The Application of Multimedia in e-Language Production

By:
Othman Ismail
Noraini Ahmad Basri
Nor Syahiza Shahabani
Fairuz Husna Mohd Yusof

Abstract:
Learning English has always been a challenge for many L2 learners acquiring the target language. Many concerted efforts at all educational levels have been dedicated in trying to improve the teaching and learning of the language. Various learning strategies have also been implemented to achieve a maximum performance in producing L2 learners capable of functioning effectively using English language. With a computer mediated instruction, much of these challenges in acquiring English language can be assisted. The application of Interactive Multimedia Instruction Packages (MIPs) can facilitate L2 learners in acquiring important aspects of the target language. This paper shall demonstrate on how the Computer-Aided Instruction can facilitate in the learning of higher order thinking skills in Reading Comprehension. This paper shall also explore some of the possibilities that can be offered in assisting L2 learners to acquire knowledge of English grammar via the understanding of the language structure. One crucial variation that this paper offers is that the proposed CAI is designed to be flexible and dynamic where the teaching and learning of the language contents can be modified, changed, added, deleted and reorganized.

INTRODUCTION

Issues about Learning English

In Malaysia, English language has become a language commonly used for daily communication in all walks of life – for business purposes, academic activities, political debates and other social interactions. Despite its common use as a Second Language (L2), English has been perceived as a difficult language to master. There are many obstacles and challenges in making this language steadily spoken and utilized by many Malaysian students. Both at secondary and tertiary levels, many students feel reluctant, embarrassed and insecure to use English in their daily conversation – either in formal as well as in informal communicative activities.

Many students, despite being exposed to formal and informal language experiences since early age, are still experiencing difficulties in the retention of knowledge and skills of English. In the effort to impart knowledge and skills of English as a Second Language (ESL) to students, educators are concerned at creating innovative methods and strategies that can teach and improve students’ performances. Thus, educators need to identify and explore various potential methods that can facilitate and aid L2 students to comprehend, acquire and apply their knowledge and skills of English language successfully.
Generation ‘X’ vs Generation ‘Y’

There are several factors that lead to students becoming passive and losing their interest in learning English. For instance, many educators are still resorting to their comfort zone of teaching via a traditional method of “Chalk and Talk”. Students nowadays perceive a traditional teacher-centered teaching approach as dull, boring and not inspiring. To them, such method does not promote and enhance learning. As described by Prensky (2001), cited by Lacina, (2005), today’s students are “digital natives” who are born in a modern society where new and updated technology is part and parcel of their everyday life. Eisner (2004) defines generation “Y” as those born between 1977 and 1994. Those generation “Y” students who were born from 1980s onwards have technology at their finger tips (Coates, 2007) and are the most interactive generation (Eisner, 2004). In addition, they are also characterized as learners who are ready to explore their own learning and seek their own solutions from the world-wide of information (Thornburg, 1999). These “digital natives” or generation “Y” students are more creative in seeking and searching for solutions to any ill-structured problem given to them. They explore the Internet for more resources, become critical thinkers when applying solutions to problems, perform multitasking in completing tasks and develop into becoming creative students. Teaching in a traditional teacher-oriented classroom setting, without any integration of the contemporary technology gadgets, thus, is simply perceived as no longer interesting or motivating.

Most of the educators today, on the other hand, are described as “digital immigrants” (Prensky, 2001, cited by Lacina, 2005) or generation “X” (Coates, 2007). Instead of integrating and capitalizing on the benefits of applying the technology into their classroom teaching and learning activities, these educators, who are often not comfortable with the use of technology, are making excuses to undermine the use of computer-assisted technology. With “digital natives” or generation “Y” students, educators will have no choice but to equip and prepare themselves with up-to-date teaching approaches, strategies and teaching materials.

