The use of a computer assisted program to develop primary stage pupils' English pronunciation skills

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Abstract

The purpose of this research was to examine the impact of using a computer assisted program on developing pronunciation skills of primary stage EFL pupils . The research adopted the quasi-experimental design using thirty 5th year primary stage pupils to be the study participants. The computer assisted program was used in teaching the experimental group in the second term of the academic year (2022-2023). The instruments of the research were an EFL pronunciation tests (pre-post) and an analytical scoring rubric. The data of the research were analyzed statistically. Results showed that there were statistically significant differences between the pre-post instruments (EFL pronunciation test) in favor of the post one. The results showed that the use of the computer assisted program had a significant impact on developing EFL pupils` pronunciation skills. In conclusion, the research recommended implementing the computer assisted program inside the classroom. It was also suggested that further research should be conducted related to using computer assisted program for developing other language skills such as listening.

Key words: EFL pronunciation skills and computer assisted program.

Introduction

A language ,English in particular, is vital in today's world. The capacity to talk effectively and efficiently in a second or foreign language contributes to the learner's success in all aspects of life. Language is the pillar of life and a basis for communication between individuals and nations. In addition, technology makes it easier to learn English in general, and pronunciation in specific, which reinforces learners' confidence when speaking.

Theoretical background

English is important in many aspects of our lives. Speaking skill is essential for students to be able to communicate with people all over the world .It is a complex process of using language to speak and convey messages accurately, fluently, and appropriately in various situations by using verbal and nonverbal symbols such as gestures and facial expressions.

Pronunciation is critical in English learning because the message cannot be understood if the grammar and vocabulary are correct but the intonation, linking, rhythm and stress, and vowel and consonant sounds are not produced correctly.

Pronunciation

Lundeberg (2013) illustrated that people need to hear and be heard, to know and be known, to understand and be understood English is an important means of communication in the world. Handayani (2016) said that the usage of foreign languages, particularly English, has progressed from a luxury to a need in a variety of productive sectors. English has become significant all across the world as a result of the globalization process; until recently, it was considered the worldwide language of business. In practice, it is the language of the modern world.

Students who are able to communicate well in English stand to gain a great deal from doing so, not just in terms of the advancement of science but also in terms of sociopolitical communication ,economics, and cultural understanding, and even in day-to-day living. As a result, all students, regardless of their area of concentration, are required to take at least one English class during their time in higher education. This demonstrates how essential it is to have a strong command of the English language in order to achieve success in one's professional and academic endeavors (Iriance, 2016).

Hayakawa(2016) stated that speaking attentively and thoughtfully implies speaking to someone with an awareness of what they are saying and their tone of voice. Because attentive communication also involves listening and using nonverbal cues with kindness, compassion, and concern. Being honest and authentic is also essential for caring talk. This will help build trust and encourage others to do the same. Mindful communication can help speakers be more effective in sharing their messages with others. This is very helpful for those who overthink. When they come to their senses, they can stop themselves from overthinking and come back to the present moment at any given time. They can calmly admit their thoughts without judgment and react logically (Ristati,2017).

Now the question comes why is it essential to develop mindful and thoughtful speaking skills? The answer is that speaking is one of the essential talents we acquire (Myers, 2017). Thanks to that ability, it is possible for humans to talk and share thoughts and emotions for various purposes and conditions. This is where the essential aspect of meaningful

and skillful speaking mastery is considered as the competence that changes the situation from ordinary to extraordinary (Sookermany, 2012).

English pronunciation is one of the most difficult skills to acquire and learners should spend lots of time to improve their pronunciation (Martínez-Flor et al. 2008; Gilakjani, 2016). Understandable pronunciation is one of the basic requirements of learners' competence and it is also one of the most important features of language instruction. Good pronunciation leads to learning while bad pronunciation promotes to great difficulties in language learning .

Pronunciation is the act or manner of pronouncing words; utterance of speech. In other words , It can also be said that it is a way of speaking a word, especially a way that is accepted or generally understood. Hassan (2014) defines the pronunciation as production of significant sound which is used as a part of a code of particular language and to achieve meaning in the context of use. This definition gives a briefer pronunciation's definition. It contains some important keys in pronunciation: act, speaking, production and reception of sound. It means that the words being pronounced should be understandable and intelligible.

