

Hypermedia and its Effect on EFL Learners' Pronunciation Accuracy

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Abstract – The present research investigated the effect of a Computer Assisted Language Learning (CALL) program on improving EFL students' pronunciation. This research sought to explore ways to develop and improve English pronunciation learning by using another tool in addition to teacher-directed learning. The pronunciation improvement of students exposed to multimedia English lessons was compared with the pronunciation improvement of students not exposed to multimedia ones. Thirty six students from two classes sharing a similar social and educational background approved by a background questionnaire and a language proficiency test took part in the research. Then eighteen students in each class at the elementary level of proficiency were randomly assigned into either experimental or control groups. Next, the two classes were administered a pronunciation test. For a period of five weeks in ten sessions the educational software *Tell Me More* was offered to the experimental group. After ten sessions both groups were readministered a pronunciation test to examine the influence of software on users' functions and its impact on the pronunciation ability of the participants in the experimental group. The findings demonstrated a significant increase in the learning outcomes of the experimental group from pretest to posttest in which their scores were significantly higher than those of the control group. Furthermore, the participants in the experimental group perceived using hypermedia as a useful tool for language learning, especially pronunciation.

Keywords: Tell Me More; hypermedia; pronunciation; EFL learners

I. INTRODUCTION

Pronunciation is of great significance to the second or foreign language (L2) learning due to three reasons. First, it enhances comprehensibility. Second, when the finite number of sounds, sound clusters, and intonation patterns is mastered, it enables infinite use. Third, it is of great assistance to those who have integrative motivation since with native-like pronunciation they will not be marked as foreigners (Fraser, 2006). It can also be added that just as rich vocabulary, fluent reading, speech, and perfect grammar are essential for learners who wish to be highly proficient in L2, so is good pronunciation important since it is part and parcel of successful L2 communication. Pronunciation plays a significant role in communication and in language learning.

Celce-Murcia (2000) declares that pronunciation was overlooked in the syllabus, materials and classroom activities in English L2 classrooms. In the time that has passed since the acceptance of pronunciation as a contributing factor to language acquisition, it has come in and out of fashion as various progressive movements in language acquisition have prevailed.

According to Celce-Murcia (2000), the significance of pronunciation has been ignored until very recently. A lot of approaches and methods of teaching a second/foreign language (L2) place primary emphasis on reading and writing skills and secondary or little emphasis on oral skills. Yates and Zielinski (2009) hold that pronunciation is the production of sounds that we utilize to make meaning which involves the special sounds of a language (i.e., segments), aspects of speech beyond the level of the individual sounds, such as intonation, phrasing, stress, rhythm (i.e., suprasegmental aspects) and how the voice is projected, that is, voice quality.

As Davis (1999) maintains, an area of concern and one of the top priorities of ESL students after completing elementary English courses is pronunciation. Pronunciation is viewed as a sub-skill of speaking. It is important at this point in time to make a distinction between speaking and pronunciation as it is sometimes wrongly applied interchangeably. In addition, it is discussed that with good pronunciation, a speaker is intelligible despite other errors; with poor pronunciation, understanding a speaker will be very difficult, despite accuracy in other areas (Fraser, 2006). Generally, if we want to change the way a learner pronounces words, we have to change the way they think about the component sounds of those words. This goes not just for individual sounds, but for bigger elements of speech such as syllables, stress patterns and rhythm. Despite this, the teaching of pronunciation remains largely neglected in the field of English language teaching.

As Fraser (2006) states, being able to speak English of course involves a number of sub-skills, including vocabulary, grammar, pragmatics, etc. However, by far, the most important of these skills is pronunciation; with good pronunciation, a speaker is understandable despite other errors; with poor pronunciation, a speaker can be very difficult to understand despite accuracy in other areas. Pronunciation is the aspect that most influences how the speaker is judged by others, and how they are formally assessed in other skills.

