



# THE EFFECTIVENESS OF AN ELECTRONIC SOFTWARE IN DEVELOPING ENGLISH LANGUAGE SKILLS (READING AND WRITING) FOR THE PRIMARY STAGE STUDENTS IN JORDAN

FADI ABDUL RAHEEM ODEH BANI AHMAD

<sup>1</sup>Fadi Abdul Raheem Odeh Bani Ahmad, <sup>2</sup>Afraa Mohammed Sallam Saif

<sup>1</sup>Middle East University, Faculty of Educational Sciences, Jordan

<sup>2</sup>Middle East University, Amman - Jordan

E-mail: <sup>1</sup>[Fodah@meu.edu.jo](mailto:Fodah@meu.edu.jo), <sup>2</sup>[afraasallam@yahoo.com](mailto:afraasallam@yahoo.com)

**Abstract.** The study aimed to investigate the effectiveness of an electronic software in developing English language skills (Reading and Writing) for the primary stage students in Jordan. To achieve the objectives of the study, a quasi-experimental approach was used, and the sample was chosen purposefully. The sample consisted of (50) students from the sixth grade of Al Samiah International School. The study samples were distributed randomly into two groups: the experimental group which consisted of (25) students and the control group which consisted of (25). One instrument was prepared, which the achievement test (pre & posttest) was after verified their validity and stability. The results showed that there were statistically significant differences at the level ( $\alpha=0.05$ ) between the two groups for the benefit of the experimental group in the post-test, the researcher recommended to use the electronic software in schools.

**Keywords:** Effectiveness, Electronic Software, Development, English Language Skills, the Primary Stage in Jordan.

Received:

Accepted:

Published:

## INTRODUCTION

This research discusses the effectiveness of using electronic software in educational process. Whereas the tremendous advancement in information and communications technology, and the steady increase in computer applications have automatically contributed to changing the nature and form of institutions in general, especially educational institutions.

Dr. Al-Shboul and Alyan (2014) indicated that the technological development in the means of communication has a major role in the development of the educational process, and its manifestations is the entry of educational electronic software in the educational field, which has caused to scientific and technical development.

Educational software, as Saif (2019) indicated, is software that a team of specialists designs, develops, implements and uploads on a website to develop students' skills, understanding and awareness of students, while Hassouna & Harb (2018) and Abdel Fattah (2018) indicated that it is a digital software with an integrated technological educational structure of multimedia that interact with each other in the form of an integrated educational system.

Ataki (2014) also defined it as computer software that computerizes educational materials and units in a connected and sequential manner according to intact educational foundations by using multimedia, to achieve pre-prepared educational goals in a simplified and attractive way, and it depends on Skinner's theory that based on response and reinforcement, in which the role of the teacher is limited to Supervising and directing based on observing the individual differences of students.

Many studies also confirmed the effectiveness of electronic software in the educational process, including Saif Study (2019), Haniyeh Study (2019), Al-Jasser Study (2018) and Al-Asiri Study (2018) and Abkal and Attili Study (2018).

Based on the importance of employing technology in the educational field and developing, students' language skills, it was necessary to apply it in developing the (reading and



writing) skills in English language subject, in order to prepare students who are able to recognize and understand the English language and express by, and limit the obstacles to its application; therefore, interest and desire generated in researcher to know the effect of educational software to develop (reading and writing) skills in English language for basic stage students in Jordan.

### **Study problem**

The problem of the study stems from the researcher's diagnosis of the reality of the educational system in Jordan of the English language skills after a deep survey and study, and she has reached a conclusion that the level of students' skills in the English language is low, and one of the indications for this is the declaration of the Director of Examination Department at the Ministry of Education (2018), who stated The listening and reading skills of the English language subject, in addition to the vocabulary and grammar, were evaluated by "GlobalETS" in cooperation with the British Council for the sixth and seventh grades in the three regions of the Kingdom, and the results were below the required level. Also, Thneibat (2014) who was the former Minister of Education confirmed that 22% of the primary stage students unable to read or write English language, in addition, the Teachers Syndicate (2014) declared that a quarter of the primary stage students are unable to read or write. As for Dr. Majdalawi (2017) who is the curriculum expert, showed that there is a flaw in the reality of teaching the English language in some schools and it needs to be reconsidered despite the fact that learning English starts from the first primary class, and she has shown that extreme weakness resulted from neglecting focusing on the four skills: listening, speaking, reading and writing in English language. In addition to the absence of schools of language laboratories that enable students to have both listening and speaking skills that affect reading and writing skills. Yassin (2019) who the education and curriculum expert, agree with Majdalawi's opinion and adds that the weakness resulted from not using serious modern methods based on understanding, not memorizing and also it resulted from using the old ordinary method that was used for more than half a century. Several previous studies, including Al-Habahbeh study (2018) and Yassin study (2019), which also confirmed the low level of education and achievement of students in the primary stage in basic skills of the English language.

The researcher also conducted interviews with English language teachers in some schools in the capital, Amman, and she concluded that the teaching methods and techniques are still linked to the ordinary methods that reduce students' interactivity, in addition, teachers focus on some skills and neglecting other skills, although all skills are an integrated unit that complements each other.

Several international and local educational conferences also confirmed and recommended the use of technique and modern technologies, electronic educational software and computerization of curricula in a way that serves scientific and technological and make acceleration in the educational process in particular. Among these conferences is the International Conference on Education and E-learning (ICEEL) which held in United Arab Emirates in 2019, And the education conference "Towards Education makes difference" held in Qatar in 2019, the education conference in the Arab world (towards a distinguished educational system) held in Jordan in 2018 and from this standpoint, the researcher seeks to use electronic software in developing English skills "reading and writing", and to address the weaknesses of students in these skills.

