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The Effects of Interactive Multimedia on English Language Pronunciation Performance of Pulils in the Nigerian Primary Schools

ADENIYI, F.Oyeyemi
Department of Arts Education,Faculty of Education,University of Ilorin, Ilorin, Kwara State

OLOWOYEYE, C. Abioye
Department of General Studies,College of Education, Ikere ,Ekiti State

ONUOHA, Udochukwu Daniel
Department of Arts Education,Faculty of Education,University of Ilorin, Ilorin, Kwara State

Abstract
This paper presents a research carried out to x-ray the effects of using interactive multimedia on the English language pronunciation performance of pupils in the Nigerian primary School. The simple observation technique and a well-structured questionnaire were used coupled with class test to show whether the effect is negative or positive. Pupils from grade one to grade five were randomly selected and all the class teachers responded appropriately to the questionnaires administered to them. A well-structured formative test was also given to the pupils in order to ascertain the status of effect and the level of impact of interactive digital multimedia on English Language pronunciation performance of pupils. This paper illustrates that adopting the interactive multimedia technology in education makes it possible to achieve effective teaching and training in multiple domains which was not possible in the traditional text based environment.
Keywords: Interactive digital multimedia, English language pronunciation, performance.

Introduction

One of the formidable challenges that learners of English Language face especially in the second language context is pronunciation of English words. It is partly at this stage that the level of competence and performance are weighed. Although, writing effectively poses the highest challenge in the entire process of language acquisition. It is imperative to state clearly here that education is not language acquisition, but language acquisition is a viable tool for education. This may probably be the rationale behind the compulsory status the languages, especially the English language has enjoyed for many decades in our national curriculum.

Education, according to Coombs (1970) consists of two components, inputs and outputs. According to him, inputs consist of human and material resources and outputs are the goals and outcomes of the educational process. Both the inputs and outputs form a dynamic organic whole and if one wants to investigate and assess the educational system in order to improve its performance, effects of one component on the other must be examined (Jekayinfa 2005). The major constraint most schools battle with today is always how to provide sufficient ***input***s in order to meet the demands of the ***output.*** 21st century education has demanded more technological and scientific inputs that requires education stakeholder to adopt and adapt modern innovation and *edu-techonological* devices in instructional delivery in order to stay balanced within demanding times. (Onuoha 2014). Bax (2000), believes that one criterion to follow when using technology in the classroom is its ability to contribute something different from non-ICT approaches. The use of multimedia in teaching and learning leads to higher learning and achievement.

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 better avenue for improving pupils' comprehension about any language. Stakeholders try to find the most effective way to create a better foreign language teaching and learning environment through multimedia technologies (Abbas 2012). According to him, 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 increase the likelihood that people can integrate a large amount of information

Merits of interactive multimedia compared to using single conventional pedagogical practices might result from the ability to select among media to present well-structured instruction, using more than a single illustration to improve memory, encouraging learners' active classroom participation and delivering more information at once. Students learn best by seeing the significance 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 using interactive multimedia.

According to Nunan (1999), 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. They are somewhat passive. As a result of this practice in recent years, more students show visible and in rare occasion silent disdain of this teacher-centered model of English language learning and complain that the English class is very boring and often monotonous. 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 specially in learning pronunciation.

Problems with learning good pronunciation begin at Elementary school or even at Kindergarten especially in a second language situation. It seems that many teachers are not prepared to teach this area of English to young learners and so, pronunciation activities are very often skipped because they are considered a waste of time and they prefer to devote some more time to grammar. As a result, children are not able to communicate with others properly in their older life. Studies have shown that children who were not taught good pronunciation at the early age have problem with understanding the spoken language and they cannot even produce sound properly (Ravin 2011)