On the other hand, hypermedia has become an essential recent form of computer-based instruction (CBI), which has been widely used in learning environment. Hypermedia is formed by two different fields of which one of them is multimedia and another one is hypertext (Burton, et al., 1995). So the understanding of the meaning of hypermedia may sometimes be confusing. For example, Gayeski (1993) defines hypermedia as "a classification of software programs which consist of networks of related text, graphics, audio files, and/or video clips through which users navigate using icons or search strategies" (p. 5).

Technology is bringing an innovative and promising practice in education. The challenge of schools and teachers is to incorporate technology tools in the classrooms to supply students with technological skills and a diversity curriculum to reach all the learning styles. Foreign and second language learners require a variety of language experience, they need to hear, write, speak, and read the language; and multimedia presentations can play a

vital role in supplying second language learners with a valuable language experience as they gain the language (Roblyer, 2006).

Computer technology supplies new possibilities for teaching English pronunciation, creates a successful language environment for both instructors and students and supplies new chances for instructors and students to engage in active communication that facilitates the process of teaching and learning English pronunciation (Hayati, 2010). In light of the potentiality of technology, Iranian EFL teachers at high school level are utilizing computers that are the replacement of tools of education (e.g., blackboards, chalk, and overhead projectors) because they supply them new and better means of instructional ways and therefore enhance their English pronunciation teaching and learning. This does not mean that they don't have any problems with the utilization of computer technology or can utilize it well or that students' learning has increased considerably by such technology (Fathiyan, 2004).

Researchers have investigated the profits of using multimedia in education. There are several researchers who have been centering their attempts on the study of multimedia as an important tool for teaching. Researchers have investigated the advantages of using multimedia in education. The blend of text and animations has been the focus of multiple researchers. A study by Kablan and Erden (2008) is based on the instructional efficiency of blending text and animation into a computer-based lesson. By measuring the mental effort and performance level of the learners during the lesson, they were able to determine the efficiency of integrating text and animations in an instructional lecture. They reported that integrating multimedia (text and animation) format in a computer-based assignment needed less mental effort from learners to recall information than the learners who were exposed to separate formats. The learners exposed to text and animation showed better recall with less effort.

Eilam and Poyas (2008) structured their research to examine how to extend existing knowledge with multiple-representations, and how this phenomenon is different from learning from a text. Researchers demonstrated that learning with multiple representations improves retention and retrieval of encoded information, expands comprehension of acquired information and enhances ability to perform. Participants in this study were assigned homework tasks utilizing either multiple-representations or text alone. The multimedia task involved 13 different visuals and text presentations on separate cards. Textual representations showed the material in text alone. Multiple representations with visual and text improved retention, expand comprehension and enhanced the ability to perform lesson-based tasks. The researchers designed multiple representation and single representation exhibits to be used in authentic context for preparing homework assignments with the aim of investigating the students' ability to learn from a multiple-representation in comparison to learning the same information with single representations. The study increased the use of multimedia in a homework task with a single representation and with multiple representations. The single representation comprised of a printed text, while the multiple representations included a chart or graph. The researchers reported that the multiple representation group performed better than the single representation group.

Pourhosein and Sabouri (2014) scrutinized the role of Iranian educators in using *Pronunciation Power software* in pronunciation instruction. The researchers used qualitative method consisted of semi-structured interview questions with a volunteer sample of four teachers from an open university in Lahijan, Iran. The researchers answered the research question pertinent to the role of Iranian educators about utilizing this software in the instruction of pronunciation. Based on the obtained findings, pronunciation power software altered the Iranian educators' roles from a dispenser of information to a facilitator of information. This alteration of role provides them more autonomy and greater chances in teaching pronunciation.

This study was intended to examine the utilization of multimedia technology, as a tool for improving pronunciation at Shahed high school. This was a mixed method approach, in which quantitative and qualitative data was mixed for the study. The rationale for conducting a mixed method study was based on the desire to contrast two instructional models: one including traditional, behaviorist methods of classroom instruction in a foreign language, and the other including constructivist methods through the utilization of technology tools in classroom instruction in a foreign language.