## **LITERATURE REVIEW**

### **Features and benefits of electronic software**

Many researchers have confirmed the features and benefits of electronic software, including Yahyaoui (2019), who saw that it provides support services to the teacher and reduce



the burden on him such as managing the academic class in all respects, compensates his lack of experience, in addition to that it works to raise the efficiency and effectiveness of education outcomes. While (Szakiel, 2018) indicated that increases cooperation, it improves levels of student participation, implementation of clear communication channels between students, teachers, and parents, and It is considered one of the modern methods that encourage self-learning, and is suitable for creating educational content and educational activities. While (Nagata, 2017) added that it provides students with a high level of interaction with their lessons, moreover, it enhances the learning environment. Amer (2015) added that it provides a huge amount of training and interaction for students in addition to the presence of immediate feedback. Whereas (Nadrljanski & Nadrljanski, 2019) indicated that the educational software provides opportunities for self-learning and provides a method of feedback, in addition to that, it uses a simulation method that helps the learner to do scientific experiments. Also, it has a role in accessing educational information and resources easily, in addition to its role in making the process of educational fun and attractive.

(De Pablos, Tennyson, & Lytras, 2015) indicated that it can be used to teach academic skills such as mathematics and teach students how to think logically and solve problems. Also, it creates many opportunities for students and teachers to benefit from integration of some forms of technology in the classroom, while Alhadlaq (2012) believes that it provides an interactive learning environment that stimulates students' attention, and makes the educational process enjoyable and interesting.

### **Types of educational programs**

Educational programs are varied and take many forms in the field of education, whereas De3mes (2011) and Ali (2018) indicated their most prominent classifications:

#### **Drill and Practice Software**

These programs cover a wide range of study materials, to train students in mastery of academic content, where the program shows specific questions for the student on the screen after the teacher has taught. This type is used as a method to enhance individual education.

#### **Tutorial Program**

It is a program that determines the student's level and then starts from a point appropriate to his level, through some training and exercises.

#### **Gaming Tutorial Program**

It could be educational programs aimed at the learning process, but with meaningful entertainment.

#### **Simulation Program**

It provides computerized artificial situations that simulate real situations, to allow the student to gain experience which are rarely available in normal life because of the high cost or their seriousness.

#### **Teaching Management Program:**

It is a method for managing the educational process by computer, such as preparing, implementing, or evaluating tests and producing their results in a clear way to students and parents.



### **Problem Solving Program**

It is two types: a problem that the student writes, then he writes the solution to it on the computer, so the computer provides him with feedback either by mistake or right. As for the other type, the computer raises the problem and the student's task is to address and provide solutions.

### **Dialogue program**

It is a program through which a dialogue takes place between the learner and the computer.

### **Multimedia program**

It is a method of using programs that contain multimedia to attract the learner to the educational material.

### **Virtual Reality Program**

It is a way to use educational programs that are very useful for people with special needs because of its approximation to reality and attract the attention of all senses of the learner.

### **Stages of educational software production**

Abu Musa and Al-Sous (2014) mentioned them respectively as:

- Analysis and preparation stage: the designer puts a complete conceptualization of the program and its contents.
- The design and scenario writing stage: It is the stage where the designer's perceptions are translated from design, presentation requirements into detailed procedures, and real educational situations on paper.
- Software implementation stage: It is the stage where the scenario is implemented in the form of interactive multimedia software with the writing of some logical constructs.
- The experimentation and development stage: It is the stage where the software is presented to a number of arbitrators.
- The evaluation stage of the design stages: It is ensured that the educational and functional content of the program is free of technical errors.
- Publishing stage: this stage represented in the publishing and making the software available for download on the e-learning website.

### **Educational software production requirements**

The process of producing educational software requires an integrated team of educational design experts, curricula, teachers and experience programmers to design a clear-cut plan that results in the implementation of a well-designed and high-quality educational software (Amer, 2015).

### **Good educational design standards for e-learning software**

Hassouna and Harb (2018) indicating that one of the most important global standards for improving the technology of digital educational software, developing and publishing it is the SCORM standard because of its ability to fragment and prepare for the content. As for Shalaby &



Al-Masry & Asaad and El-Desoky (2018) and Al-Fraijat (2014), they indicated that the goal of the educational software must be clear and well-formulated taking into account the learners' characteristics (age-educational stage), also the learning should be positive and interactive, clear title, and clarity of instructions that must be followed by the learner to use the educational software, in addition to the element suspense and the variety of tests and exercises that suit the objectives of the software.

As for Al-Hila (2019) and Yahyaoui (2019) and Amer (2015), they shared the same criteria with Al-Masry & Asaad and El-Desoky (2018) and Al-Fraijat (2014), but they added to them criteria related to the selection of educational content, its organization and sequencing, criteria for learning activities and training, standards for providing immediate feedback and its diversity between sounds and images, graphics, evaluation of the learning process, teacher roles, students roles, the multimedia used, and presentation methods.

### **Software evaluation for learner performance:**

Al-Matroudi (2016) indicated that the evaluation is done through the formative evaluation, which takes place while students study a specific subject or through the final evaluation that takes place at the end of the educational program, so that the student has completed its requirements, and the final evaluation determines the degree of students' achievement of the main outputs of learning a course. It is also an integral part of Development of educational software.