When studying a foreign language, many language learners aim to one day achieve a level by emulating the range of sounds that phonetically reflect that of native speakers in their target language. However, the teaching of English pronunciation appears to be at two ends of the spectrum, either it is taught as a very intensive and phonetic based feature of English, or, as what appears to be more common, is partially overlooked under the assumption that it will be developed over time via language exposure and acquisition. This is a sad truth as, although some teachers do use specialized materials that have activities based around the application of the phonetic alphabet (Elimat and Abu Seileek, 2014).Going through pronunciation practice with teachers can be just as engaging as it can be tedious. Some researchers have even specifically tested group work and its effectiveness on language learning and found that it does lead to improvements (Burke, 2011). Accordingly, many teachers found out that pupils encountered some problems and difficulties in learning pronunciation.Consequently, teachers resort to using technology to help them find solutions to some of these difficulties.

Computer assisted learning

Fortunately, technology has solved many of language learning problems, especially pronunciation .One of these new technologies is the computer, which has emerged to be an alternative to traditional methods of

leaning. English pronunciation is one of the most difficult skills in learning and teaching language (Haghighi and Rahimy, 2017; Gilakjani, 2016; Sadeghi and Mashhadi Heidar, 2016). Pronunciation has been overlooked and nobody has made an effort to understand the great value of this hard skill (Farhat and Dzakiria, 2017). English pronunciation instruction can be facilitated through using appropriate materials such as computer-based materials for learning pronunciation and teachers also use these materials as the effective means of improving their teaching . There is a variety of current technology equipment and applications used in education. They include computers, digital cameras, distance education/video conferencing systems and databases. Among these technology equipment applications, instructional software (tutorial drills and practice) is used commonly to assist people learning languages.

The use of computer technologies are considered as one of the suitable means of improving pronunciation teaching and learning. These technologies offer new opportunities for English pronunciation and create a successful environment for both teachers and learners to effectively improve their ability in the teaching and learning of pronunciation (Hayati, 2010). The real aim of applying computer technology is to develop basic changes in teaching and learning language skills.

Through using computer technology, teachers and learners can have access to the target language in different fields. Computer technology assists teachers in guiding their learners' learning and relating curriculum to the real world activities (Sabouri, and Zabihniaemran, 2015). Technological and software methods are used to solve the problems resulting from using and applying traditional methods in teaching pronunciation, hoping that they can provide some data to bridge this gap.

Background of the problem

This research's problem is that from El-Shaheed Mohammed El-Dorra Experimental Language Primary School pupils have poor pronunciation skills. Thus, this research is an attempt to enhance EFL pronunciation skills through a computer assisted program.

The researcher conducted a pilot study to measure the fifth primary stage pupils' current level of EFL pronunciation and self-confidence .A selected group was taken from El-Shaheed Mohammed El-Dorra Experimental Language Primary School to check the pupils' pronunciation in the second term ,2022.

The purpose of the pilot study was to provide an overview of how English pronunciation is taught and to give an outline of the opinions and

perceptions of the teachers and students towards English pronunciation teaching. To accomplish the aims of the pilot study, a pronunciation test was employed in the study. The questions included in the pronunciation test was presented and classified according to the study purposes.

Table 1: Results of the EFL pronunciation test

skills	Maximum	Mean	Percentage
Consonants	5	2.2	44%
Vowels	5	2.5	50%
Diphthongs	5	2.4	48%
Silent letters	5	2.3	46%
Ed-endings	5	2.5	50%
Final"s"	5	2.4	48%
Intonation	5	2.4	48%
Total Score	35	16.7	47.7%

Results in table (1) indicate that the participants' total mean score on the pronunciation test was low. This means that the pupils had difficulties in pronunciation skills.

Statement of the problem

Based on the previous literature ,related studies ,the researcher's experience as a teacher of English ,and the results of the pilot study ,the researcher found that the fifth grade EFL primary stage pupils have some difficulties in pronunciation such as making a lot of consonant pronunciation errors, pronouncing some vowels incorrectly ,using rising and falling intonation incorrectly and failing to count and identify syllables in a word ,etc. Thus, there is a bad need to apply a computer assisted pronunciation program which may improve EFL pronunciation.