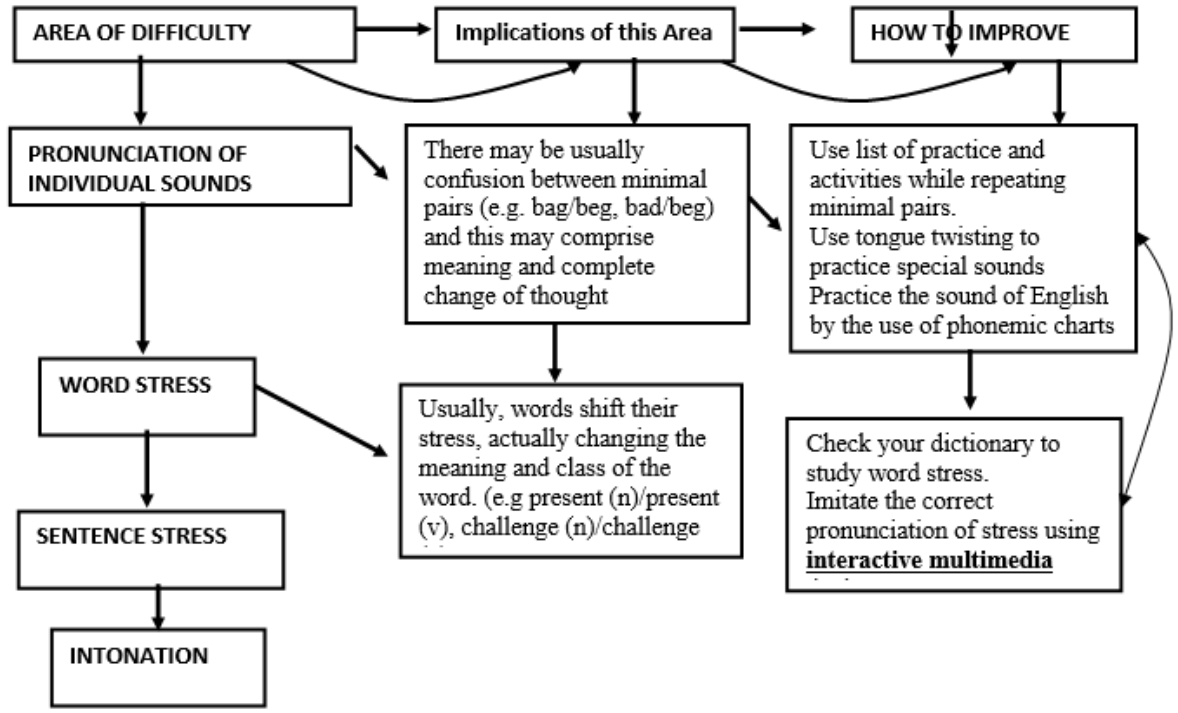


Figure I *shows some practical tips to tackle pronunciation problems and improve good pronunciation. (Adapted from DR. Gerard Sharping of Centre of Applied Linguistics, University of Warwick, UK)*

With the advent of technology, interactive multimedia is increasingly accepted as a means of English language instruction. Teachers affirmed that teaching English with interactive multimedia make 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 interactive multimedia classrooms, the teacher can use the button and keyboard to show significant content in a few seconds since they have in-depth mastery of the multimedia applications. In addition, the appreciable sound from the multimedia reduces the teachers' laborious work without replacing the core and central role the teachers play during instructional activities. 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 (Wang 2008).

Multimedia can provide a large amount of instructional information to the students for the purpose of English learning and accelerate the process of information storage, retrieval and usage. 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 (Abbas 2012). Realizing the importance of using interative multimedia in language teaching, computers have become viable and 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.

Among the four language skill, pronunciation is most associated to speaking and reading than others,

but there is a strong-chained connection among the four skills that makes mastery in one skill to affect other skills. Imitation and guided practice are viable skills for effective English pronunciation. Good schools are always rated by the ability of their pupils or students to produce English sounds (words) correctly. The phonics instruction model in basic classes has yielded tremendous result in this aspect. Studies have revealed that only very few schools in North-Central geo-political zone have full interactive platform for using the phonic instructions with all the media facilities and supports it needs. Pronunciation is an essential component not only for learning a language but also for using that language. For this reason, the learning of proper pronunciation is a delicate area; students need to feel free to make mistakes and practice their pronunciation in order to increase their accuracy, but there are also times when pronunciation must be quickly corrected so that it does not impede the students' ability to understand and be understood (Evans 2009).Early pronunciation instruction helps students understand how to form sounds that are not found in their mother tongue. It also contributes to decoding ability. Bilash (2012) suggested that in order to avoid some of the pitfalls associated with poor pronunciation, it is important to hear as much of the target language (TL here is English language or any other language like Arabic of French) as possible. This exposure to the TL can be from the teacher, from films or media clips, songs or audio clips, guest speakers and one's peers. In general, realistic goals surrounding pronunciation are:

- Consistency: the pronunciation should become smooth and natural
- Intelligibility: the pronunciation should be understandable to the listeners
- Communicative efficiency: the pronunciation should help convey the meaning intended by the speaker

Good pronunciation comes from a lot of technical knowledge on the part of the teacher about placement of the mouth and on the effective utilization of interactive multimedia that are programmed to show and produce accurate English sounds and meaning, especially in matching sounds with meaning (phonics instruction).**Phonics** is a method for teaching reading and writing the English language by developing learners' phonemic awareness—the ability to hear, identify, and manipulate phonemes in order to teach the correspondence between these sounds and the spelling patterns (graphemes) that represent them.The goal of phonics is to enable beginning readers to decode new written words by sounding them out, or in phonics terms, *blending* the sound-spelling patterns. Since it focuses on the spoken and written units within words, phonics is a sub-lexical approach and, as a result, is often contrasted with whole language, a word-level-up philosophy for teaching reading (Wikipedia 2014)

The status and place of English language cannot be over-emphasized. It can be viewed from many perspectives – as a national language, language of commerce of industry, language of classroom interaction and discipline, language of social media and internet etc. English language has succeeded to a greater extent in bringing a sort of balance among the Nigerian populace that is characterized by multi-ethnicity and multi-lingualism (Onuoha 2014). As a world language, it has enjoyed wide usage compared to other languages like French, Arabic, Chinese etc. It becomes difficult to evaluate any product without reading the English version of the product's description. It takes an intellect to grasp the intellectual realities of the language.

There is a strong need for an alternative technique of teaching the children if the Millennium Development Goal of better environment and education for all in 2015 will be attained (Isiaka 2007). This need, especially in Nigeria situation is multifaceted since government efforts are not commensurate to their ceaseless promises and political agenda and some private establishments that supposed to supplement the ephemeral strides of government have become a sort of glorified centres where examination malpractice and other anti-educational activities are perpetuated (Onuoha 2013).

Multimedia may be defined in multiple ways, depending upon one's perspective. Typical definitions include the following: Multimedia is the use of multiple forms of media in a presentation (Schwartz 1999); Multimedia is "information in the form of graphics, audio, video, or movies. A multimedia document contains a media element other than plain text (Greenlaw 1999). 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 (Fletcher 2003), cited in (Kozma 1991)

Underlying Principle of using the Interactive Multimedia

There are many merits of using the interactive multimedia in classroom during instructional activities. 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 "usual" lectures or study materials that do not use multimedia (Kozma 1991). Najjar (1996) opined that such improvement can be credited primarily to *dual coding* of the information presented in two diverse modalities—visual plus auditory. 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 (Meyer 1998).

Some studies have suggested that student satisfaction and motivation is higher in courses that use multimedia materials (Astleitner and Wiesner 2004).In a study, (Shuel and Farber 2001)observed 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. 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 ability to memorize*- rich media materials lead to better encoding and easier retrieval

The promise of multimedia learning—that is, promoting learner's understanding by mixing words and pictures—depends on designing interactive multimedia instructional messages in ways that are consistent with how people learn (Abbas 2012). Cognitive scientists believe that active 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 (Meyer 2005). The teacher must select relevant aspects of the interactive multimedia such as sounds and images for further processing in order to actualize the intended instructional content and objectives.

The researcher, during classroom observation noted some of the most important guidelines in using the interactive multimedia in learning English pronunciation:

i. ***Learning English pronunciation is better when verbal expressions and motion images are combined***
People learn better from words and pictures than from words alone (Meyer 2005). Words include written and spoken text, and pictures include static graphic images, animation and video. The use of both words and pictures allows the brain to process more information in the memory of a learner during instructional activities. Learners learn pronunciation effective while listening to a narration. Interactive multimedia provides an avenue where narration and visual presentation can be used simultaneously.

ii. ***Using animation can improve learning pronunciation***
When used effectively and correctly, animated content can improve learning. Animation proves to be very useful when presenting ideas or information that students may find difficult to conceptualize. 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 (Kalyuga 2005). This is why the importance of multimedia, no matter how highly appreciated and rated cannot take place of the competent teacher.