### **English language and its importance**

In order to benefit from the modern technological era, we must learn English in particular, as the English language is one of the most important gains that a person acquires in this era, so that learning and mastery it, have become among the priorities of educational systems in the world. It is the official language of 67 countries, it is spoken by about 400 million people around the world as their mother tongue. Not only that, the English language is listed as one of the official languages in more than a quarter of the countries of the world. As (Mackenzie, 2014) mentioned, English is a central language and it is used simply to facilitate international exchanges whereas Jawad and Allaibi (2018) indicated that the English language occupies the first position in the transfer of science, technology and information in different educational institutions in foreign and Arab countries. AlJbour (2019) and Bani Khaled (2013) pointed out that Jordan is one of the most prominent countries that have been interested in teaching it as a basic requirement in the basic education stages, so that learning English starts from the first primary grade, it is being the main foreign language that is widely taught in schools and higher education institutions.

### **Reading skill**

Reading is an essential skill in learning a language, which in turn reflects a set of linguistic and cognitive activities for a set of written symbols and visual forms for decoding, translating these symbols, and understanding the writing (Zuhair, 2017), whereas Zamroni (2017) explained it as "extracting meaning from a written symbol or it is an instrument of intellectual communication between the reader and writer through the written symbol", while Grabe & Stoller (2020) states that reading is the ability to draw the meaning of a printed page and interpret this information in a coherent manner, while Halimah (2019) sees that reading skill is a mental activity that includes the reader's interpretation of the symbols he receives through his eyes which require understanding its meanings to understand what he reads, also reading skill is a key to knowledge, it is not just pronouncing words, structures and phrases. Astuti (2019) also indicated that reading is knowing how to pronounce letters and words in sentences correctly and realizing what the text includes and understanding it, while Nurhana



(2014) held that reading skill is related to the ability to distinguish letters and spelling, and to keep pieces of language in memory, as well as getting to know the essence of words and interpreting word order patterns and categories. Ramadan and Mukhtari (2018) mentioned that reading skills is two types: aloud or silent; silent is an intellectual and mentality process used to understand the written symbols and their implications in the mind of the reader without a voice where they are based on his eyes only, and aloud reading is used to communicate with others and communicate information to them.

### **Writing skill**

Al-Azzawi (2017) indicated that writing means depicting ideas clearly in correct words and structures, treating and refining them in various methods of range and depth. As for the Rababa'a (2016), he indicated that writing is a mental process based on generating ideas, formulating and organizing them, and then finalize them on paper. Ismail and Faraj (2019) indicated that writing skill is the ability to describe or express the components of the mind and it is the ability to transmit a feeling or an idea to others through the proper use of linguistic skills such as dictation, handwriting, composition, rules and punctuation marks.

### **How to measure reading and writing skills**

Al-Busais (2011) indicated that these basic language skills are measurable as follows:

1. Reading skill: Do students distinguish between letters? Do they pronounce the sounds from their correct exits? Do students pronounce the text and words without deleting the sounds, words or letters? Is the reading correct and the reading speed appropriate? Do they understand what they read? Do they conclude the main ideas from other ideas?
2. Writing skill: Do they write in a clear, correct and readable handwriting? Do they choose a suitable vocabulary that expresses the meaning? Do they take into account the completion elements of the sentence? Do they follow the correct grammar? Are they using suitable conjunctions tools? Do they use the punctuation tools correctly? Are the content parts from introduction to the conclusion in a proper sequent and arrangement? Is the idea clearly presented?

## **METHODOLOGY**

### **Study Approach**

Based on the nature of the study, the researcher adopted the quasi-experimental approach.

### **Study community**

The study population consisted of all students of the sixth grade in private schools in Jordan for the academic year 2019/2020 in the capital Amman, which numbered (1896) students according to the statistics of the Ministry of Education for the year 2019/2020.

### **The study sample**

The sample of the study consisted of (50) male and female students from the sixth grade of the primary stage in Asamiah International School affiliated to the Directorate of Private Education in the capital Governorate, the sample was randomly distributed to two groups: experimental and control.

**Table (1):** Distribution of the study sample according to group and gender variable

Group	Gender	Number	Total
Experimental	Male	15	25
	Female	10	
Control	Male	14	25
	Female	11	

The researcher used the (T) test for two independent samples to verify the equivalence of the two groups (experimental and control) before applying the study, and the results of the analysis showed that the value of T (1.147) at the level of significance (0.257) and this value is not statistically significant at the level of significance ( $\alpha \leq 0.05$ ), this indicates the equivalence of the two groups before applying the study.

### **Preparing and developing an electronic software to develop the English language skills (reading and writing)**

To achieve the goal of the study, the researcher developed and prepared an electronic software uploaded to a website using the steps and stages of Al-Fiqi and Mohammad model (2010). The researcher has confirmed the validity of the apparent tool by making a questionnaire and presented it to a group of arbitrators in the field of education and information technology from the members of the teaching staff in Jordanian public and private universities, and they are (8) arbitrators, while for the sincerity of the content of the software and the educational website, it has been verified through Preparing an evaluation questionnaire that was presented to a group of arbitrators specialized in the field of educational technology, and they are (15). As for the stability of the software and website resolution, it was found that they have a high stability factor according to the split -half method, where the correlation coefficient between the two groups was (0.985), and after correcting by Spearman-Brown equation it reached (0.992).

### **Study tool**

The study tool consisted of an achievement test in English language skills for the sixth grade, which the researcher developed. The validity of the test was determined in two ways: Face Validity, which was presented in its initial form to a group of arbitrators in the field of curricula, teaching methods, and the English language assessment, in addition to educational supervisors from the Ministry of Education and their number (12), and Construct Validity: Where the study tool achievement test was applied to an exploratory division from outside the study sample from the original study community from the sixth grade students, it consisted of (25) students to serve as a feedback to the researcher in terms of the effectiveness of the application of this tool.