Questions of the research

The research attempted to answer the following questions:

1- What are the features of a computer assisted program to develop fifth grade language primary stage pupils' pronunciation?

2- What is the impact of the computer assisted pronunciation program on developing fifth grade language primary stage pupils' pronunciation?

Purpose of the research

The purpose of this research is to determine:

The impact of using a computer assisted pronunciation program to develop fifth year primary pupils' EFL pronunciation.

Significance of the research

      The current research could be significant in number of ways

1- Exploring to what extent using the computer assisted pronunciation program helps primary stage pupils develop their pronunciation skills.
2- Helping pupils to overcome their pronunciation problems.
3- Investigating the impact of computer assisted pronunciation program on pupils' pronunciation.

Delimitations

      This research   was   delimited to:

-**Participants:** A group of EFL fifth year primary stage pupils. They were selected from El –Shaheed Mohamed El-Dorra Experimental Primary School

- **Place:** El –Shaheed Mohamed El-Dorra Experimental Primary School, El- Gharbia Governorate, Al- Mahalla Al-Kobra .

-**Instructional Context:** Some segmental and supra segmental English pronunciation skills.

Time: The second semester of the school year 2023

Hypotheses

      To answer the research questions, the researcher made the following hypotheses:

1- There is a statistically significant difference at the level of .05 between the mean score of the experimental group and the control group on the pre-post pronunciation test in favor of the experimental group.
2- There is a statistically significant difference at the level of .05 between the mean score of the experimental group on the pre-post pronunciation test in favor of the post administration.

**Methodology**

Participants

      A group of EFL fifth year primary stage pupils(N=40).They were selected from El –Shaheed Mohamed El-Dorra Experimental Primary School. Those participants were divided into two groups: the experimental group and the control group

Design

      The current research adopted the quasi-experimental design in terms of dividing the sample into two groups(experimental and control) that aimed to   investigate the impact of using a computer assisted program   on developing EFL   pronunciation skills of   fifth   year primary   school

pupils.The experimental group was trained using the computer assisted pronunciation program while the control group was taught using the traditional method. A pre-post pronunciation test and scoring rubric were conducted to assess their pronunciation skills.. The two pre-post EFL pronunciation tests were administered to both groups before and after the program. The results of the two pre-post EFL pronunciation tests were analyzed by using t- test for independent samples. This was to find out whether there was any significant difference between the mean score of the two groups, after the implementation of the program. Figure (1) illustrates the quasi-experimental design of the research.

The Quasi-Experimental Design of the Research
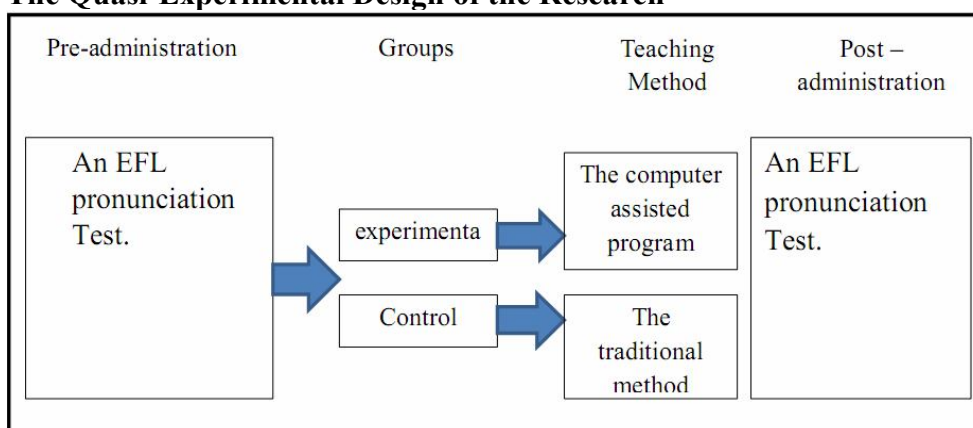
Instrument

     For the purpose of the research, the following instruments were designed:

- Two equivalent versions of EFL pronunciation tests (pre-post) for assessing EFL fifth primary stage pupils' pronunciation skills.
- An analytical scoring rubric to assess the pupils' pronunciation skills (segmentals and suprasegmentals)

     The following section provides a full description of the instruments of the study:

d-Definition of terms

1-Pronunciation

     Gilakjani (2012) assumed that pronunciation is a set of habits of producing sounds. The habit of producing a sound is acquired by repeating it over and over again by being corrected when it is pronounced wrongly. On the other hand, Dalton in Hassan (2014) defined pronunciation as the

production of significant sound which is used as a part of a code of particular language and to achieve meaning in the context of use. Pronunciation is the act or manner of pronouncing words; utterance of speech.