Wang (2005) showed that technology integration in world language teaching show the shift in educational paradigms from a behavioral to a constructivist learning approach. Moreover, there was a desire to contrast the attitudes of students exposed to both models of instruction. The purpose of the study was to define directions for pedagogy and research in CALL in Iran to draw on the perceptions of Iranian high school students and their teacher, in regard to the effectiveness of the selected program and its feedback function. This research sought to explore ways to develop and improve English pronunciation learning in Iran by using another tool in addition to teacher-directed learning. It is anticipated that the research will provide Iranian language teachers with information about how to supplement their teacher directed language teaching, and about what learning tools are effective for this.

1. Does using hypermedia enhance pronunciation ability of Iranian elementary students?
2. What are Iranian elementary learners' perceptions of using hypermedia for improving pronunciation?

II. METHODOLOGY

A. Participants

For the goal of conducting this research, thirty six students from two classes were randomly divided into two groups, namely as the experimental group and control group (each 18). All of the participants were studying English at Shahed high school in Gorgan, Iran. They were at elementary level determined by a proficiency test. The participants involved male students only. Their age range varied from 16 to 18. The native language of all the participants was Persian. After the selection of the participants, the English language proficiency, Oxford test, was administered to the participants of the study. The goal of the administration of this test was to ensure, as a triangulation procedure, the homogeneity of the learners in terms of general language proficiency prior to the treatment.

B. Instrumentation

Background questionnaire. In order to elicit subjective information of the participants, a background questionnaire was developed by the researchers. It covered issues such as the participants' age, gender, and first language status.

Proficiency test. In order to be assured of the homogeneity of the control and experimental groups in terms of English language proficiency, Oxford test was given to the students. It included grammar and structure as well as reading comprehension section so that students can be scaled in a continuum, arranged by their proficiency level. It proved to have a reliability of 0.77. It consisted of 40 multiple-choice items. The time allotted was 60 minutes.

Pronunciation test. The other test that was utilized in the process of the research was the pronunciation test. The participants in both experimental and control groups took a pre and post pronunciation test which consisted of 25 items. The participants finished the test in 30 minutes. The items of the test were chosen from the achievement tests provided by the researchers. The items chosen were based on the contents of level 2 of *Tell Me More* software which involved pronunciation. The content validity of the selected items was approved by three colleagues included in teaching English as a foreign language in the same high school. All of them maintained that the test covered the contents of the mentioned lessons and was both representative and comprehensive. In order to estimate the reliability of the test, it was administered to a group of 15 students who were studying English at the same level in same high school, i.e., Shahed high school, Gorgan, Iran, where the same lessons were taught. The reliability of the test estimated through Cronbach's alpha was 0.79, which is highly reliable.

Interview. Another instrument used in this study was semi-structured interview which was used to answer at the end of utilizing hypermedia software. The interview questions consisted of four open-ended items. The amount of time required to respond to the open-ended items was approximately 20 to 25 minutes. The open-ended items were intended to elicit the participants' opinions regarding the hypermedia software and how it could improve the students' pronunciation.

C. *Tell Me More* Software

The hypermedia software used in this research was *Tell Me More*, which is one of the most popular computer-based instructional software. It has the characteristic of having an interactive interface which benefits the students by allowing them to get extra information about the subject or the unknown word simply by clicking it. Another feature of this software is the capability of being easily adapted to the needs of the user. Therefore, it can be used particularly to bolster the listening skill. It also uses the immersion technique that does not allow using any sort of translation in any level of the teaching. Moreover, the lessons that are presented in the *Tell Me More* are divided into five parts. This feature helped the students find the exact level of the lesson based on their capabilities.

D. Treatment

In order to carry out the research, the students were required to practice English with the help of the software in the classroom and their homes. Their practice sessions were about 45 minutes in the classroom and half an hour each day at home. The treatment lasted 5 weeks in 10 sessions. They were asked not to use the dictionary but the interface of the hypermedia that gives the extra needed information. They could access the information simply by clicking the words or paying attention to the pictures that help the students get the context. For the control group, hypermedia program was not introduced to this group.