Success Studies on the Use of Technology in Classroom Activities

Many studies pertaining to the use of technology in classroom teaching and learning have proven that students’ motivation, attitudes, learning styles and
performances improve with computer-assisted facilitation (Diaz & Cartnal, 1999; Ismail, 2001; Nikolova, 2002; Ybarra and Green, 2003). In a research conducted by Diaz & Cartnal (1999), in Students Learning Styles in an Online Distance Learning Class and an Equivalent On-Campus Class, it was revealed that online students strongly favored independent learning styles. In addition, they also preferred the collaborative style in their learning setting. Albalooshi and Alkhalifa (2002) discussed in their study that students learn better and have shown improvement in their studies when they are taught using multimedia elements that constantly provoke their cognitive thinking. Furthermore, Almekhlafi (2006) stated that his study showed that there was a significant difference between CALL users’ achievement (f=94.79, p<.01) in EFL when compared to nonusers. In reading, for example, Ybarra and Green (2003) believe that computer can boost the interest level for older students while keeping the text simple and easy to read. They further stress that using computers for reading instruction is beneficial because the computer offers immediate feedback on students’ performance, thus, increase their motivation level.

CONTENT DEVELOPMENT

Purpose

This paper, therefore, will demonstrate how interactive Multimedia Instructional Packages (MIPs) can be developed, customized and used with the teaching of Higher Order Thinking Skills (HOTS) through English reading comprehension materials. Similarly, the MIP can also be designed and developed to facilitate students in their acquisition and mastery of English grammar. This paper will also illustrate how an interactive MIP is used to teach English language structure using the Tree Diagram.

CALL: A Possible Solution in Teaching Higher Order Thinking Skills (HOTS)

According to Nagappan (2001), the teaching and evaluating of higher order thinking skills (HOTS) in Malaysian classrooms started in the 1990s and have always been a critical issue debated among Malaysian educators. The implementation of HOTS in Malaysian schools has caused educators to look for innovative teaching methods and strategies that can ensure successful acquisition of such knowledge and
skills. In addition, the Ministry also has to look for new improved resource materials that are interesting, up-to-date, challenging and that have problem solving feature.

Higher Order Thinking Skills are defined as thinking that takes place in a higher-level of the hierarchy of cognitive processing (Thomas & Thorne, n.d.). Students are required to interpret information, issues or ideas gathered from the reading materials and transform them into meaningful contexts. HOTS enable students to think critically, apply their schemata towards any reading contents, analyze, synthesize and evaluate information in any given texts. Bloom’s Taxonomy (1956) of Higher Order Thinking Skills (HOTS) stresses on the development of students’ analysis, synthesis and evaluation skills. In reading, for instance, students not only read what is written on paper but they read beyond the lines. When students are confronted with critical reading materials, they are required to apply these HOTS in making meaningful inferences and interpretation of the reading materials. In other words, students are trained to react critically to any reading materials presented.

Moreover, when students read, they read for a reason. Some read for leisure while others read for a specific purpose. Therefore, as the purpose changes, the level of learning changes as well. In addition, their thinking process will also change. In Higher Order Thinking Skills (HOTS), students are required to think critically. This requires them to analyze, synthesize and evaluate their thinking.

Higher Order Thinking Skills (HOTS) can be developed with proper use of computer-assisted application, appropriate learning guidance, and meaningful instructional materials. Skills such as analyzing, interpreting, criticizing, problem solving and predictions will have to be taught to students so that they are able to read meaningfully. However, not many studies revealed the existence of materials in HOTs.

In a Problem-Based Learning (PBL) model, students follow a systematic and sequential approach where they formulate their basic knowledge of a problem into becoming a clearer problem that has probable action plan (Nelson, 2010). Similarly, in the process of teaching higher order thinking skills (HOTS) with Advanced Reading, careful formulating and sequencing of materials and content are pertinent steps to ensure that any given problem can be systematically resolved. What this means is that each reading sentence following another sentence should assist students to build a mental block from ill-structured information to a more structured or comprehensive solution (Nelson, 2010). Thus, it is crucial to develop instructional contents that follow
the ISD approach which is not only authentic but also systematic, dynamic, flexible and challenging.