The researcher defined Pronunciation as: the skill of pronouncing words, sentences and asking questions with different intonation patterns properly to convey different meanings appropriately and accurately. This research focused on how to pronounce consonants ,vowels ,silent letters correctly and proper intonation.

Statistical analysis and results

Testing the first hypothesis of the research

The first hypothesis stated "There is a statistically significant difference at the 0.05 level between the experimental group and the control group in the mean score of the pronunciation test in favor of the experimental group". To verify this hypothesis, t- test for independent samples was used to compare the mean scores of the two groups. Results are presented in table (2):

Table (2) Comparing the control and the experimental groups on the post- administration of the pronunciation skills test

Skills	The group	N.of cases	Means	S.D	df	t.Value	Sig.
Consonants	Control	30	3.10	0.803		16.497	0.01 Sig.
	Experimental	30	7.17	1.085			
Vowels	Control	30	3.43	0.728		18.177	0.01 Sig.
	Experimental	30	7.47	0.973			
diphthong	Control	30	1.57	0.504		14.735	0.01 Sig.
	Experimental	30	3.60	0.563			
silent letters	Control	30	1.63	0.490		14.670	0.01 Sig.
	Experimental	30	3.70	0.596	58		
Ed-endings	Control	30	1.60	0.498		14.168	0.01 Sig.
	Experimental	30	3.43	0.504			
Finals	Control	30	1.53	0.507		15.162	0.01 Sig.
	Experimental	30	3.70	0.596			
intonation	Control	30	3.20	0.761		16.941	0.01 Sig.
	Experimental	30	6.90	0.923			
Total degree of Test	Control	30	16.07	1.461		42.051	0.01 Sig.
	Experimental	30	35.97	2.141			

It is clear from the results presented in the table (2) that there are statistically significant differences between the mean scores of the experimental and control groups in all skills of the pronunciation test and the total score of the test in the post administration in favor of the

experimental group, where all the values of (T) were statistically significant at two levels Significance (0.01) and degree of freedom = 58. These results agree with the first hypothesis or confirm its validity. These differences could be ascribed to the implementation of the computer assisted program. Therefore, the First hypothesis of the study was verified and accepted.

Figure (2), reports the results graphically:

Figure (2):) Comparing the control and the experimental groups on the post- administration of the pronunciation skills test
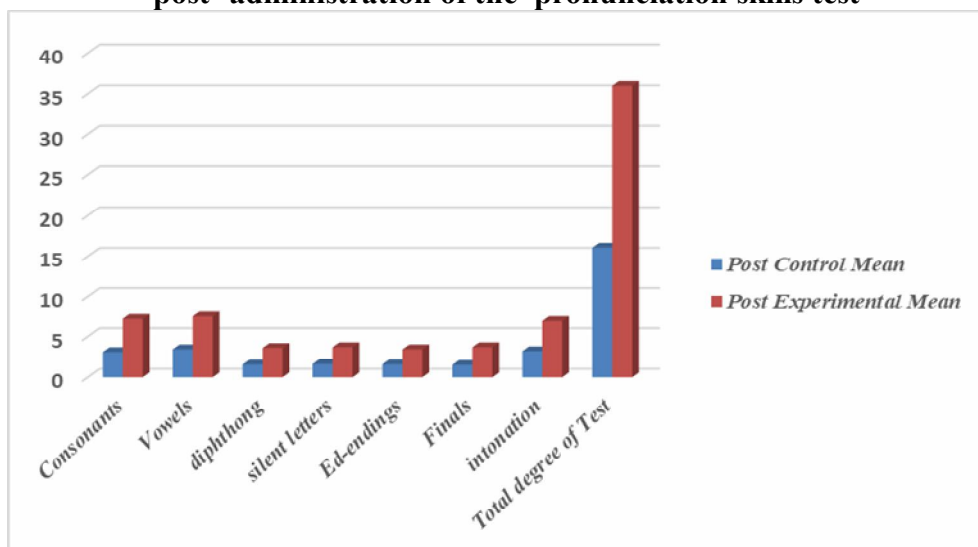
In the light of these results, the experimental group showed a clear superiority over the control one in the total score of the test. This means that the computer assisted program had enhanced pronunciation skills learning more than traditional method. These results are in line with the results of (Ghounane & Rabahi (2021) and Lee (2008).