E. Procedure

At the beginning of the study, two classes were selected. Then, they were assigned into two groups. One of the classes was randomly selected as control group and the other served as the experimental group of the study. The study was carried out in the academic year of 2014. In the first step, the students were administered the background questionnaire as well as the proficiency test in order to determine their overall level of English proficiency. Both groups in the present study were at elementary level determined by the proficiency test that corresponded to the level two of the software. In the second step, their pronunciation proficiency was evaluated in order to determine their pronunciation proficiency before practicing with the hypermedia. After the pronunciation test they were asked to work with the software half an hour every day. In the next step, their pronunciation proficiency level was evaluated again in order to determine the impact of working with the hypermedia. The final step was to conduct an interview with the experimental group at the end of utilizing hypermedia software. The interview questions consisted of four open-ended items. The amount of time needed to respond to the open-ended items was approximately 20 to 25 minutes. The open-ended items were intended to elicit the participants' ideas regarding the hypermedia software and how it could improve the students' pronunciation. The designed semi-structured interview referring to the objectives of this research with the students were recorded and transcribed.

III. RESULTS

A. Findings from Test

Having collected the data through the tests, the researcher applied the t-test formula to measure the differences, if any, between the experimental group and the control group. It is important to note that the researcher employed all the formulas with the level of significance set at 0.05 in all their applications. Table 1 illustrates the results of the independent samples t-test in the pretest.

Table 1: Independent Samples T Test Results of Experimental and Control Groups for Pronunciation Test in Pretest

Scope	Groups	N	Mean	SD	Std. Error Mean	Sig
Pretest	Experimental	18	12.2778	1.63799	.38608	0.591
	Control	18	12.5556	1.42343	.33550	

As revealed in Table 2, the computed significance is equal to 0.591 which is bigger than the significance level set for the study (0.05). This indicates that there was no statistically significant difference between the two groups in the pretest. Table 2 illustrates the results of the independent samples t-test in the posttest.

Table 2: Independent Samples T Test Results of Experimental and Control Groups for Pronunciation Test in Posttest

Scope	Groups	N	Mean	SD	Std. Error Mean	Sig
Posttest	Experimental	18	21.1111	2.37360	.55946	0.000
	Control	18	15.7778	1.47750	.34825	

As represented in Table 2, the computed significance equals 0.000 which is smaller than the significance level set for the study (0.05). This substantiates the fact that there was a statistically significant difference between the experimental group and the control group in the posttest confirming the effect of hypermedia on improving the learners' pronunciation.

B. Findings from Interview

The interviewees who took part in this study gave very special, clear and detailed answers for each question. The questions related to the characteristics and disadvantages of *Tell Me More*, the characteristics that assisted those most to improve English pronunciation, what improvement was needed to the software, comparisons between the real teacher and the software, ideas regarding the learning without correction feedback.

From the description of the characteristics of the software *Tell Me More*, it can be claimed that certain students found this software acceptable. Six of ten ideas said that it was helpful for them. It permitted them to listen, record and practice again and again. The arrangement of its learning processes, vocabulary and sentences for the text practice was appropriate for elementary learners. The functions of playing, listening and recording were

useful. The pictures illustrating meanings, real people's pronunciation and various practice drills were its different and special features and these were attractive to certain students.

In this research the students' English proficiency was at the elementary level. The characteristics that aided learners most were playing and recording. Ordinarily, they thought this software was satisfactory for learning pronunciation, but it had some drawbacks. The drills for practice or tests were useful for them. They also focused on the vocabulary and sentence practice instead of the whole text. They could listen and practice pronunciation of English words again and again, and this feature was the most helpful.

