning outcomes.

Keywords: Multimedia, Teaching, Learning, Teachers' Role, Learners' Role, EFL classroom

INTRODUCTION

Multimedia provides a complex multi-sensory experience, presenting information through text, graphics, images, audio, and video. It has been proven that a mixture of words and pictures always integrates a large amount of information (Mayer, 2001: 55). Among the advantages of multimedia are having the ability to choose among media to present well structured information (Larkin and Simon, 1987: 65), using several representations to improve memory (Penny, 1989: 398), encouraging active processing (Ainsworth, 1999: 145), and presenting more information at once (Sweller, 2005: 38).

Students learn best by seeing the value and importance of the information presented in the classroom. Thus, for students to achieve their

ultimate goal in learning, it is important to use a variety of teaching methods and to make the classroom environment stimulating and interactive.

According to (Nunan, 1999: 65), a percentage of language educators depend on the transmission model, which emphasises the teachers' responsibility to convey knowledge and correct errors, whereas students simply receive and store the information taught in class. Many students tire of this teacher-centred model of English-language learning and complain that the class is very boring and monotonous and that they want a new and different approach. One attempt to solve this problem may be to develop an active teaching approach to stimulate students' interest in English-language learning. With the advent of new technology, multimedia is increasingly accepted as a means of Teaching English as a Foreign Language (TEFL).

Many English teachers state that teaching English with multimedia makes an English class more active than in the teacher-centred model (Yang and Fang, 2008: 137). In contrast to traditional English classrooms, in multimedia classrooms, the teacher can use a button and keyboard to show significant content in several seconds, as long as he or she is familiar with the operation of the multimedia.

AIMS AND SCOPE OF THE STUDY

This study aims at investigating the use of multimedia technology to facilitate the EFL teaching and learning processes. The scope is limited to different Sudanese Universities in Khartoum state.

LITERATURE REVIEW

A general definition is:

“Multimedia is the field concerned with the computer-controlled integration of text, graphics, drawings, still and moving images (Video), animation, audio, and any other media where every type of information can be represented, stored, transmitted and processed digitally”. (Dave Marshall 2001)

Multimedia technology refers to interactive, computer-based applications that allow people to communicate ideas and information with digital and print elements. Professionals in the field use computer software to develop and manage online graphics and content. The work that media technology specialists produce is used in various media, such as training programs, Web pages, and news sites.

The Role of Multimedia

Curriculum developers, intellectuals, educational leaders and policy makers claim that computers and related internet technologies represent important educational innovations (Howley & Wood, 2011). Among them, multimedia plays the most significant role in teaching learning process especially teaching English as a foreign language. Multimedia enables learners to experience their subject in a vicarious manner. The key to providing this experience is having simultaneous, rather than sequential, graphics, video, and audio. The appeal of multimedia learning is best illustrated by the popularity of the video games currently available in the market (Johnstone and Milne, 1995).

Multimedia enables learning through exploration, discovery, and experience. Technology does not necessarily drive education. That role belongs to the learning needs of students. With multimedia, the process of learning can become more goal oriented, more participatory, flexible in time and space, unaffected by distances, and tailored to individual learning styles and can increase collaboration between teachers and students. Multimedia enables learning to become fun and friendly, without fear of inadequacies or failure (Lu, Wan and Liu, 1999).

Multimedia in the classroom teaching

Multimedia is often applied to many courses as it provides a wide diversity of learning styles and modalities. Learning style is the term that relates to characteristic cognitive behaviour and helps in defining how learners perceive, interact with, and respond to learning setting. It is proved that learners are more comfortable with gaining knowledge in the environment which is connected to their predominant learning style. Each student in the classroom has a preferred learning modality as visual, aural, and kinesthetic. Some learners are multimodal which is the combination of all mentioned above modalities. Multimedia helps in establishing curriculum that appeals to visual, aural and kinesthetic students, therefore, learners have equal opportunities in their performances. Students are encouraged to develop a versatile approach to learning by presented material in a diversity of modes.