As for the stability of the study tool "achievement test", it was calculated using the (Test-Retest) after two weeks from the first application of the survey sample. By applying (Pearson) formula for calculating the correlation of degrees, it was found that it equals (0.92) between the pre and post application. This indicates that the test has a high stability and accuracy of the study tool and its suitability for application. Stability was also calculated by the method of internal consistency (Cronbach alpha): where the stability value of the passages of the

achievement test arbitration tool ranged between (0.87-0.90), while the total stability value of the achievement test arbitration tool reached (0.90), and these stability factors are suitable for study purposes Current. As for the stability of the correction, the test was corrected by a corrector other than the researcher.

The values of the difficulty and discrimination coefficients were calculated for each of the paragraphs of the English language skills test applied at survey sample. The values of the difficulty coefficients ranged between (0.6) and (0.80), and the values of the coefficients of discrimination ranged between (0.25) and (0.88). These difficulty and discrimination coefficients are statistically acceptable so we use this test in the current study.

A specification table for the achievement test has been built in the light of English language skills for Bloom's cognitive levels.

### **Variables of the Research**

1. The Independent Variable:

It includes teaching method that has two levels:

Learning method by using electronic educational software.

- Ordinary learning method (without using electronic software).

2. The dependent variable: which includes: Development of the English language skills (reading and writing).

### **Research Goal**

The study aimed to identify the effectiveness of electronic software in developing the English language skills (reading and writing) for primary stage students in Jordan, and the questions were as follows:

1. What is the effectiveness of the electronic software in developing the reading skill of the English language subject for primary stage students in Jordan?
2. What is the effectiveness of electronic software in developing the writing skill of the English language subject for primary stage students in Jordan?

### **Study hypotheses**

This study seeks to test a set of hypotheses based on the goal and the study questions that were identified by the researcher, so the hypotheses were formulated as follows:

- Ho1: There is no statistically significant difference at the level of the function ( $\alpha \leq 0.05$ ) between the experimental group students' grades and the control group students' grade in the achievement test of reading skill in the English language subject when using the electronic software.
- Ho2: There is no statistically significant difference at the level of the function ( $\alpha \leq 0.05$ ) between the experimental group students' grade and the control group students' grade in the achievement test of writing skill in the English language subject when using the electronic software.

### **The importance of the study**

The importance of this study was as the following:

- This study may contribute to shed light on the effectiveness of electronic software in developing the English language "reading and writing" skills in particular, and the rest of the skills in general.





- This study may contribute to showing the importance of relying on electronic software to keep pace with the developments and novelty of era in educational and learning systems and their impact on learning in general and learning the English language in particular.
- This study may contribute to look at electronic software as a technical educational technology that attracts students to learn in an interesting, and attractive way.

## **Glossary of Study**

The most important terms covered in the current study that need clarification are the following:

### **Effectiveness**

Razzouki (70: 2020) defines it as "being used to describe the most capable means of achieving the set goals, and it is also known as one of the basic indicators used in judging the organization's ability to achieve goals, their continuation and their growth according to the basis that was placed."

The researcher defines it as: the effect that the electronic software will have on developing reading and writing skills in the English language for students of the sixth grade in Amman.

### **Electronic Software**

Abd Alwahab (10: 2017) defines it as: "a group of intangible educational materials designed using a computer to facilitate the process of teaching and learning, and to provide immediate feedback, according to the response, which in turn aims to learn a certain skill or reality according to pedagogical foundations."

The researcher defines it as: the multimedia software that a team of specialists designed, developed, implemented and uploaded it on a website to develop reading and writing skills in the English language.

### **Development**

Kafe (15: 2017) defines it as: "the intended processes that aim to produce rapid and permanent growth within studied plans during a specific period of time, governed by human will and human capabilities to move human into a state of progress and movement instead of a state of hibernation."

The researcher defines it as: the intended processes that aim to improve English language skills, the performance of sixth-grade students in general, and English reading and writing skills using electronic software in particular.

### **Skill**

Abu Al-Nasr (2017: 55) defines it as: "purposeful performance and activity, which is the expression of a mixture of experience and knowledge acquired by a person who desires to accomplish the required task with precision and mastery within the specified time."

The researcher defines it as: the ability and proficiency in the English language skills "reading and writing" for the sixth grade students after studying the subject required to be studied and determined in advance by using the electronic software.

## **Previous studies related to use the electronic software in developing English language skills (reading and writing)**

Alarawi (2017) conducted a study aimed at discovering the effectiveness of educational software in developing reading skill in the English language; to achieve the goal of the study, the researcher used the quasi-experimental approach. The study sample consisted of (52) students from the third secondary class students in the city of Riyadh in Saudi Arabia, they were randomly divided into two groups: an experimental group consisting of (26) students who were taught using "7 Speed Reading Software" And a control group consisting of (26) students, which was taught in the ordinary way. The researcher used an achievement test and a note card to measure the performance and cognitive aspect of reading skill as two study tools. The results showed that there was a statistically significant difference in favor of the experimental group that was studied by the software.

Lestari (2017) conducted a study aimed at measuring the effectiveness of PADLET software application to improve writing ability in writing skills in English. The researcher used the quantitative and qualitative approach. The study consisted of 39 students from the primary stage students at IKIP PGRI MADIUN School in Indonesia. The sample was chosen intentionally. The study tools were represented by applying a pre and post test to measure the quantitative data related to writing skill. The note card was used to evaluate the results of the transformation in the teaching process. The results of the study showed a statistically significant difference in favor of the post test due to the use of Padlet software and website.