iii. ***Learning pronunciation with the interactive multimedia is highly appreciated when learners pay focused attention and irrelevant materials removed.***
Multimedia applications are more effective when learners' attentions are captured and focused on the lesson. Confusion arises when learners grapple with extraneous phenomena like sudden display cookies, uncensored advert etc. Students learned more when extraneous and redundant information were not included in a multimedia presentation. Learning is most effective when non-interesting and irrelevant information are eliminated because of the brain's limited information processing ability especially as it regards multi-tasking exercises since young learners cannot demarcate or manage distraction. When related content is not presented together, learners' attention are divided and the brain has more work to do to integrate the disparate sources of information. When related content is presented together in time visually, learning is more effective (Meyer 2005). Learning with the interactive is most effective when it includes only contents that are relevant and aligned to the lesson objectives. Words and pictures presented simultaneously are more effective than when presented sequentially.

iv. ***Learning with interactive multimedia is more effective when it can be manipulated by both the teacher and 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. The teacher who is completely in control of the whole instructional activities should be able to carry the whole intellects along. This is why the researcher observed that in Chaste Intellect international school, teachers relate to learner at their levels of cognitive ability, hence learners are categorized as *'runners', 'walkers'* or *'crawlers'*. Teachers ensured that these three categories of learner are balanced during instructional activities with the aid of interactive multimedia since all of them can manipulate and use them individually without over-stimulating and under-stimulating learners.

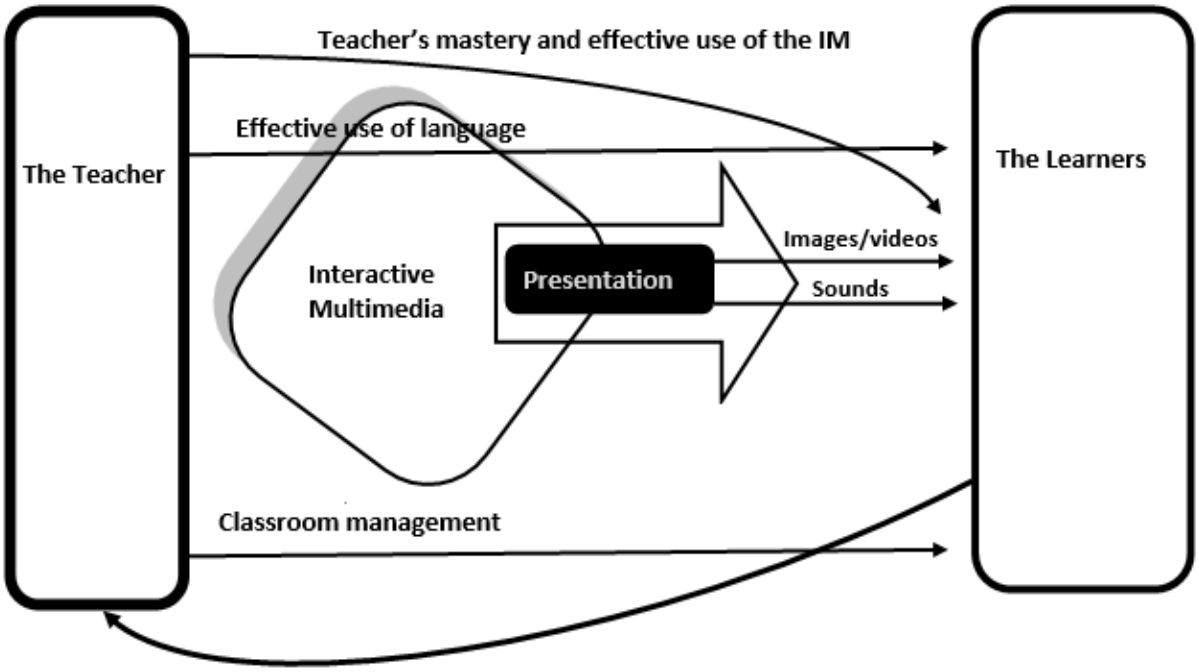
v. ***Learning with interactive media is more effective when learner Knowledge are activated prior to exposure to Multimedia Content***

Learning from multimedia presentations is enhanced when the structures for organizing the information are activated (Pollock, Chandler and Sweller 2002). 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 (Kalyuga 2005), indicating 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.

vi. ***Leaning with aid of the interactive multimedia 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 multimedia that is less personalized. This may depend on learners' constructs, hence it can vary. 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 (Abbas 2012)

Figure II: *Relationship between the teacher, interactive multimedia and the learner*



vii. ***Learning with aid of interactive multimedia is effective when the learner can apply their newly acquired knowledge to other subjects and receive feedback.***

The use of interactive multimedia is most likely to be effective when learners are allowed to apply what they have learned following exposure (Meyer 2005). This reinforces and strengthens the newly acquired knowledge. Learners are provided with opportunities to incorporate what they have acquired with their everyday life. Feedback is an important part of the learning process. The essence of feedback is really important because it draws the attention of the teacher to appraise and assess certain areas of their instructional procedure. It is important to provide students with clear feedback about their development on a continuing basis. 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 (Gee 1996).