**CALL: A Possible Solution in Teaching English Tree Diagram (TD)**

Teaching grammar by associating its grammar rules with writing instruction is crucial as it teaches students to apply correct grammar and proper sentence structure in their essay. According to Smagorinsky, Wright, Augustine, O'Donnell-Allen, and Konopak (2007), “Traditional grammar instruction - that isolates the teaching of grammar from language usage - is, at best, simply ineffective in changing students' language use.” Thompson (2002) stated that instructions in vocabulary and grammar have been disapproved by whole-language proponents that “forbid anything being taught in isolation”. That is, the teaching of English grammar, if taught in isolation, will cause students to learn the language in fragments.

To be proficient in English language, students need to know and understand the basic grammar structure of the language. This involves careful learning of the subject. In addition, it is also time-consuming where it requires a lot of language drills and practices. Time allocated for the classroom lessons is often insufficient. Language learning materials used and the traditional teaching of English language structure often lead to students feeling bored and uninspired with the lessons taught. Most instructors still practice the same method of teaching and making use of almost the same examples or exercises.

Therefore, there is a need to integrate technology in the teaching of English grammar to ensure that students' motivation of acquiring the language skills is kept at its maximum. Almekhlafi (2006) stated that students who have high computer skills, computer experiences, and who have more time utilizing the technology, will benefit more from Computer Assisted Language Learning (CALL). Most students find it easy to associate new information to concepts in memory by means of meaningful visual images that make learning more efficient (Oxford and Crookall, 1990). Furthermore, multimedia assisted educational products can enhance in the development of the learners' critical thinking skills than the traditional, text-based product (Ellis, 2001). By integrating interactive multimedia elements, the learning of reading, listening and speaking can be made both “engaging and enjoyable” as well as “efficient and effective” (Al-Seghayer, 2004).
The impact of applying multimedia with the teaching of HOTS and TD

Learning styles & preferences

Students’ personal background, their learning styles and preferences, their exposure to technology, the types of instructional media and materials, and the purpose of acquiring the knowledge or skills are some of the factors that contribute significantly to the students’ success of acquiring a language. Students’ learning preferences, for instance, should be carefully considered by educators because these preferences can lead students to become more interested in their learning. Their concentration of the subject matter and their attention span can also be heightened if educators are able to identify students learning preferences.

In many classroom activities, the students feel that they are not given enough opportunities to explore the learning topics themselves, to exchange thoughts, ideas and experiences amongst their peers and to shape their own learning experiences. When students feel that they are not given sufficient opportunities to acquire and master the target language, they may turn off their interest to learning the language. These stumbling blocks will only negate students from further exploring their potentials in mastering English language.

Students nowadays prefer more hands-on involvements in their learning. They are more interested when they are given the opportunity to take up active role in learning (Nikolova, 2002), to explore on their own, to experiment, to move at their own pace (Macaulay & Pantazi, 2006) and to become stakeholders or owners of their own learning (Strobel & Barneveld, 2009) of the contents. Through interactive multimedia instructional packages, students will have the opportunity to do just that. As concerned educators and language experts, we have to think of creative new ideas and innovations that can constantly make the teaching and learning of English more exciting, enjoyable, and interesting.

The selection of teaching and learning materials must be carefully provided so that learning can be optimized. For instance, in teaching L2 students to learn English, perhaps the selection of materials can best represent that of the target language. At the same time, a local flavor of the environment or content can also be included. Additionally, students while going through the MIP can choose different learning media that can facilitate their understanding of the learning materials. Different students learn and perceive information differently depending on their learning preferences and
purposes. Some might need instructions to be presented visually while others might require more auditory or kinesthetic (Oxford, 2003). Students will only feel comfortable in their learning experiences when they are not pressured to complete the learning task blindly and when they have options to choose from.