Al-Ramamneh and Al-Hadidi (2018) conducted a study aimed at identifying the impact of a computerized program on improving comprehension reading for students with learning difficulties for the sixth grade level in public schools in Salt / Jordan region. The study used the Quasi-experimental approach, and the study sample consisted of (40) male and female students with learning difficulties in assimilative reading, and they enrolled in resource rooms. The sample was chosen and randomly divided into two groups: control group which consisted of: (20) male and female students from Allan Boys School and Aisha Secondary School for Girls, and the experimental group which consisted of (20) male and female students from Umm Joza Secondary School for Girls and Zay School for Boys. The results of the study showed a statistically significant difference in favor of the experimental group that learnt through electronic software.

Al-Muhairi (2019) conducted a study aimed at identifying the effect of computerized educational software in developing reading and writing skills and self-learning skills in reading and writing subject among the students of Jordan University. The researcher used the quasi-experimental approach, the study sample consisted of (60) male and female students of Jordan University in the second semester 2017/2018, the sample were distributed into two groups: experimental group which consisted of (30) students who studied using computerized educational software, and the control group which consisted Of (30) students who studied in ordinary way, the results of the study showed the presence of a statistically significant difference in favor of the experimental group that learnt through electronic software.

Al-Disi and Al-Smadi (2019) also conducted a study aimed at identifying the effectiveness of a computerized program in teaching reading skills among primary stage students in Jordan with difficulties in reading in the resource room. The study used the descriptive approach. The study sample consisted of (7) students who were officially diagnosed as having learning difficulties in reading at the Idebian Elementary School in Amman - Jordan. They were distributed to an experimental group that was studied using computerized educational software. The results of the study showed that there is a statistically significant difference in favor of the experimental group that learnt through electronic software.

To measure the effect of electronic games on developing English language skills, it was conducted (salama,2019) study aimed at measuring the effect of using electronic games in developing the intuitive English language skills for basic first grade female students in Amman. Two private schools which use electronic games in teaching were selected. The sample consisted of (40) basic first grade female pupils, for experimental and control groups. Two instruments were prepared: the first was a test to measure the intuitive English language skills,



while the second was an electronic software to measure the effect of using electronic games in the development of the intuitive English language skills for basic first grade female pupils. The quasi – experimental methodology was used to answer the following main question: What is the effect of using electronic games in developing the intuitive English skills for basic first grade female pupils, compared with the ordinary style in Amman?. The findings showed that there were significant differences in the intuitive English language skills between the experimental and control groups' pupils, in favor of electronic games software.

Both Abkal and Al-Attili (2018) conducted a study aimed at revealing the impact of a computerized training program based on the Osborne model. The researchers applied the quasiexperimental approach to a sample of (200) students from the tenth grade students in Ma'an in Jordan. The sample was divided into two experimental groups consisting of (100) male and female students and a control group consisting of (100) male and female students. The control group was taught in the usual way. The study found out that there are apparent differences between the degrees of the two groups in the skills of self-learning, fluency and good expression. The study recommended the need to train school students to solve problems creatively in separate and specialized programs

### **Commentary on previous studies**

The researcher presented a set of previous studies, related to the aim of the study to know the effectiveness of electronic software in developing (reading and writing) skills in English language. Alarawi study (2017), and Al-Disi and Al-Smadi study (2019) focused on the impact of electronic software in developing reading skill. While Lestari study (2017), Al-Ramamneh and Al-Hadidi study (2018) focused on the effect of electronic software on developing writing skill. While Al-Muhairi study (2019) focused on knowledge of the effectiveness of electronic software in developing (reading and writing) skills.

The current study agreed with some previous studies in terms of the study methodology, where the researcher used the quasi-experimental approach except Al-Disi and Al-Smadi study (2019) that used the descriptive approach, and Lestari study (2017) which used the quantitative and qualitative approach. All studies were similar in the study tools, as they used the software and the pre and post test. While Alarawi study (2017) and Lestari study (2017) differed by adding a note card and Al-Muhairi study (2019) which adds a questionnaire to measure self-learning skills

While the current study was distinguished from other studies as it includes most of the study tools and the sample took from the private education sector. The current study was similar to all previous studies in its sample which representative by school students, except Al-Muhairi study (2019), which representative by student's university and the current study matched in class grade specifically with Al-Ramamneh and Al-Hadidi study (2018). As for the country of study where was Jordan, it is similar to Al-Ramamneh and Al-Hadidi study (2018) and Al-Disi and Al-Smadi study (2019). The current study is similar to Al-Muhairi study (2019), but it differs from it, as the current study consists of a sample of sixth-grade students, while Al-Muhairi's study dealt with university students. The current study distinguishes from other previous studies is that it was developed listening and speaking English language skills using the software before doing this research because of their impact on reading and writing skills.

## **FINDINGS / RESULTS**

### **First: Results related to answering the first study question and its text:**

#### **What is the effectiveness of electronic software in developing the reading skill for English language subject for primary stage students in Jordan?**

The hypothesis related to this question states that "there is no statistically significant difference at the level of significance ( $\alpha \leq 0.05$ ) between the mean scores of the control and experimental groups in reading skill in English language subject of primary stage students in Jordan due to the use of electronic software in teaching. "With the aim of testing the hypothesis, the mean and standard deviations for the degrees of the study sample for experimental and control group of reading skill for the English language subject were calculated.

**Table (2):** The means and standard deviations of the control and experimental groups in reading skill

Group	Quantity	Descriptive statistics	pretest	Post test
Control		mean	4.04	<b>6.96</b>
	25	Standard deviation	2.34	<b>1.37</b>
Experimental		mean	3.96	<b>8.56</b>
	25	Standard deviation	1.74	<b>1.39</b>
Total		mean	4.00	<b>7.76</b>
	50	Standard deviation	2.04	<b>1.59</b>

And the result has been shown that there are Ostensibly differences in pre and posttests between the mean degrees of the study sample for the control and experimental groups in the reading skill, where the results of pre-test indicates that there is an ostensibly difference in the mean between the two groups by (0.08) in favor of the control group. The results also indicate in the post test that there is ostensibly difference in mean in reading skill between the two groups (1.60) in favor of the experimental group. To find out whether this difference was statistically significant at the level of significance ( $\alpha \leq 0.05$ ), and in order to isolate the difference between the two groups in the pretest application of the test, an ANCOVA was used.

