

The Significant Role of Multimedia in Motivating EFL Learners' Interest in English Language Learning

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Abstract-The use of multimedia in teaching and learning leads to higher learning. Multimedia refers to any computer-mediated software or interactive application that integrates text, color, graphical images, animation, audio sound, and full motion video in a single application. Multimedia learning systems offer a potentially venue for improving student understanding about language. Teachers try to find the most effective way to create a better foreign language teaching and learning environment through multimedia technologies. In this paper, the researcher defines multimedia, elaborates the rationale for using multimedia, identifies multimedia learning, mentions principles of multimedia, explains theoretical basis of multimedia English teaching, reviews roles of teachers and learners in multimedia environment, discusses the relationship between multimedia and learning, and states the strength of multimedia English teaching. The review of literature shows that teachers need to make full use of multimedia to create an authentic language teaching and learning environment where students can easily acquire a language naturally and effectively.

Index Terms- Multimedia, Teachers' Roles, Learners' Roles, Learning, Teaching.

I. INTRODUCTION

Multimedia provides a complex multi-sensory experience in exploring our world through the presentation of information through text, graphics, images, audio and video, and there is evidence to suggest that a mixture of words and pictures increases the likelihood that people can integrate a large amount of information [1]. Advantages of multimedia design compared to using a single medium might result from the ability to choose among media to present well-structured information [2], using more than one representation to improve memory [3], encouraging active processing [4], and presenting more information at once [5]. Students learn best by seeing the value and importance of the information presented in the classroom. If the students are not interested in the material presented, they will not learn it. In order to achieve the ultimate goal of student learning it is important to use a combination of teaching methods

and to make the classroom environment as stimulating and interactive as possible.

According to [6], a percentage of language educators cling to the transmission model, which emphasizes the teachers' responsibility of conveying the knowledge and correcting the errors. In this model, students are just to receive and store information taught in the class. As a result of this practice in recent years, more students tire of this teacher-centered model of English learning and complain that the English class is very boring and monotonous and they want something new and different. One attempt to solve this problem may be to develop a fresh teaching approach to stimulate students' interest in English language learning. With the development of technology, multimedia is increasingly accepted as a means of English language instruction. More English teachers state that teaching English with multimedia makes the English class more active than the teacher-centered model. In traditional English classrooms, instructors have to spend time on writing the vital language points and important information on the chalkboard. In the multimedia classrooms, the teacher can use the button and keyboard to show significant content in a few seconds as long as he or she is familiar with the operation of the multimedia. In addition, the microphone can reduce the teacher's laborious work. Moreover, with the courseware teachers do not need to write the same language points several times for the different classes, which will not only save a lot of time in the class, but also release teachers from heavy labour [7].

Multimedia can provide a large amount of instructional information to the students for the purpose of English learning and accelerate the process of information searching. When we need some related information, we can easily find it from the large amount of information stored on the internet. With a wealth of updated information from the internet, multimedia is popular with the teacher who needs to update the teaching materials. Realizing the importance of using multimedia in language teaching, computers have become very popular in schools and many teachers are now using them for language learning. This is not to say that multimedia is the substitute for teachers. Teachers are always the facilitator of the

whole class, whether in the multimedia classroom or in the traditional classroom. A quality teacher would do more than press the button on the multimedia computer technology. They would apply teaching methodologies accumulated from the many years of teaching experience from language teachers and experts while adding the use of multimedia in the teaching of English. The quality teacher would know how to convey the information in an appropriate way and how to arouse students' interest by means of using computers or the internet. Therefore, proper combination of multimedia and teaching methodology is appropriate to attract EFL students' attention during English language learning [8]. In this paper, the researcher discusses multimedia, rationale for using multimedia, multimedia learning, principles of multimedia, theoretical basis of multimedia English teaching, roles of teachers and learners in multimedia environment, the relationship between multimedia and learning, and strength of multimedia English teaching in detail.

II. THE DEFINITION OF MULTIMEDIA

Multimedia may be defined in multiple ways, depending upon one's perspective. Typical definitions include the following:

1) Multimedia is the use of multiple forms of media in a presentation [9], cited in [10].

2) Multimedia is "information in the form of graphics, audio, video, or movies. A multimedia document contains a media element other than plain text [11], cited in [10].

3) Multimedia comprises a computer program that includes text along with at least one of the following: audio or sophisticated sound, music, video, photographs, 3-D graphics, animation, or high-resolution graphics [12], cited in [10].

III. RATIONALE FOR USING MULTIMEDIA

Why would any teacher want to use multimedia materials in the classroom? As each improvement in technology became available, teachers who saw themselves as "hip, cool, and hi-tech" quickly incorporated the new tools, correctly perceiving that slick multimedia presentations have a certain amount of entertainment value for learners. This rationale misses the point; in fact, the use of multimedia materials has substantial grounding in cognitive theory and research—although, the research evidence followed the widespread use of these materials rather than preceded it.