Learning pace

Some students have the ability to complete a lesson in a short period of time; while others struggle to understand the same lesson. With MIP, students can learn at their own learning pace. That is, students are not rushed in completing any learning activity especially when they have not understood the lesson well. In other words, students can learn at their own time and speed where they have full control over their own ability to understand the lesson. Similarly, not all students have the same ability to acquire or master the knowledge and skills of English. Some students learn better on their own; while, others do so effectively in group. In a customized and interactive MIP learning environment, for instance, students can work collaboratively in discussion activities that can help them acquire the utmost knowledge and skills that they can apply in the real world later. For instance, by applying their personal schemata and other related experiences, the students can discuss and understand difficult reading passages or confusing language structures more easily. Working collaboratively using the MIP together with the aid of various multimedia elements - colorful fonts, animations and audio-video clips, students will be able to assist each others in making sense of their meaningful learning experiences.

Dynamic contents

Conventionally, the use of “chalk and talk” and the “teacher-centered” instruction have always been the preferred methods of classroom teaching and learning. This method is regimented and the learning contents, teaching materials, examples and exercises are almost similar year-in and year-out. This is because the process of upgrading and changing the contents are difficult to do and often time-consuming. With interactive multimedia instructional packages (MIPs), students can be exposed to dynamic teaching and learning contents that are easily upgraded, improved, modified, edited and even replaced.
The creation of a dynamic content environment for electronic teaching and learning is possible with the use of a systematic computer database management system. Multiple databases for contents, exercises and tests can all be created and used in the MIP. Furthermore, by designing a user-friendly editing environment, educators themselves will be able to customize and personalize their teaching contents, exercises and tests making their materials constantly relevant, current, and authentic.

At present, there are plenty of resources available over the Internet that can be used to ensure our teaching contents remain relevant and contemporary. Nonetheless, they may not be organized into systematic databases ready to be utilized. It is hoped that more communities of educators worldwide will begin to adapt and apply the use of technology in their classrooms. As such, more organized databases of teaching materials and resources will become available for sharing purposes. With concerted efforts made by concerned educators, it is hoped that there will soon be many databases available ready to be shared across the globe.

**Motivation**

Keller’s ARCS model of motivation focuses on four different attributes - Attention, Relevance, Confident, and Satisfaction. These attributes help instructional system designers to plan and develop their instructions so that students’ learning interest can be heightened. According to Astleitner and Hufnagl (2003), the ARCS approach reflects psychological attention such as “definition of motivation, a motivational design process, and recommendations for motivational strategies, which can be implemented in different forms of instruction (traditional classroom instruction, multimedia-based learning, or web-based teaching).”

According to Means, Jonassen, and Dwyer, cited by Astleitner and Hufnagl (2003), motivational level can improve student’s learning performance. Most importantly, students’ motivation in learning English should be kept at its maximum level. That is, students will show positive attitudes and will put extra efforts to acquire and master the English language when they feel confident that they can gain satisfaction in acquiring the knowledge.

Many factors affect the process of second language acquisition. Studies have found that motivated students are more successful in acquiring second language. A
factor that affects and contributes to the process of second language acquisition is motivation. Students need motivation to excel and to maximize their learning. The attention grabbing method is a must in any instructional materials or instruction. The act of surprises and curiosity can grab the students’ attention. For instance, posing questions or telling jokes allow students to focus and think on what the lesson will be.

In addition, educators need to establish relevancy of the instructional contents and instruction to students’ needs and goal so that students will feel the benefit of learning a particular lesson. For instance, educators can inform the students that whatever knowledge and skills they are currently learning can and will be used in the future. Liuoliene & Metiuniene (2006) reported in their study that the higher the motivation is, the more students choose to become autonomous in their learning process. In addition, students’ choice to work more independently will depend significantly on their motivation, attitude and responsibility. Another study by Peacock (2002) indicated that EFL students who used authentic materials seem to have their motivation level increase significantly.