**Testing the second hypothesis of the research**

The second hypothesis stated that "“There is a statistically significant difference at the 0.05 level between the mean scores of the experimental group on the pre-and post administration of the Pronunciation skills test in favor of the post administration”.

Table (3) Comparing the mean scores of the experimental group on pre- and post-administration of the Pronunciation skills Test

Skills	Application	N.of cases	Means	S.D	df	t.Value	Sig.
Consonants	pre – test	30	**3.17**	**0.747**		**14.984**	**0.01 Sig.**
	post – test	30	**7.17**	**1.085**			
Vowels	pre – test	30	**3.20**	**0.761**		**18.582**	**0.01 Sig.**
	post – test	30	**7.47**	**0.973**			
diphthong	pre – test	30	**1.57**	**0.504**		**18.111**	**0.01 Sig.**
	post – test	30	**3.60**	**0.563**			
silent letters	pre – test	30	**1.60**	**0.498**		**17.381**	**0.01 Sig.**
	post – test	30	**3.70**	**0.596**	**29**		
Ed-endings	pre – test	30	**1.47**	**0.507**		**16.109**	**0.01 Sig.**
	post – test	30	**3.43**	**0.504**			
Finals	pre – test	30	**1.50**	**0.572**		**14.966**	**0.01 Sig.**
	post – test	30	**3.70**	**0.596**			
intonation	pre – test	30	**3.17**	**0.747**		**19.507**	**0.01 Sig.**
	post – test	30	**6.90**	**0.923**			
Total degree of Test	pre – test	30	**15.67**	**1.561**		**38.626**	**0.01 Sig.**
	post – test	30	**35.97**	**2.141**			

It is clear from the results of the table (3) that there are statistically significant differences between mean scores of the experimental group on the pre and post administration in all pronunciation test skills and the total score in favor of the post- administration , where all the values of (t) were statistically significant at (0.01) level of significance and degrees of freedom (29). These results confirm the validity of the second hypothesis. The researcher attributes these differences to the program suggested.

Figure (3): The mean scores of the experimental group in the pre- and post- test administrations of Pronunciation skills Test
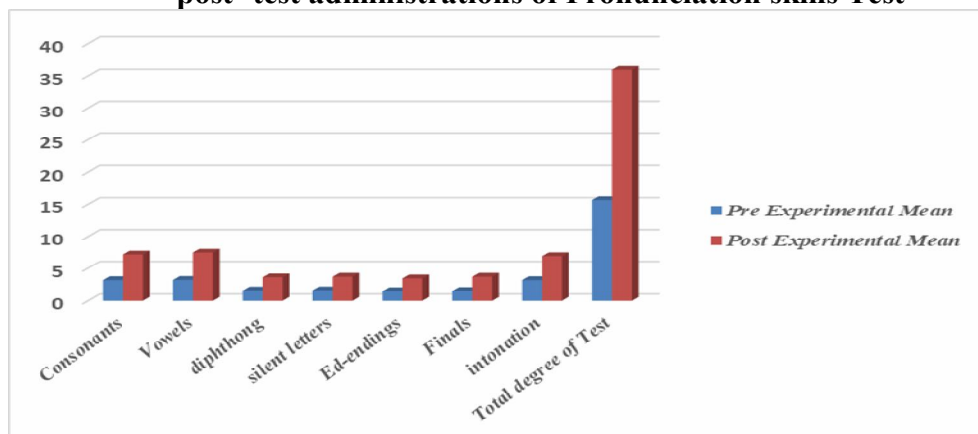
The effect size of the program on pronunciation skills was calculated and the results are shown in table (3):

Table(4) :Effect size of the computer assisted   program on developing experimental group pupils' pronunciation skills

Skills	η^2	Effect size
Consonants	**0.886**	High
Vowels	**0.923**	High
diphthong	**0.919**	High
silent letters	**0.912**	High
Ed-endings	**0.899**	High
Finals	**0.885**	High
intonation	**0.929**	High
Total degree of Test	**0.981**	**High**

It is clear from table (4) the strength of the effect of the computer assisted program used on the total score of the pronunciation test and its sub-skills. The values of ($\eta2$) in each skill and the total score of the test ranged   between   (0.885,   0.981). Figure (4) illustrates the same results in a graphical form.