The roles of teachers in multimedia environment

The implementation of the multimedia into educational institutions requires major changes in traditional learning and teaching. This, in turn is connected to different roles of teacher that has to perform in multimedia- applied classroom.

Teacher fulfills the role of guide and facilitator, therefore, must know a wide range of different materials that are available and serve in developing

learners' language skills as language textbooks are no longer the only source of information.

Multimedia provides vision and sound that enable showing the students how native speakers interact. Electronic encyclopedias and dictionaries are accessible within few seconds. Online newspapers present up-to-date information about the countries of the target language. Website is the source of information in many fields such as: tourism, policy, and political views. Teacher needs to be aware of the ways in teaching to use available material effectively. A good facilitator and a guide has to be flexible, recognize and respond to students' needs. He has to be open-minded, and not only concentrate on earlier established curriculum (Gilakjani, 2012: 121-1211).

Teacher serves as the Integrator in multimedia enhanced language learning. Not only should teachers know and comprehend functions of various media available, but also know the best time to deploy them. At the time when the projects are constructed, students need guidance in the use of word-processing, graphics, and presentation programs. Integrating audio-visual elements makes learners realize that a foreign language environment of the target language is as multifaceted and vibrant as their own surrounding. It is essential for teachers to possess knowledge on how and where to access information for their own and students' use. They should be competent on the way of using searching engines and obtaining reliable and appropriate information. Being familiar with the use of electronic tools for language analysis provides teachers with linguistic and professional competence, therefore, increases their confidence in the language use, therefore, teacher should fulfill the role of the researcher in the classroom (Gilakjani, 2012: 121-1211).

The role of a designer requires putting together tasks and materials to guide students to successful completion of their projects and allowing them to draw conclusions from it. Obtaining this learning situation is very complex and involves higher order skills in researching and appraising source materials. Moreover, it requires setting overall goals and creating manageable and meaningful sequences by breaking down tasks. In fulfilling this role, teacher should be an example of good practice, giving: help, advice and encouragement to students that, therefore, serving as a source of inspiration for similar tasks. It is thought to be beneficial for a teacher to collaborate with his students. The result is seen in bringing more fruitful and rewarding efforts. Using media gives opportunities for exchange between institutions and beyond national borders. Internet exchanges, in fact, bring benefits to teachers in the form of helping them to overcome the sense of isolation of experience in their teaching career (Gilakjani, 2012: 121-1211).

Some advantages of multimedia in education

Multimedia is very helpful and fruitful in education due to its characteristics of interactivity, flexibility, and the integration of different media that can support learning, take into account individual differences among learners and increase their motivation. The provision of interaction is the biggest advantage of the digital media in comparison with other media. It refers to the process of providing information and response. Interactivity allows control over the presented content to a certain extent: learners can change parameters, observe their results or respond to choice options. They can also control the speed of applications and the amount of repetition to meet their individual needs.

Furthermore, the ability to provide feedback tailored to the needs of students distinguishes the interactive multimedia from any other media without a human presence.

However, many aspects need to be taken into account when using multimedia in education. Even though multimedia is offered worldwide, access to learning materials and computing equipment differs from country to country.

The use of multimedia by students needs to be supported by very skilled teachers. They must guide students through the learning process and provide them with appropriate and effective learning strategies.

Like the use of textbooks, the use of educational multimedia fosters teaching strategies, where the teacher's role is not just that of information provider but the one of guide, supporter and facilitator. Multimedia offers a variety of media usually combined in a meaningful manner.

This gives an opportunity to use the computer for the presentation of ideas in different ways, including by means of:

- Images, including scanned photographs, drawings, maps and slides;
- Sounds, e.g., recordings of voice, noise and music;
- Video, including complex procedures and 'talking heads';
- Animation and simulations.
- Discussions among learners (social networks, online discussions, blogs, etc.).