Several studies show that computer-based multimedia can improve learning and retention of material presented during a class session or individual study period, as compared to "traditional" lectures or study materials that do not use multimedia [13]-[14]; [1]. According to [15], this improvement can be attributed mainly to *dual coding* of the information presented in two different modalities—visual plus auditory, for example [16]—leading to increased

comprehension of the material during the class session, and improved retention of the material at later testing times [17]. There is general agreement that multimedia presentations are most effective when the different types of media support one another rather than when superfluous sounds or images are presented for entertainment value—which may induce disorientation and *cognitive overload* that could interfere with learning rather than enhance learning [18].

Some studies have suggested that student satisfaction and motivation is higher in courses that use multimedia materials [19]-[20]. In a study, [21] examined the attitudes of over 700 college students toward the use of computer technology in twenty courses representing a wide range of academic disciplines. Students were generally very positive about the use of technology, although females rated the use of technology for learning and classroom instruction somewhat lower than did their male peers. However, not everyone is excited about the new technology. It is important to keep in mind that a poorly developed and/or executed use of multimedia can do more harm than good. The potential pedagogical value and rationale for using classroom media in these three points are as follows:

- *To raise interest level* -- students appreciate (and often expect) a variety of media

- *To enhance understanding* -- rich media materials boost student comprehension of complex topics, especially dynamic processes that unfold over time

- *To increase memorability* -- rich media materials lead to better encoding and easier retrieval

IV. HOW DOES MULTIMEDIA LEARNING WORK?

The promise of multimedia learning—that is, promoting student understanding by mixing words and pictures—depends on designing multimedia instructional messages in ways that are consistent with how people learn. The researcher presents a cognitive theory of multimedia learning that is based on three assumptions suggested by cognitive science research about the nature of human learning—the dual channel assumption, the limited capacity assumption, and the active learning assumption.

The dual channel assumption is that humans possess separate information processing systems for visual and verbal representations, and is derived from the research of [22]-[16] and [23]. For example, animations are processed in the visual/pictorial channel and spoken words (i.e., narrations) are processed in the auditory/verbal channel. The limited capacity assumption is that the amount of processing that can take place within each information processing channel is extremely limited [23]-[24]-[5]-[25]. For example, learners may be able to mentally activate only about a sentence of the narration and about 10 seconds of the animation at any one time. The active learning assumption is that meaningful learning occurs when

learners engage in active cognitive processing including paying attention to relevant incoming words and pictures, mentally organizing them into coherent verbal and pictorial representations, and mentally integrating verbal and pictorial representations with each other and with prior knowledge [26]-[1]. This process of active learning results in a meaningful learning outcome that can support problem-solving transfer.

A framework for the cognitive theory of multimedia learning is presented as follows. In a computer-based environment, the external representations may include spoken words, which enter through the ears, and animations, which enter through the eyes. The learner must select relevant aspects of the sounds and images for further processing. In addition, the learner may convert some of the spoken words into verbal representations for further processing in the verbal channel whereas some of the animation can be converted into visual representations for further processing in the visual channel. In a book-based environment, the external representations may include printed words and illustrations, both of which initially enter through the eyes. The learner must select relevant aspects of the incoming images for further processing. In addition, the learner may convert some of the printed words into verbal representations to be processed in the verbal channel and may even convert some of the illustrations into verbal representations to be processed in the verbal channel. These processes are called *selecting*.

The second set of processes is to build a coherent mental representation of the verbal material (i.e., form a verbal model) and a coherent mental representation of the visual material (i.e., form a pictorial model). These processes are called *organizing*. A third process is to build connections between the verbal and pictorial models and with prior knowledge. These processes are called *integrating*. The processes of selecting, organizing, and integrating generally do not occur in a rigid linear order, but rather in an iterative fashion. Once a learning outcome has been constructed, it is stored in long-term memory for future use. When active learning occurs, the outcome is indexed in long-term memory in a way that allows the learner to use it to solve transfer problems [1].

According to the cognitive theory of multimedia learning, meaningful learning depends on all three of these processes occurring for the visual and verbal representations. Instructional methods that enable and promote these processes are more likely to lead to meaningful learning than instructional methods that do not. According to this theory, learners can engage in active learning (such as the processes of selecting, organizing, and integrating) even when the presentation media do not allow hands-on activity (such as printed text and illustrations, or animation and narration). The challenge of multimedia instructional design is to prime and guide active cognitive

processing in learners so that learners construct meaningful internal representations.

V. PRINCIPLES OF MULTIMEDIA

The researcher identifies some of the most important principles of multimedia learning and what the research says about how they contribute to student learning.

A. *Words and Pictures Are Better Than Words Alone*

People learn better from words and pictures than from words alone [27]. Words include written and spoken text, and pictures include static graphic images, animation and video. The use of both words and pictures lets the brain processes more information in working memory [28]. Narration and video is much more effective than narration and text. Similarly, narration and video appear to be more effective than narration, video and text. Narration and text rely on the same channel to process information [27].