Some L2 Malaysian students may find communicating or conversing in English as difficult and embarrassing; and, the more they experience learning English through a regimented way, the more challenging and frustrating they become. This critical factor must be addressed seriously in order to promote effective learning of the language. Students need to feel secure and confident of using the target language. They need to be assured that their acquisition of the language is natural and authentic. To facilitate this process, the selection of learning media and materials to aid students’ skills and understanding must be geared towards interesting learning activities.

In a study conducted by Shahabani (2007) on how students rated themselves based on the ARCS embedded CAL Materials used in the learning of English grammar, she reported that the respondents were positive, indicating that they had the confidence in using CAL Materials as effective teaching aids in the learning of the English grammar (tenses). The students were confident that they could achieve mastery in learning the contents. They also felt that the organization of the contents and the style of writing in the lessons had contributed to boosting their confidence in learning the English grammar successfully.

Consequently, through an interactive MIP with relevant learning contents, supported with the use of various multimedia elements, students will be able to experience a more enjoyable way of learning. Most importantly, the students will be
able to retain what they have learnt. As discussed by Macaulay, & Pantazi (2006), when students have control over their learning pace and they are free to navigate in the interactive learning environment, students can improve in their learning. Hence, learning will become more interesting and it will help to boost students’ confidence in learning the language and using the language in public.

In a similar study, Shahabani (2007) also reported that the students were satisfied with the CAL materials used. They perceived that the materials were not too easy or too difficult; and, they were able to complete the lessons, exercises and quizzes successfully. What this signifies is that effective design and development of computer generated teaching materials via hypermedia can retain students’ interest towards completing any intended lessons. Students were motivated to complete their lessons as they saw meaningful learning experiences were taking place. Yildirim, Ozden and Aksu (2001) reported in their study that in “a retention test, [the results] revealed that more meaningful learning occurred through hypermedia than through traditional classroom instruction. They also reported that presenting learning contents in “multiple channels in the hypermedia learning environment” can bring about “effective retention [in different] types of knowledge”.

Being able to sustain students’ motivation to complete their learning tasks indicates that better or improved learning outcomes are almost certain. In the context of our Malaysian students, being able to sustain their interest in learning English lessons is already rewarding. Getting them to acquire the language, understand the knowledge and perform well in English grammar is like a dream comes true to many English educators.

Conclusion

Technology can only enhance and assist but not to replace classroom educators (Ismail, 2001). Computer-Aided Tools - such as e-learning environments, emails, audio-video conferencing, forums, blogs and so forth, are believed to facilitate students in their language learning. Computers can aid in vocabulary enrichment activities, reading, writing, grammar and many more. Many studies have consistently shown that learning, supported by technology, can yield success in students’ learning.

With technology at their fingertips, our generation “Y” students or “digital natives” can be coached to become critical thinkers on how to independently solve learning problems thru searching for online information and solutions. Students are
also engaged when they learn using the technology. They learn how to be independent, creative, critical thinkers, and innovative individuals. Using computers as educational tools, our students will be able to explore their new knowledge and apply problem-solving skills in more authentic learning environments (Ismail, 2006).

As generation “X” educators or “digital immigrants”, we need to come to term that the technology is here to stay. It will be to our own advantage that we re-train or re-teach ourselves on what technology can offer in our everyday teaching and learning activities. Traditionally trained educators should be more open-minded in adapting and integrating new computer-based teaching and learning approaches. Only by experimenting hands-on learning and training of the technology, can we (educators) offer newer knowledge to our students.

With the use of interactive multimedia instructional packages (MIPs), we can use the computer technology to design flexible and dynamic contents that are current and user friendly. Also, with proper guidelines of a Systematic Design of Instruction (Dick, Carey & Carey, 2009), a customized MIP can be developed and used for the teaching of any subject matter - such as, Higher Order Thinking Skills and/or English Tree Diagram.
References