Barriers to the Use of Multimedia in Teaching English

While multimedia has a lot of advantages, there are some obstacles that prevent teachers to use it in their classrooms.

There are many barriers EFL teachers facing while using multimedia and computer technology in their instruction. I would like to review some of the important barriers toward using multimedia and computer technology in EFL instruction. They are: availability of hardware and software, teachers'

lack of knowledge about multimedia, lack of experience, inadequate computer technology support, time factor, teacher attitudes, and lack of professional development in computer technology integration. A review of these barriers will indicate how they influence the teaching and learning processes and what could be done to urge EFL teachers to use computer technology in their instructions.

1. Lack of time

Teachers' inexperience of time management in computer labs causes not to use multimedia and computer technology appropriately in their teaching. The second problem is that it is very difficult to do technical activities in a very short time. These tasks need more time and more tools. The third problem is pertinent to the limitations of computer labs. According to Middleton, Flores, and Knaupp (1997), computers should be placed in classrooms so that students can access to them to use multimedia technologies in meaningful and practical ways.

2. Lack of knowledge

According to Mumtaz (2000), almost all teachers like to use internet and multimedia in their classrooms while teaching EFL/ESL but a lot of them either do not use it frequently or do not know how to appropriately utilize it. Teachers who do not use them frequently should develop and practice the necessary skills of computers. Suitable patterns are needed for infrequent users to perform technology. Lack of multimedia and computer knowledge is a barrier for teachers to use them in their classrooms. Many teachers need two or three years of experience to become smart users of computers in education. If teachers want to be skilled in applying technology in their classes they should have at least five years of experience in using it. Knowledge of teachers is an important factor for their success in the educational career.

3. Lack of experience

Rozell and Gardner (1999) opined that there is a connection between teachers' computer experience and their attitudes. The instructors who have more experience of using multimedia and other related technologies, they will show positive attitudes towards them. This is also stated that teachers with more years of teaching experience are less inclined to use technology in their language classroom instruction. Based on the findings of the above studies, it is concluded that teachers who have enough experiences in teaching their courses with the use of technology will use it into their instruction more than those who lack experience.

4. Inadequate technological support

One of the significant factors that impact the utilization of multimedia tools is the inadequate technological support. A study was done in the U.S. It indicated that the use of multimedia cannot be made effective without integrating it with computer technology. They are technical support, the lack of practical training, and lack of planning for computer technology integration. Teachers who are using multimedia and computer technologies in their classrooms need sufficient support from computer experts and should learn different software programs. Workshops and electronic message boards are the means that can motivate and support teachers who are using computer technologies (Boutler, 2007; Dupin-Bryant, 2004).

5. Teachers' attitudes

Using multimedia in EFL classrooms and integrating computer in the classes are so complicated that requires a change in the attitudes of teachers. This change is obtained in the long run. A study was conducted by Drent and Meelissen (2008). It was about the factors which restrict the usage of ICT by teachers. The results indicated that some factors like student-centered teaching, positive attitude towards using multimedia and ICT, and technological experience effect on the application of ICT by teachers.

6. Lack of professional development

One of the barriers that stop teachers learn how to use multimedia is insufficient teacher training (Bauer & Kenton, 2005; Yang, 2008). In a study that was done by Yang (2008), it was exhibited that because of the lack of information technology experts, 46.3% of the 378 teachers stated that they did not have any professional development in computer technology integration. The type of training that teachers receive is also very important. In order to have a change in teachers' teaching methods, professional development must be content-focused and collaborative and this will certainly lead to students' learning (Li & Protacio, 2010; Shi & Bichelmeyer, 2007; Andree, Richardson, & Orphanos, 2009).

MATERIALS AND METHODS

The sample of this study composed of (50) teachers whom are teaching in different Sudanese universities and (50) students whom are studying at Ahfad University for Women.

TOOLS OF THE STUDY

The researchers used a questionnaire as a tool to gather the data of the study .The questionnaire was delivered to (50) teachers whom are teaching in different Sudanese universities and (50) students whom are studying at Ahad University for Women. The data were analyzed by SPSS programme .