B. *Multimedia Learning Is More Effective When Learner Attention Is Focused, Not Split*

Multimedia applications are more effective when learner's attention is not split. Split attention occurs when the learner is forced to attend to information that is far apart, such as when content is visually far apart on the screen or if it is presented at two separate points in time. When related content is presented together in time visually, learning is more effective [27]. When related content is not presented together, learner attention is split and the brain has more work to do to integrate the disparate sources of information. Words and pictures presented simultaneously are more effective than when presented sequentially [29].

C. *The Presentation of Multimedia Content Should Exclude Extraneous and Redundant Information*

Multimedia learning is most effective when it includes only content that is relevant and aligned to the instructional objectives [30]. Students learned more when extraneous and redundant information was not included in a multimedia presentation. Learning is most effective when interesting and irrelevant information is eliminated because of the brain's limited information processing resources [31].

D. *Multimedia Learning Is More Effective When It Is Interactive and Under the Control of the Learner.*

Not all students learn at the same pace. Research tells us that when learners are able to control the pace of the presentation they learn more. Multimedia presentations are more effective when the learner has the ability to interact with the presentation, by slowing it down or by starting and stopping it. This pacing can also be achieved by breaking the presentation into segments; shorter segments that allow users to select segments at their own pace work better than longer segments that offer less control [30].

E. Multimedia Learning Is More Effective When Learner Knowledge Structures Are Activated Prior to Exposure to Multimedia Content

Learning from multimedia presentations is enhanced when the structures for organizing the information are activated [32]. Helping students recall or acquire structures that will help them organize and understand the information can be accomplished in several ways. Activation can be accomplished by allowing students to preview the content through demonstrations, discussion, directed recall and written descriptions. These preview activities should be directed at activating prior knowledge [[33], signalling what is important, and showing how the content is organized. Activating knowledge helps provide a structure from long term memory to understand and organize the new information from working memory.

F. Multimedia Instruction That Includes Animation Can Improve Learning

When used effectively, animated content can improve learning. Animation appears to be most effective when presenting concepts or information that students may have difficulty envisioning. Animation is more effective when students have the ability to start and stop the animation and view it at their own pace or are able to manipulate various facets of the animation. Animation is more effective if it is accompanied by narration, which makes use of both the auditory and visual channels [34].

G. Multimedia Learning Is Most Effective When the Learner Is Engaged With the Presentation.

Multimedia is most effective when the content and format actively engage the learner. Active engagement helps the student construct knowledge and organize information into meaningful schema [30]. Multimedia that is more personalized engages learners more than multimedia that is less personalized [27]. Presentations that have a more conversational tone tend to be more engaging than those that have a more formal tone. Presentations that use the more familiar - you and I- are more engaging than those that present in the third person [27]. Learners tend to find presentations that use a familiar voice with a familiar accent more engaging than those that use a less familiar voice and accent [35].

H. Multimedia Learning Is Most Effective When the Learner Can Apply Their Newly Acquired Knowledge and Receive Feedback.

Multimedia is most likely to be effective when students are provided with opportunities to apply what they have learned following exposure [27]. This reinforces and strengthens the newly acquired knowledge. Students should be provided with opportunities to integrate what they have learned with their everyday life. Feedback is an important part of the learning process. It is important to provide learners with clear feedback about their progress on an ongoing

basis [36]. Feedback helps keep students informed about their progress and helps them stay engaged. Providing feedback can reinforce what has been learned and can also correct any misconceptions [36].

VI. THEORETICAL BASIS OF MULTIMEDIA ENGLISH TEACHING

A. A. Constructivism

Constructivism was introduced in the early 1990's. It placed emphasis on the learner's active engagement during studying. It is often discussed from two perspectives, cognitive constructivism and social constructivism. According to the cognitive constructivism, knowledge refers to restructuring and reorganizing the experience. Knowledge cannot be simply transmitted to the students but should be acquired through students' experience and discovery [37]. Social constructivism holds that learning is the process of interacting and collaborating either among the students or between the students and the teachers [37]. The function of the education system is to create an environment in which students can reconstruct their knowledge through relating their existing input with the new knowledge. Constructivism encourages students to learn through personal experiences rather than being fed by teachers [6]. Knowledge building is inherently a social-dialogistic process [38]. Knowledge is not obtained only by teaching but by others' help and suitable learning material from constructivism way under a certain social cultural backgrounds and teachers should put new and effective modes, ways, and designing thoughts into multimedia teaching practice [39].

B. Cognitive Psychology

Learners' psychological characteristics and cognitive laws were studied by researchers during the 1970's. Cognition, or mental activity, involves the acquisition, storage, and use of knowledge, and learning is not to acquire knowledge in a passive way but initiative procedure of information acquisition depending on learners' attitudes, demands, interests, habits, and their own backgrounds. From this statement, it can be concluded that an individual is regarded as being an active and constructive being rather than one who is a passive recipient of information, which is why multimedia language teaching and learning is effective. Therefore, a teacher's responsibility is not to fill in the students' brain with a large amount of knowledge but to arouse students' interests and desires to learn. Therefore, multimedia can sustain learners' participation by using the multimedia's integration of text, sound, animation, graphics and images to present the learning content in a multi-dimensional way [40].