Interactive Multimedia and Its Strength on English Pronunciations

Multimedia is the combination of sound, text, computer data, animation video, etc. Therefore, teachers have multiple platforms to convey and display their teaching material to arouse students' interest, which would make the whole class more effective. For example, if encountering a boring topic but a required 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. The use of jolly-phonics in teaching language skills has been most effective with the use of interactive multimedia. 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 indifferent ways, which assists learners 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 (Lu 1999).

The use of video has been found to effectively develop listening skills and grammar (Johnstone and Milne 1995). Effective listening will most likely culminate to improved pronunciation of English words. The use of a teacher-controlled interactive multimedia tool increased the amount of intellectual discourse in the classroom by both teachers and learners. In this interactive multimedia environment, learners will become more active and spontaneous to the acquisition of new words and how they are produced correctly. They will be engaged in the language learning effectively via the striking pictures, simulations or sound. They work together with their classmates to solve a problem or complete an assignment in a comforting atmosphere. Students can study 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 (Mayer 1998).

In the usual English classrooms, teachers have to spend time on writing the vital language points and important information on the chalkboard. With use of interactive multimedia, 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, hi-fi stereo and other internet-connected facilities 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 (Wang 2008). Besides, as the internet has been brought in the teaching English class, interactive 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. (Hsu 2004) highlighted that 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 (Abbas 2012). 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 learning English language pronunciation accelerates the process of information searching. When some related information are needed, they can easily be found from the large amount of information stored on the in the interactive multimedia. With a wealth of updated information from the internet, multimedia is accepted by teachers who need to bring up to date the teaching materials they use during instructional transaction.

Relationship between Multimedia and Learning

Experts and scholars (Xie 2002 and Shelly 2006) 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. It is not to be forgotten that appropriate guidance and supervision are given to them by the competent teacher in order to avoid abuse.

Interactive multimedia provides all kinds of information, creates copious learning situation, and combines accessible 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 setting, integrate various kinds of media contents and technology into a single interface, and help learners to learn language (Jones,Squires and Hicks 2008).

In using interactive multimedia, 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 (Mayer 2005). Based on Mayer's theory, Jones and Plass (2002) found that the animated content combined by text and pictures allow the learners to build psychological representation actively, so they could recall their memory easily when answering questions. Thus, the effect of long-term memory could be bettered. Learners become fast thinkers

From the study regarding multimedia's influence towards children's vocabulary learning, Dale (1946) found that learning materials that only showed text provided the best effect for children's vocabulary memory. Learning materials only that showed pictures or pictures plus text would cause cognitive overload to them. However, Dale (1946) also believed that pictures and sounds could create more abundant learning scenario, which is helpful to elaborating the meaning of text and profound understanding.

Rubin (1987) 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 interactive 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.

Interactive 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 (Abbas 2012). 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

Conclusion/Recommendation

There is no doubt about the advantages that multimedia technology can be used as a powerful tool to assist educators to achieve educational effectiveness. It has been illustrated in this paper that adopting the interactive multimedia technology in education has made it possible to achieve effective teaching and training in multiple domains which was not possible in the traditional text based environment. It is now possible to develop effective new teaching and learning strategies. The optimal use of interactive multimedia in teaching English pronunciation and its full potential to positively affect other language skills will only be realized if it is to be adopted not only as a vehicle for knowledge "delivery", but most importantly as an instructional tool. The researchers observed that creating an effective interactive multimedia educational tool has high cost involving the time and effort. The reason for developing these applications is to improve the quality of learning. The use of interactive multimedia facilities as a whole has not yet reached its mature stage. There are still many inhabited problems needed to be solved especially in the areas of maintenance and power sourcing since interactive multimedia requires constant management.

Teachers that use interactive multimedia are to undergo constant training and re-training in order to continually update their knowledge.

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