**Table (3):** Analysis of covariance (ANCOVA) for the control and experimental groups in reading skill

	Sum of squares	Degrees of freedom	Mean of Squares	computed (f) value	Indication level	Eta squared	$\eta^2$
pretest	61.076	1	61.076	95.544	0.000		
Teaching method	33.762	1	33.762	52.816	0.000	Large	<b>0.529</b>
The error	30.044	47	.639				
Total	3134.000	50					

**Table (4):** Adjusted average for the control and experimental groups in reading skill

Group	Number	Adjusted Average	Standard error
-------	--------	------------------	----------------

Control	25	6.94 <sup>a</sup>	<b>0.160</b>
Experimental	25	8.58 <sup>a</sup>	<b>0.160</b>

The results showed that there is a statistically significant difference at the level of significance ( $\alpha \leq 0.05$ ) between the mean of the students' degrees in reading skill of the experimental group and the control group, where the calculated value of (F) was (52.816) and this value is statistically significant, which means rejecting null hypothesis that associated to the first question. To know the direction of the differences, the modified post- degrees mean were calculated for the members of the control and experimental group in the reading skill in the English language.

The results indicated that the modified post -test mean is in favor of the experimental group, that is, there is an effect of using the electronic software in teaching the reading skill, to find out the size of the effect of using electronic software in teaching on reading skill, an ETA squares ( $\eta^2$ ) was calculated whose value (0.529), according to the Cohen's Standard, this value falls between ( $1 \geq f \geq 0.40$ ), meaning that the effect size was large.

**Second: The results related to answering the second study question and its text:  
What is the effectiveness of the proposed electronic software in developing the writing skill of the English language subject for primary stage students in Jordan?**

The hypothesis related to this question states that "there is no statistically significant difference at the level of significance ( $\alpha \leq 0.05$ ) between the mean scores of the control and experimental groups in writing skill in English language subject of primary stage students in Jordan due to the use of electronic software in teaching. With the aim of testing the hypothesis, the mean and standard deviations for the degrees of the study sample for experimental and control group of writing skill for the English language subject were calculated.

**Table (5):** Means and standard deviations of the control and experimental groups in writing skill

Group	Number	Descriptive statistics	pretest	Post test
Control	25	mean	5.36	<b>6.56</b>
		Standard deviation	1.75	<b>1.23</b>
Experimental	25	mean	4.72	<b>7.92</b>
		Standard deviation	1.54	<b>1.44</b>
Total	50	mean	5.04	<b>7.24</b>
		Standard deviation	1.67	<b>1.49</b>

The result has been shown that there are ostensibly differences in pre and posttests between the mean degrees of the study sample for the control and experimental groups in the writing skill, where the results of pre-test indicates that there is an ostensibly difference in the mean between the two groups by (0.08) in favor of the control group. The results also indicate in the post test that there is ostensibly difference in mean in writing skill between the two groups (1.60) in favor of the experimental group. To find out whether this difference was statistically significant at the level of significance ( $\alpha \leq 0.05$ ), and in order to isolate the difference between the two groups in the pretest application of the test, an ANCOVA was used.

**Table (6):** Analysis of covariance (ANCOVA) of the control and experimental groups in writing skill

	Sum of squares	Degrees of freedom	Mean of Squares	computed (f) value	Indication level	Eta squared	$\eta^2$
Pretest	53.177	1	53.177	76.146	0.000		
Teaching method	37.604	1	37.604	53.846	0.000	Large	<b>.0534</b>
The error	32.823	47	0.698				
Total	2730.000	50					

**Table (7):** Adjusted average for the control and experimental groups in writing skill

Group	Number	Adjusted Average	Standard error
Control	25	6.36 <sup>a</sup>	<b>0.169</b>
Experimental	25	8.12 <sup>a</sup>	<b>0.169</b>

The results showed that there is a statistically significant difference at the level of significance ( $\alpha \leq 0.05$ ) between the mean of the students' degrees in writing skill of the experimental group and the control group, where the calculated value of (F) was (53.846) and this value is statistically significant, which means rejecting null hypothesis that associated to the second question. To know the direction of the differences, the modified post- degrees mean were calculated for the members of the control and experimental group in the writing skill in the English language. The results indicated that the modified post -test mean is in favor of the experimental group, that is, there is an effect of using the electronic software in teaching the writing skill, to find out the size of the effect of using electronic software in teaching on writing skill, an ETA squares ( $\eta^2$ ) was calculated whose value (0.534), According to the Cohen's Standard, this value falls between ( $1 \geq f \geq 0.40$ ), meaning that the effect size was large.

## DISCUSSION

### Discuss the findings and recommendations

**First: Discussing the results related to answering the first study question, which states: What is the effectiveness of electronic software in developing the reading skill of the English language for primary stage students in Jordan?**

The results of the null hypothesis test showed its rejection, as the use of electronic software was effective in developing reading skill in English language for primary students, sixth grade in Jordan. This result can be explained by the fact that the use of electronic software contributed in developing the reading skill in English language subject by training students in the personal practice of reading and it provided feedback to them in a variety of ways, whether verbally or otherwise, also it provided students with a tool they can use it at any time. - The researcher may also attribute this result to the fact that the software affected learning through the use of an interactive, enjoyable and stimulating method for presenting information, which resulted in students' interests and desires directed towards reading, and this result agreed with



the results of previous studies that indicated the effectiveness of computer programs and the multimedia means in developing the reading skill among students.