According to cognitive psychology, learners can receive information through five senses. [41] proves that the five senses play an effective role in getting information through experiments: 83% information is obtained visually, and 11% is obtained auditorally. Other information is through olfactory organ (3.5%),

tactile organ (1.5%), and taste organ (1%). Multimedia applied in the language class can offer multiple ways to convey the information, including the visual and auditory access. [42] grouped the sensory registers into three parts: the auditory sensory register, the visual sensory register and the tactual sensory register. They are very essential because they give the learners some outer stimuli to acquire the knowledge. In the traditional classroom, students are always exposed to the auditory sensory register. However, auditory sensory register might have some negative effect on students resulting from the poor or inaccurate pronunciation of the language by the teacher. Multimedia, the modern projector, can offer the authentic English materials conveniently and accurately in both visual and audio ways.

C. Krashen's Affective Filter Hypothesis

This hypothesis is one of the affective factors that affect the language acquisition; these affective factors need not be related to linguistic, they can be social or psychological [43]. According to [43], a number of emotional variables, including anxiety, self-doubt, motivation, self-confidence, play an important role in the second language acquisition. Learners' affective factors are just like the adjustable filter, which freely passes or blocks the acquisition of new material. Learners can acquire the knowledge effectively with high motivation, low self-doubt, and low anxiety. On the other hand, low motivation, low self-confidence, and high anxiety can combine to form a mental obstacle to prevent learners from acquiring the information. "Multimedia applied in teaching can create a relaxing and non-threatening learning environment in which learners' motivation and self-esteem can be promoted and learners' anxiety can be reduced" [44].

VII. TEACHERS' AND THEIR ROLES IN MULTIMEDIA ENVIRONMENT

There is an increasing awareness amongst educationalists, researchers and administrators that the introduction of the multimedia into educational institutions calls for a change in learning and teaching patterns. For example, 73% of the experts polled for the *Delphi Study* (Vollstädt – forthcoming publication) conducted for the German Federal Ministry of Education and Research over a period of two years and culminating in a symposium in February 2002, believe that the multimedia will lead to a major change in the culture of learning and teaching. They believe that teachers have some important roles in multimedia. They are as follows:

A. Facilitator and Guide

As facilitators, teachers must know more than they would as directive givers of information. Facilitators must be aware of a variety of materials available for improving students' language skill, not just one or two texts. The language textbook is no

longer the sole source of information. Multimedia programs offer sound and vision, showing how native speakers interact; electronic dictionaries and encyclopedias are available for instant reference; online newspapers provide up-to-date information on current affairs in the countries of the target language; (official) websites offer background information on policy, tourism, political views. Teachers need to know how to teach learners to use all this material effectively. As facilitators, teachers have to be flexible, responding to the needs that students have, not just what has been set up ahead of time based on a curriculum developer's idea of who will be in the classroom [45] cited in [10].

B. Integrator

Teachers must not only know and understand the functions of different media available in a media-rich environment, they should also know when best to deploy them. In the construction of projects with their learners, they need to guide learners in the use of word-processing, graphics and presentation programs. Integration of audio-visual elements will bring home to learners the fact that the foreign language environment of the target language is as vibrant and multi-faceted as the society in which they live [45], cited in [10].

C. Researcher

Teachers need to know how and where they can access information for their own and for their learners' use. Knowledge and competent use of search engines and reliable information sources are essential. For those concerned with mainstream education, the propriety and reliability of information sources must figure as one of the main criteria for the selection of background material. Familiarity with the use of electronic tools for language analysis will enable teachers to develop their own linguistic and professional competence and increase their confidence in the use of the language [45], cited in [10].

D. Designer

In order to organize successful learning situation, teachers need to learn how to put together tasks and materials to guide their learners to successful execution and conclusion of their projects. The design of learning situation is much more complex, requiring higher order skills involving researching and evaluating source materials, setting overall aims and objectives and breaking down tasks into meaningful and manageable sequences. Encouragement, help and advice is needed in terms of examples of good practice which may be emulated or serve as sources of inspiration for similar undertakings. If this new role of language teachers is accepted and encouraged by educational authorities, the implications in terms of duties and responsibilities need to be considered [45], cited in [10].

E. Collaborator

Collaboration with colleagues will lighten the burden and make the efforts more fruitful and rewarding. Obviously, co-operation within a specific

teaching institution will prove more efficient, producing tailor-made responses to the local situation, but the new media provide possibilities for exchange between institutions and beyond (national) borders. Teachers of the less widely taught and used languages could well profit from such internet exchanges, helping them to overcome the sense of isolation many experience in their teaching situation [45], cited in [10].