RESULTS AND DISCUSSION

The researcher has designed a questionnaire to investigate the use of Multimedia Technology to facilitate the EFL teaching and learning processes. This questionnaire is an opening part seeking information about the targeted teachers who were requested to indicate their answers by ticking (√) one of the five options:” strongly agree, agree, undecided and disagree”.

THE ANALYSIS OF THE QUESTIONNAIRE IN RELATION TO THE HYPOTHESIS:

H: Multimedia facilitate EFL teaching and learning processes .

Statement (1): Lectures are more enjoyable and exciting when a teacher uses PowerPoint presentations.

Table (1): Lectures with PowerPoint presentation

Answer	Number	Percent
Strong agree	25	50.0
Agree	20	40.0
Undecided	5	10.0
Total	50	100.0

It is clear from the above table that there are (25) respondents in the study's sample with percentage (50.0%) have strongly agreed “Multimedia facilitate EFL teaching and learning processes”. There are (20) persons with percentage (40.0%) have agreed on that, and (5) persons with percentage (10.0%) have not sure about that. This indicates that almost of the teachers support the Statement.

Statement (2): Using multimedia technology in EFL lessons can increase students' motivation.

Table (2): Using multimedia

Answer	Number	Percent
Strong agree	40	80.0
Agree	10	20.0
Total	50	100.0

It is clear from the above table and figure that there are (40) persons in the study's sample with percentage (80.0%) have strongly agreed with “Using multimedia in EFL lessons can increase students’ motivation”. There are (10) persons with percentage (20.0%) have agreed on that .This indicates that the majority of the teachers use multimedia in EFL lessons.

Statement (3): Computer-based lessons are much more effective than traditional lessons.

Table (4.3): Computer-based lessons are much more effective than traditional lessons

Answer	Number	Percent
Strong agree	50	100.0
Total	50	100.0

It is clear from the above table no (4.3) and figure (4.3) that there are (50) persons in the study's sample with percentage (100%) have strongly agreed with “Computer-based lessons are much more effective than traditional lessons” This means that all of the teachers are aware of the importance of using multimedia in EFL lessons.

Statement (4): Bringing multimedia into the classroom provides instant results and feedback for both students and teachers.

Table (4): multimedia and feedback for both students and teachers

Answer	Number	Percent
Strong agree	30	60.0
Agree	20	40.0
Total	50	100.0

It is clear from the table no (4.4) and figure (4.4) that there are (30) persons in the study's sample with percentage (60.0%) have strongly agreed with “Bringing multimedia into the classroom provides instant results and feedback for both students and teachers”. There are (20) persons with percentage (40.0%) have agreed on the Statement .This means that all of the respondents support the Statement.

Statement (5): Teaching with multimedia foster cognitive aspects of learning such as information processing and understanding.

Table (5): multimedia and cognitive aspects of learning such as information processing and understanding.

Answer	Number	Percent
Strong agree	10	20.0
Agree	35	70.0
Undecided	3	6.0
Disagree	2	4.0
Total	50	100.0

It is clear from table (4.5) and figure (4.5) that there are (10) persons in the study's sample with percentage (20.0%) have strongly agreed with “Teaching with multimedia foster cognitive aspects of learning such as information processing and understanding”. There are (35) persons with percentage (70.0%) have agreed on that and (3) persons with percentage (6.0%) have undecided about that, and (2) persons with percentage (4.0%) are disagree about that. This indicates that the majority of the teachers support the Statement.

REPORT DISCUSSION

The data collected were analyzed in relation to the hypothesis of the study. The data were collected by the questionnaire which has been distributed to university teachers in Khartoum state. After analyzing and comparing the results with the main hypothesis, the results have shown that university level teachers use multimedia in EFL lesson to facilitate teaching and learning processes.