**Second: Discussing the results related to answering the second question, which states: What is the effectiveness of the proposed electronic program in developing the writing skill of the English language subject for primary stage students in Jordan?**

The results of the null hypothesis test showed its rejection, as the use of electronic software was effective in developing writing skill in English language for primary students, sixth grade in Jordan. This positive result can be explained by the use of the gradual method in teaching writing, as the software began in teaching student's vocabulary as a first step and provided them with an opportunity to collect the largest possible number of vocabulary necessary for writing the paragraph, in addition, it taught them how to use punctuation and trained them the spelling. Also, the software provided different methods for training students on how to form paragraphs, by using the hamburger sandwich image that had implications for how to write paragraphs in a way that enables students to comprehend and understand quickly. The researcher may also attribute this result to the fact that the software provided instructions and instructions for the correct method of writing and its steps, which showed progress among students in writing in the post-test, in addition, the use of electronic software made students active and motivated to write. This positive result agreed with the results of previous studies that indicated the effectiveness of computer programs and the multimedia means in developing the writing skill among students.

### **Study recommendations**

1. Paying attention to use electronic software in teaching the two English language skills (reading and writing) to primary school students. Because it has an impact on students' willingness and motivation for learning.
2. Directing English language teachers to use educational software within the training and qualification programs provided to them.
3. Using modern methods and strategies in education, such as using educational software.
4. Being away from memorization and indoctrination in teaching in general and developing English language skills (reading and writing) in particular.
5. Focusing on the role of software in learning the English language for primary school students due to its effectiveness in educational science.
5. Focusing on the role of software in learning the English language for elementary school students, due to its effectiveness in educational process.

### **Limitations**

The results of this study were determined by its society, the degree of response of the sixth grade students, and the nature of its tool, as the results of the study can be generalized to societies similar to their society in light of the sincerity of the tool and its coefficient of stability and the objectivity of students' response to the achievement test.

### **ACKNOWLEDGEMENTS**

The author is grateful to the Middle East University, Amman, Jordan for the financial support granted to cover the publication fee of this research article.

### **REFERENCES**



- Abd Alwahab, M. M. (2017). Designing an electronic software to develop skills for designing and building electronic tests for the postgraduate admission stage at the Islamic University. *Journal of the College of Education*, 33(10),444-481.
- Abdel-Fattah, H. (2018). *Introduction to educational technology*. Amazon.
- Abkal, M. M., & Al- Attili, M. A. (2018) The impact of a computerized training based on the Osborne model in the development of creative thinking to solve the problems of achievement among the tenth grade students. *Journal of Educational and Psychological Sciences*, 2(19), 66-97.
- Abu Al-Nasr, M.M. (2017). *Research methods in social work*. Cairo: The Arab Group for Training and Publishing.
- Abu Musa, M.A., and Al-Sous, S. A.S. (2014). *Blended learning: between traditional and e-learning*. Amman: Academics for Publishing and Distribution.
- Alarawi, G. (2017). *The Effectiveness of Educational Software in Improving the English Language Reading Skill*, [Unpublished Master Thesis], Middle East University, Amman: Jordan.
- Al-Asiri, Z.A. (2018). *The effect of using Nearpod software in achieving chemistry and developing social communication skills among tenth grade students in the State of Kuwait*, [Unpublished Master Thesis], Jordan University, Amman: Jordan.
- Al-Azzawi, N.M. (2017). *Teaching compass in the Arabic language*. Amman: Ghaida Dar for Publishing and Distribution.
- Al-Busais, H.H. (2011). *Development of reading and writing skills*. Damascus: The Syrian General Book Authority.
- Al-Disi, R.M., Al-Smadi, J.M. (2019). The effectiveness of a computerized program in teaching reading skills among the elementary students in Jordan with reading difficulties in the resource room. *University of Palestine Journal for Research and Studies*. 9 (3), 59-89.
- Al-Fiqi, M.S., & Mohammad, N.(2010). "The use of electronic learning tools for faculty assistants at faculties of specific education and its trends towards it," the sixth scientific conference of the Arab Association for Education Technology "digital solutions for the learning community", for the period from 3-4 November 2010, Institute of Educational Studies, Cairo University, Egypt.
- Al-Fraijat, G. A. M. (2014). *Introduction to educational technology*. Amman: the treasures of knowledge.
- Al-Habahbeh, H.A. (2018), The extent to which technology tools are used in teaching English for the upper stage in the schools of Shoubak district from the students' point of view. *Al-Hussein Bin Talal University Journal for Research*, 4 (1),72-93.
- Al-Hadlaq, A. (2012). Characteristics of quality instructional software from the perspective of Saudi educators and designing an evaluation form. *King Saud University Journal*, 24(2), 423-463.
- Al-Hila, M. M. (2019). *Design and production of educational learning aids*. Amman: Dar Al Masirah for Publishing and Distribution.