Figure (4): Effect size of the computer assisted program on developing experimental group pupils' pronunciation skills
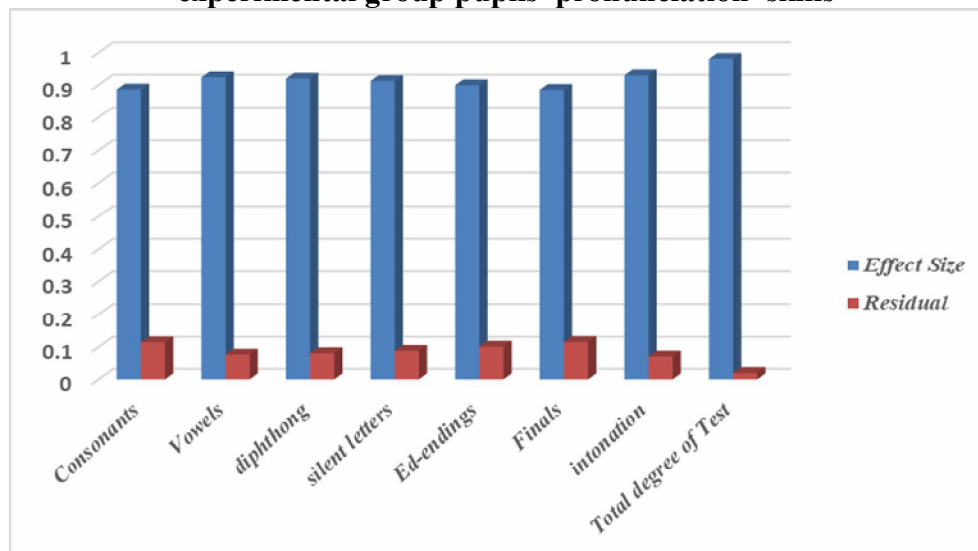
The increase in the pupils' level in the pronunciation skills after administering the program was due to using the computer assisted program. Most of the pupils were visually stimulated as a result of the many

interactive games,songs and activities which capture their attention and help them organize their ideas. These results are in line with Gilakjani & Sabouri (2017) and Bozorgian and Shamsi (2020) who reported that computer assisted programs were a great tool for reinforcing pronunciation development.

Thus, it is evident that the computer assisted program made a significant difference in the development of the pronunciation skills of the experimental group. The second hypothesis was,therefore, verified and accepted.

Discussion and results

Through the statistical analysis, the following are the results of the present research:

- There is a statistically significant difference at the (0.05) level of significance between the mean score of the experimental group in the pre and post EFL pronunciation test in favor of the post one.
- The current research provided evidence for the effectiveness of using the computer assisted program in developing the pronunciation skills of the EFL primary stage pupils.

Recommendations of the research

Based on the previous results and conclusion of the research , some practical recommendations were presented:

For teacher:

- The teacher should pay attention for teaching pronunciation skills by focusing on the intonation, vowels and consonants.
- Teachers should provide their classroom with authentic videos to help the pupils interact with other cultures.

For supervisors and school principals

Supervisors should train the teacher to activate the computer assisted program inside the classroom.

For Ministry of Education and curriculum designers

1. The pronunciation skills should receive appropriate attention in order to be enhanced especially at primary stages.
2. The computer assisted program should be integrated in the curriculum and in the classroom teaching.
3. Technology should be implemented in teaching English language to improve pupils` pronunciation skills .

Suggestions for further research

The present study suggested the following research:

1. Conducting a follow-up study on this research in order to see whether the computer assisted program training has the same influence on other language skills (listening and reading).
2. Using other strategies for enhancing EFL learners` pronunciation skills.
3- Using the computer assisted program to develop preparatory students' pronunciation.
4- Using the computer assisted program to develop primary pupils' grammar.

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