VIII. LEARNERS AND THEIR ROLES IN MULTIMEDIA ENVIRONMENT

This is little doubt that multimedia can give learners more information and resources and is one of the advantages of multimedia English teaching. But more information and resources do not mean more effective learning [46]. For example, when the video films are being played in the class, both visual and audio information are presented to the students. In this situation, students have become the determinant elements to learn the detailed information. They can select what they think important and useful for them. However, some students involved in this kind of video English class may watch the film for fun and neglect the material. Maybe, they have got used to the didactic and duck-stuffing approach and waiting for the teachers' instructions. This passive attitude of learning destroys the effect of multimedia language learning [46].

Students need to learn how to use the computer before they use it in their study. Sometimes it is necessary for students to use computer to do research or communicate with native speakers, teachers or peers. The students who always feel uncomfortable with using the computer often make mistakes when learning in the multimedia classroom [47].

IX. RELATIONSHIP BETWEEN MULTIMEDIA AND LEARNING

Experts and scholars [48]; [49] pointed out that the advantages of multimedia assisted instruction include strengthening learning motivation and attention of learners, increasing interactivity, satisfying individualized demand, monitoring the learning condition of learner, and non-space-time restricted Internet communication allowing the learners to learn by themselves at any time and any place [50]. The relevant studies of multimedia and language learning are as follows [51].

A. Multimedia Provides Abundant Information

Multimedia provides all kinds of information, creates abundant learning scenario, and combines existing technology, making language learning to have more assisted resources. In addition, online multimedia could also help the learners to cooperate with and learn from each other. 3D environment could maintain learners' high motivation, increase interaction, promote schoolwork achievements, create virtual scenario, integrate various kinds of media contents and

technology into a single interface, and help learners to learn language [52].

B. Multimedia Contributes to Long-Term Memory

Animation includes text and pictures that could promote the production of multiple representations and is contributive to long-term memory. The three characteristics of animation, picture, movement, and simulation, could present more intact knowledge information and strengthen learning [53]. Based on Mayer's theory, [54] found that the animated content combined by text and pictures allows the learners to build psychological representation actively, so they could recall their memory easier when answering questions, namely the effect of long-term memory could be better.

C. Need to Avoid Cognition Overload

From the study regarding multimedia's influence towards children's vocabulary learning, [55] found that learning materials only showed text provided the best effect for children's vocabulary memory because children's cognitive ability was not as good. Learning materials only showed pictures or pictures plus text would cause cognitive overload to them. However, [55] also believed that pictures could create more abundant learning scenario, which is helpful to elaborating the meaning of text and profound understanding.

D. Specific Learning Experience

[56] addressed "cone of experience", stating that "practice" directly was the easiest way for people to learn, visual media with "pictures" was the second easiest, and the learning experience provided by "Abstract" symbols was the third easiest. Therefore, the multimedia that blends "picture" and "abstract" provides considerably ideal degree of realism, which is corresponding to the model of enactive representation, iconic representation, and symbolic representation that a psychologist, Bruner, brought up.

E. Multimedia Can Arouse Learning Motivation

Multimedia can compose teaching materials using multiple methods. Compared to such static media as print media of textbooks and wall chart model, the acoustic optic special effect and creative design of computerized multimedia are more lively and interesting, so it could arouse the extrinsic motivation of learners even more. In addition, the multimedia composed of high-quality teaching design could help arouse the intrinsic motivation of learners as well.

F. Creating Active Learning Activities Is Contributive to the Communication between Teachers and Students and Between Classmates

The learners only need to pass their desires through text, images, and sounds, and then they could decide the courses that they accept according to individual differences once the teachers approve their desires, and they could also have move control power

to learn according to their own ideas. In addition, the learners can communicate with the teachers through all kinds of communicative media; when the learners create their own study environment, they can study more calmly and discuss with classmates at the same time.

X. MULTIMEDIA AND ITS STRENGTH ON ENGLISH TEACHING

A. High Effectiveness

The use of video has been found to effectively develop listening skills and grammar [57]. The use of a teacher-controlled multimedia tool increased the amount of communicative discourse in the classroom by both teachers and students. In this multimedia environment, students will become more active and autonomous. They will be engaged in the language learning effectively via the attractive pictures, animation or sound. They collaborate with their classmates to solve a problem or complete a project in a relaxing environment. Students can learn on their own according to their plans or purposes and teachers can act more as a guide rather than a knowledge-giver. This environment increases the effectiveness of language learning and teaching [58].

B. Diversity

Multimedia is the combination of sound, text, computer data, animation video, etc. So teachers have multiple conveying and displaying means to present the teaching material to arouse students' interest, which would make the whole class more effective. For example, if encountering a boring topic but a necessary one, teachers can play a piece of light music at the beginning of the class to create a relaxing environment, which can help students become more focused. Teachers can make use of visual images relative to the boring topic to arouse students' interest. Naturally, students can get different kinds of information using computer. Computers can display the written text and use sounds, pictures, and video simultaneously to convey the input in different ways, which assists students to understand the information more easily. Through simulation and other techniques, computer can present abstract things in a concrete way. Besides, computers also have access to various types of aids, such as dictionaries, pictures, graphs, and voice [59].