REFERENCES

1. Ainsworth, S. E. 1999. A functional taxonomy of multiple representations. *Computers and Education* 33(2/3): 131–152.
2. Bauer, J., & Kenton, J. (2005). Toward technology integration in the schools: Why it isn't happening. *Journal of Technology and Teacher Education*, 13(4), 519-546.
3. Dren , M. & Melissen , M.(2008).Which factors Obstruct or Stimulate teacher educators to use ICT innovatively? *Computer & Education*. 51,1,187-199.
4. Dupin-Bryant, P. A. (2004). Variables related to interactive television teaching style: In search of learner-centred teaching styles. *International Journal of Instructional Technology and Distance Learning*, 1(4), 3-14.
5. Gilakjani, A. (2012) “A Study on the Impact of Using Multimedia to Improve the Quality of English Language Teaching.” *Journal of Language Teaching and Research*. 3,6: 1208-1215. <http://ojs.academypublisher.com/index.php/iltr/article/view/iltr030612081215/5753>
6. Larkin, J. H. and H. A. Simon. 1987. Why a diagram is (sometimes) worth ten thousand words. *Cognitive Science* 11(1): 65.
7. Howley, A., Wood, L., & Hough, B. (2011). Rural elementary school teachers' technology integration. *Journal of Research in Rural Education*, 26(9). Retrieved <http://jrre.psu.edu/articles/26-9.pdf>. Johnstone, J. & Milne, L. (1995) ‘Scaffolding second

Mai Mahmoud Mohammed, Mohammed Bakri Hadeedy, Montasir Hassan Mubarak–
The Significant Use of Multimedia Technology in Facilitating EFL Teaching and Learning Processes

- language communicative discourse with teachercontrolled multimedia', *Foreign Language Annals*, 28,(3):315-29.
8. Mayer, R. E. 2001. *Multimedia learning*. New York: Cambridge University Press.
 9. Middleton, A. J., Flores, A., & Knaupp J. (1997). Shopping for technology. *Educational Leadership*, 53(3). [Online] Available: <http://www.ascd.org/pubs/el/nov97/exmiddl.html> (April 21, 2009)
 10. Mumtaz , S(2002).Factors Affecting Teachers' Use of Information and Communication Technology : A review of the Literature . *Journal of Information for Teacher Education* , 9(3), 319 – 342. <http://dx.doi.org/10.1080/14759340000200096>
 11. Nunan, D. 1999. *Second language teaching and learning*. Boston: Heinle & Heinle Publishers
 12. Penney, C. G. 1989. Modality effects and the structure of short-term verbal memory. *Memory and Cognition* 17(4): 398.
 13. Richardson , J.W.(2009).Providing ICT Skills to teacher Trainers in Combodia :Summary of project Output and Achievements. *Journal of Education for International Development*.4(2),pp.1-2.
 14. Rozell, E.J., & Gardner, W.L. (1999). Computer-related success and failure: a longitudinal field study of the factors influencing computer-related performance. *Computers in Human Behavior*, vol. 15, no. 1, pp. 1-10. [http://dx.doi.org/10.1016/S0747-5632\(98\)00030-2](http://dx.doi.org/10.1016/S0747-5632(98)00030-2)
 15. Shi, M., & Bichelmeyer, B. A. (2007). Teachers' experiences with computers: A comparative study. *Educational Technology and Society*, 10(2), 180-190.
 16. Sweller, J. 2005. Implications of cognitive load theory for multimedia learning, In the *Cambridge Handbook of Multimedia Learning*, ed. R. E. Mayer. New York: Cambridge University Press.
 17. Weiyang Yang and Fang Fang. 2008. Optimization of multimedia English teaching in context creation. *International Education Studies*. 1(4). <http://www.ccsenet.org/journal/index.php/ies/article/view/636>
 18. Yang, C. Q. (2008). A research study on teacher professional development in technology-rich educational environment. *Teacher Professional Development Forum*. Retrieved on June 20, 2009 from <http://www.ckni.net>