The drawbacks of this software and the improvements it needed were presented in the answers of the students. It did not have Persian translation and explanation of the vocabulary, sentences, text, and the operation icons and therefore learners thought it was difficult for learners to use. They likewise would have liked to have the function which could permit them to select to listen to one word or phrase, which they hoped to listen to again in the whole text reading. The speakers' speaking too fast was another problem for them, so they would have liked a function in this software which could have permitted them to slow down the speakers' speed.

The comparisons made between a teacher and the software showed some features which the real teacher had or did not have, and which could be compensated for by the software. The learners could practice with the software anytime and as long as they wanted, and the software could permit them to repeat as many times as they wanted. They were less shy when they faced the computer to speak English. However, they would have liked the software to be like the real teacher, who can listen to and answer their questions, know their problems, provide them examples and explanations, and joke with them sometimes. Learners stated that teachers could not be with them all the time, teachers could be tired and angry sometimes, and they felt shy and nervous when they spoke to their teacher. These problems could be overcome by the software.

IV. DISCUSSION

This study examined the effect of computer-assisted language learning (CALL) programs on pronunciation of the elementary level EFL students. The findings show a significant difference between control and experimental groups confirming the effect of hypermedia on improving the learners' pronunciation. It can be concluded that the use of hypermedia has a significant effect on enhancing the participants' pronunciation. The results of this research indicate that hypermedia instruction had moderately positive effects on student achievement over the non-hypermedia instruction.

One pedagogy in which many researchers have shown interest is computer assisted language learning (CALL). Computer-assisted language learning programs have been found to be effective in many language learning studies (Abdolmanafi-Rokni & Hamidi, 2015; Abdolmanafi-Rokni, et al., 2014; Asoodeh, 1993; Eilam & Poyas, 2008; Kablan and Erden (2008); Pourhosein & Sabouri, 2014; Siribodhi, 1995). The results of the studies showed that students who used CALL programs performed better than those who used traditional

programs. Additionally, CALL programs can enhance learning, provide individualized instructions, and allow students to work at their own pace.

Further studies should assert the significance of pronunciation acquisition with the use of multimedia. Some studies (e.g., Al-Seghayer, 2001; Hanley, Herron, & Cole, 1995) showed that multimedia presentations with its variety of modes help learners to achieve the listening, reading, speaking and writing skills.

From the description of the characteristics of multimedia, it was concluded that most of the students found this software acceptable and they had positive attitude to use multimedia for improving pronunciation. The analysis of the interviewees' responses showed that attitudes of learners towards multimedia curriculum were significantly different from the attitudes of learners towards traditional curriculum.

V. CONCLUSION & PEDAGOGICAL IMPLICATIONS

The results of this study showed the effectiveness of using multimedia computer assisted language learning programs in learning pronunciation. The results from this study suggest that the effects of using hypermedia in instruction are positive over non-hypermedia instruction as a whole, however, the effects may be varied depending on what type of instruction is used.

This study could be extended to foreign language teachers who are using or planning to use multimedia as a learning tool to investigate a repertoire of information presented in text, graphic, video and audio formats. Erben and Sarieva (2008) stipulate that “foreign language teachers are able to create meaningful tasks and communicative settings in which learners have an authentic goal and audience by the use of technology” (p.15). This suggestion is for foreign language teachers to see the use of technology as a classroom resource to stimulate students’ learning. Teachers are required to provide encouraging tools for students to practice the language in a real and meaningful environment.

This research can have some pedagogical implications not only for teachers but also for learners. According to the results of this study, pronunciation ability can be improved through intervention training instructions, highlighting the inclusion of formal pronunciation teaching in the L2 curriculum. Although some experienced L2 teachers may know intuitively how to teach pronunciation, most may need some formal training in how to teach pronunciation analytically and successfully so that L2 learners can benefit more. Some practical implications are presented which are on the basis of the results and findings of this study and propose that foreign language teachers should be aware of the advantages that multimedia technology can bring to their curriculum and the profit that multimedia can bring to the students’ learning process by utilizing strategies that can reach all students learning styles.

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