C. High Efficiency

In traditional English classrooms, teachers have to spend time on writing the vital language points and important information on the chalkboard. In the multimedia classrooms, the teacher can use the button and keyboard to show significant content in a few seconds as long as he or she is familiar with the operation of the multimedia. Moreover, the microphone and hi-fi stereo can reduce the teacher's laborious work. With the courseware teachers do not need to write the same language points several times

for the different classes, which will not only save a lot of time in the class, but also release teachers from heavy labor [7]. Besides, as the internet has been brought in the teaching English class, multimedia is connected with the network and it becomes a "hypermedia", which provides a number of services including the e-mail, video conference, chat room, etc. [60] demonstrated the following strength of hypermedia:

Hypermedia consists of different media and integration, such as text, graphic, animation, audio, etc. not only have various media and their integration greatly enriched the learning environment, but also the production of multimedia teaching material. Learners and hypermedia systems can freely realize man-machine interaction. The learner's CAI system allows the learner to make various study commands on his own and can effectively distinguish these commands. On the other hand, responding to the learner's requirements, the study content and the study process given by the system are in accordance with the learner's study level. Information to the students for the purpose of English learning and accelerate the process of information searching. When we need some related information, we can easily find it from the large amount of information stored on the internet. With a wealth of updated information from the internet, multimedia is popular with the teacher who need to update the teaching materials [55].

XI. RELATIONSHIP BETWEEN MULTIMEDIA AND TEACHING

The most common function of multimedia is to assist or support the teacher. The appropriately-designed instruction media could not only assist teaching, but also promote learning effect; their relationship is as follows [61].

A. Promote Interaction between Teachers And Students

The use of multimedia to carry out discovery or discussion instruction to change the role of teacher in teaching and arrange students to participate appropriately; teachers change from the messenger of instruction information to the operator of instruction.

B. Help Teachers to Teach Suitably

The use of multimedia enables the teachers to have more flexibility and change while teaching, and the development of multimedia enables the teachers to understand the learning types and differences of students when teaching.

C. Promote Students' Study Capacity

The learners can practice themselves through multimedia repeatedly to train their ability to react and this is not restricted by time and space; therefore, they could learn by themselves to obtain limitless learning capacity besides the limited teaching time.

D. Blend the Multimedia Design With Diverse Teaching Materials

The most convenient teaching aid for learning the second language would be computer undoubtedly. The modern second language teaching method promotes and flaunts authentic, meaningful, and interesting, so cooperating with computer is the best means to achieve this purpose. Multimedia could combine the picture, animation, sound, and text to assist learners, where the picture or animation could offset the deficiency of text and sound could allow the learners to experience the real scenario, which is favorable to the learning of language [62].

XII. CONCLUSIONS

Multimedia instruction creates the opportunity for learners to improve their learning effectively. Only under the background of effective education teachers can use advanced educational theory and fulfill the target of English teaching by utilizing modern education technology reasonably. It is very important to understand and explore each individual's learning through multimedia. Analyzing one's own particular multimedia learning can be very helpful and beneficial to the student by aiding them in becoming more focused on an attentive learner, which ultimately will increase educational success. Discovering this multimedia learning will allow the student to determine his or her own personal strengths and weaknesses and learn from them. Teachers can incorporate multimedia learning into their classroom by identifying the learning styles of each of their students, matching teaching methods to learners' multimedia learning for difficult tasks, strengthening weaker learners' multimedia learning through easier tasks and drill, and teaching students, selection of learning strategies. It is important for students to have multiple learning opportunities and teachers should achieve a match between teaching strategies and the students' unique multimedia learning. Teachers should have the time to develop and reinforce their expertise as well as the opportunity to spread their information, ideas, findings, and experience. Teachers should know the needs of their students as well as their necessary requirements - this is vital if multimedia are to be used in universities effectively. Multimedia that is effective in learning and teaching doesn't simply consist of using multiple media together, but combining media mindfully in ways that capitalize on the characteristics of each individual medium and extend the learning and teaching experiences. Teachers should first determine what outcomes they are trying to achieve and then select elements well suited for these outcomes. Then they need to make sure that the multimedia elements are designed well and work well together. Determining when to use multimedia and designing good multimedia require real consideration and benefits from a team of people with instructional design, graphic arts, information architecture, and usability skills. Although multimedia offers teachers enormous opportunities for making

learning and teaching environments meaningful and effective, multimedia by itself does not assure a good learning and teaching environment. Multimedia cannot provide *the* answer to the problems of resourcing, motivation, and standards in education. Technology is not a proxy for time and money - it needs to work effectively. The purpose of using multimedia tools is to find the best ways for both students to learn effectively and teachers to teach efficiently.

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REFERENCES

- [1] R. E. Mayer, *Multimedia learning*. New York: Cambridge University Press, 2001.
- [2] J. H. Larkin and H. A. Simon, "Why a diagram is (sometimes) worth ten thousand words," *Cognitive Science*. Vol. 11, No.1, 65, 1987.
- [3] C. G Penney, "Modality effects and the structure of short-term verbal memory," *Memory & Cognition*, Vol. 17, No. 4, 398, 1989.
- [4] S. E. Ainsworth, "A functional taxonomy of multiple representations," *Computers and Education*. Vol. 33, No. 2/3, 131-152, 1999.
- [5] J. Sweller, "Implications of cognitive load theory for multimedia learning," In R. E. Mayer (Ed.). *The Cambridge Handbook of Multimedia Learning*. New York: Cambridge University Press, 2005.
- [6] D. Nunan, *Second language teaching and learning*. Boston: Heinle & Heinle Publishers, 1999.
- [7] C. R. Wang, A comparative study on the traditional model of English teaching and multimedia computer aided English teaching. *Journal of Hunan First Normal College*. 8(3), 56-58, 2008.
- [8] J. Acha, The effectiveness of multimedia programmes in children's vocabulary learning. *British Journal of Educational Technology*, 40(1), 23-31, 2009.
- [9] J. E. Schwartz and R. J. *Essentials of Educational Technology*. Boston: Allyn and Bacon, 1999.
- [10] A. Pourhosein Gilakjani and S. M. Ahmadi, Multimedia and Its Effect on the Quality of English Language Teaching. *Celt*, Vol. 11, No. 1, pp. 14-35, 2011.
- [11] R. Greenlaw and EB. In-line/On-line. In *Fundamentals of the Internet and the World Wide Web*. Boston: McGraw-Hill, 1999.
- [12] C. D. Maddux, J. Johnson and J. Willis, "Learning with tomorrow's technologies," In *Educational Computer*. Boston: Allyn and Bacon, 2001.
- [13] J. D. Fletcher, "Evidence for learning from technology-assisted instruction," In H. F. O'Neil, Jr. & R. S. Perez (Eds.), *Technology applications in education: A learning view* (pp. 79-99). Mahwah, NJ: Lawrence Erlbaum Associates, 2003.

- [14] R. Kozma, Learning with media. *Review of Educational Research*, 61, 179-211, 1991.
- [15] L. J. Najjar, Multimedia information and learning. *Journal of Multimedia and Hypermedia*, 5, 129-150, 1996.
- [16] J. M. Clark and A. Paivio, "Dual coding theory and education," *Educational Psychology Review*, 3, 149-170, 1991.
- [17] R. E. Mayer and R. Moreno, A split-attention effect in multimedia learning: Evidence for dual processing systems in working memory. *Journal of Educational Psychology*, 90, 312-320, 1998.
- [18] R. E. Mayer, J. Heiser and S. Lonn, "Cognitive constraints on multimedia learning: When presenting more material results in less understanding," *Journal of Educational Psychology*, 93, 187-198, 2001.
- [19] H. Astleitner and C. Wiesner, "An integrated model of multimedia learning and motivation," *Journal of Educational Multimedia and Hypermedia*, 13, 3-21, 2004.
- [20] D. N. Yarbrough, "A comparative analysis of student satisfaction and learning in a computer-assisted environment versus a lecture environment," *Journal on Excellence in College Teaching*, 12, 129-147, 2001.
- [21] T. J. Shuell and S. L. Farber, Students' perceptions of technology use in college courses. *Journal of Educational Computing Research*, 24, 119-138, 2001.
- [22] A. Paivio, *Mental representations: A dual coding approach*. Oxford, UK: Oxford University Press, 1986.
- [23] A. Baddeley, Working memory. *Science*, 255, 556-559, 1992.
- [24] P. Chandler and J. Sweller, "Cognitive load theory and the format of instruction," *Cognition and Instruction*, 8, 293-332, 1991.
- [25] J. J. G. Van Merriënboer, *Training complex cognitive skills*. Englewood Cliffs, NJ: Educational Technology Press, 1997.
- [26] R. E. Mayer, "Multimedia aids to problem-solving transfer," *International Journal of Educational Research*, 31, 611-623, 1999a.
- [27] R. E. Mayer, "Principles of multimedia learning based on social cues: personalization, voice, and image principles," In R. E. Mayer, (Ed.) *The Cambridge Handbook of Multimedia Learning*. New York: Cambridge University Press, 2005.
- [28] J. Sweller, *Instructional Design*. Melbourne: ACER Press, 1999.
- [29] R. E. Mayer and V. K. Sims, "For whom is a picture worth a thousand words? Extensions of a dual coding theory of multimedia learning," *Journal of Educational Psychology*, 86, 389-401, 1994.
- [30] R. E. Mayer, *Learning and Instruction*. Upper Saddle River, NJ: Prentice Hall, 2003.
- [31] S. Kalyuga, P. Chandler, J. Sweller, Managing split attention and redundancy in multimedia instruction. *Applied Cognitive Psychology*, 13, 351-371, 1999.
- [32] E. Pollock, P. Chandler and J. Sweller Assimilating complex information. *Learning and Instruction*, 12, 61-86, 2002.
- [33] S. Kalyuga, "Prior knowledge principle in multimedia learning," In R. E. Mayer (Ed.). *The Cambridge Handbook of Multimedia Learning*. New York: Cambridge University Press, 2005.
- [34] R. E. Mayer, P. Chandler, "When learning is just a click away: Does simple interaction foster deeper understanding of multimedia messages?" *Journal of Educational Psychology*, 93, 390-397, 2001.
- [35] R. E. Mayer, K. Sobko and P. D. Mautone, "Social cues in multimedia learning: role of speakers' voice," *Journal of Educational Psychology*, 95, 419-425, 2003.
- [36] J. P. Gee, Learning by design: Good video games as learning machines, *E-Learning*, (2), 5-16, 2005.
- [37] C. Fosnot, *Constructivism: Theory, perspectives, and practice*. New York: Teachers College Press, 1996.
- [38] T. M. Duffy and D. J. Cunningham, *Constructivism: Implications for the design and delivery of instruction*. New York: Simon & Schuster Macmillan, 1996.
- [39] W. P. Zhou, "Teaching research: On the situation and consideration of English teaching through multimedia in China," *Theory and Practice of Trade Union*, 18(5), 83-85, 2004.
- [40] M. W. Matlin, *Cognition*. New York: Rinehart and Winston, Inc, 1989.
- [41] V. L. Trylong, "Aptitude, attitude, and anxiety: A study of their relationships to achievement in the foreign language classroom," *Annual Review of Applied Linguistics*, 21, 112-126, 1987.
- [42] D. V. Howard, *Cognitive psychology*. New York: Macmillan Publishing Co. Inc, 1983.
- [43] S. P. Krashen, *Input hypothesis*. London: Longman Group Ltd, 1985.
- [44] M. Warschauer, "Computer-assisted language learning: Theory and practice," *Modern Language Journal*, 84(4), 470-480, 1997.
- [45] W. Vollstädt, *Zukünftige Entwicklung von Lehr- und Lernmedien: Ausgewählte Ergebnisse einer Delphi-Studie* Cornelsen Stiftung, Berlin. Papers from the Neue Medien und Schulentwicklung Symposium, 25. University of Bielefeld, 2002.
- [46] G. R. Morrison and G. J. Anglin, "Research on cognitive load theory: Application to e-learning," *Educational Technology Research and Development*, 53, 94-104, 2005.
- [47] H. Z. Gao, *The feasibility and necessity of using multi-media computer to assist foreign language teaching*. Unpublished master's thesis, Liaoning Normal University, Liaoning, China, 2005.
- [48] T. Xie, Using Internet relay chat in teaching Chinese. *CALICO*, 19(3): 513-524, 2002.

- [49] C. Shelly and C. Cunter, *Teachers discovering computers: Integrating technology and digital media in the classroom* (4th ed.). Boston: Thomson Course Technol, 2006.
- [50] H. J. Cheng, *The Investigation of the Relationships between Current Development of ALL-TCSL Teachers and the Training Programs*. Central Chinese Literature News (in Chinese), 2009.
- [51] Y. J. Wang, *The Design of Situational Animated Material for Daily Life Chinese and Analysis of Using Behavior*. National Taiwan Normal University (in Chinese), 2010.
- [52] G. Jones, T. Squires and J. Hicks, "Combining speech recognition/natural language processing with 3d online learning environments to create distributed authentic and situated spoken language learning," *J. Educ. Technol. Syst.*, 36(4): 375-392, 2008.
- [53] R. E. Mayer and R. Moreno, "Animation as an aid to multimedia learning," *Educ. Psychol. Rev.*, 14 (1): 87-99, 2002.
- [54] L. C Jones and J. L. Plass, "Supporting listening comprehension and vocabulary acquisition in French with multimedia annotations," *Modern Lang. J.*, 86: 4, 2002.
- [55] E. Dale, *Audio-visual methods in teaching*. New York: Holt, Rinehart & Winston, 1946.
- [56] D. B. Rubin, *Multiple imputation for non-response in surveys*. New York: J. Wiley & Sons, 1987.
- [57] J. Johnstone and L. Milne, "Scaffolding second language communicative discourse with teacher-controlled multimedia," *Foreign Language Annal*, 28, 315-329, 1995.
- [58] R. E. Mayer, J. L. Plass, D. M. Chun and D. Leutner, "Supporting visual and verbal learning preferences in a second-language multimedia learning environment," *Journal of Educational Psychology*, 90, 25-36, 1998.
- [59] G. Lu, H. W. Wan and S. Y. Liu, "Hypermedia and its application in education," *Educational Media International*, 36(1), 41-45, 1999.
- [60] S. H. Hsu, *A Study on the Forms of Layout and Users' Preference in the Content of Interactive CD Titles--An Example of Children' English Learning Materials*. Yunlin University of Science and Technology (in Chinese), 2004.
- [61] D. M. Ye, *Modern Chinese language teaching and computer media*. International Conference on Internet Chinese Education (2nd). Taipei, 2001.

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