- Ali, A.Q.M (2018). Designing educational programs according to educational techniques. Amman: Ghaida Dar for Publishing and Distribution.
- Al-Jasser, M. H. (2018). The effect of using a proposed educational computer program on the achievement of second-year secondary students for biology in Riyadh. *Journal of the College of Education - Al-Azhar University*, 37 (177), 49-87.
- AlJbour, A, (2019). "Experts: a defect in the curriculum and the weakness of the teacher are generating a knot on the English language", Arabic site of the Jarasa Channel (Online), 30 March 2019 retrieved from: <http://www.gerakanews.com/article/336028>
- Al-Masry, H.I. (2017). The effectiveness of an electronic program in developing the skills of speed and reading comprehension among 4<sup>th</sup> graders in Gaza, [unpublished Master Thesis], Islamic University of Gaza, Gaza: Palestine.
- Almatroudi, A.S. (2016). The reality of applying educational software specifications in light of the principles of Briggs & Gane theory from the viewpoint of computer material teachers in Riyadh. *Journal of the Faculty of Education, Benha University*, 27 (106), 1-36.
- Al-Muhairi, A.K.(2019). The impact of instructional software in developing reading, writing and self-learning skills in reading and writing curriculum for the students of the University of Jordan. *The Arab Journal of Quality Assurance in University Education*, 12 (39), 63-84.
- Al-Ramamneh, A.L., & Al-Hadidi, M. (2018). The impact of a computerized program on improving comprehension reading for students with learning difficulties for the sixth-grade level in government schools in Salt / Jordan region. *Journal of Educational Science Studies*, 45 (4).
- Al-Shboul, M.A., & Alyan, R.M. (2014). *E-Learning*. Amman: Dar Safa for Publishing and Distribution.
- Amer, T.A.R.(2015). *E-learning and virtual education: contemporary global trends*. Cairo: The Arab Group for Training and Publishing.
- Astuti, F.P. (2019).Peer education to upgrade reading skill, [unpublished Master Thesis], Ar-Raniry state Islamic university, Banda Aceh: Indonesia.
- Ataki, M. (2014). The effectiveness of a program based on the use of second-generation tools for the web in developing the skills of producing electronic lessons for students of the Faculty of Education, [unpublished doctoral dissertation], Al-Azhar University, Cairo: Egypt.
- Bani-Khaled, T. A. (2013) Learning English in difficult circumstances: the case of north badiah disadvantaged schools in Jordan. *Australian Journal of Basic and Applied Sciences*, 7(8), 269-284.
- De3mes, M.N. (2011). *Educational Technology and Education Computing*, (1<sup>st</sup> ed.). Amman: Dar Ghaida for Publishing and Distribution.
- De Pablos, P. O., Tennyson, R. D., & Lytras, M. D. (2015). *Assessing the Role of Mobile Technologies and Distance Learning in Higher Education*. USA: Information Science Reference(IGI Global).



- Grabe, W., & Stoller, F. L. (2020). *Teaching and Researching Reading: Third Edition*. New York, USA: Routledge.
- Halimah, Aqif (2019). Teaching reading skill to non native speakers. *Journal Lisanuna*, 9 (2), 249-259.
- Haniyeh, E.F. (2019). The effect of instructional software for earth and environment subject on increasing achievements of ninth grade students at King Abdullah the ii for excellence school in Irbid. *Journal of Educational and Psychological Sciences*, 3 (18), 27-44.
- Hassouna, I. O., & Harb, S.A. (2018). *Computer and communications technology in education*. Gaza: Al-Aqsa University.
- Ismail, W., and Faraj, A. (2019). The low and poor reading and writing of middle school students from the viewpoint of educational supervisors in the city of Baghdad. *Medad al-Adab*, 509-542.
- Jawad, N. A.-M., & Allaibi, B. A.-H. (2018) The Importance of the English Language. *Journal of Administration and Economics*, (114), 360-369.
- kafe, M.Y. (2017). *Sustainable development*. Amman: Academics Dar for Publishing and Distribution.
- Lestari, S. (2017). Implementing PADLET Application To Improve Writing Ability In English Writing Skill For Non English Department Students. *LET: Linguistics, Literature and English Teaching Journal*, 7(1), 1-16.
- Mackenzie, I. (2014). *English as a lingua franca theorizing and teaching*. London and New York: Routledge.
- Majdalawi, R. (2017). "Experts: Curriculum flaws and teacher weakness generate the "English Language" node", Al-Ghad channel. (Online), 1 June 2020 retrieved from: <https://alghad.com/%D8%AE%D8%A8%D8%B1%D8%A7%D8%A1%D8%AE%D9%8%9>
- Ministry of Education, Exam Administration Director (2018). "Education: The results of English language evaluation are substandard", Jafra News channel (Online), available: 30 Feb 2020 retrieved from <http://www.jfranews.com.jo/post.php?id=213477>
- Nadrljanski, M., & Nadrljanski, Đ. (2019). *Digital Media: Educational Software*. Independently Published.
- Nagata, S. (2017). "What You Need To Know About Educational Software", elearning industry, On-Line), 30 Feb 2020 retrieved from [: https://elearningindustry.com/need-know-educational-software](https://elearningindustry.com/need-know-educational-software)
- Nurhana, R.D. (2014). *Improving students reading skills through interactive multimedia of the 8th grade at smp raden fatah cimanggu cilacap in the academic year for 2013/2014*, [Unpublished master thesis], Yogyakarta State University, Yogyakarta: Indonesia.
- Rababa'a, I.A. (2016). *Writing skill and teaching models*. Jeddah: Dar Al-Alukah Publishing.



- Ramadan, H.I. & Mukhtari, F. (2018). Standards of Arabic Language Skills for Speakers of Other Languages: Refereed Research. Turkey: Turkish Arab Forum.
- Razzouki, N. N. (2020). The effect of the performance evaluation strategy on organizational effectiveness. Alexandria: Dar of University Education.
- Saif, A. (2019). The Effectiveness of an electronic software in developing English language skills for the primary stage students in Jordan, (Published Master Thesis), Middle East University, Amman: Jordan.
- Shalaby, M.J., Al Masry, I. J., Asaad, H. & El Desoky, M. (2018). Educational techniques and their applications in curricula. Cairo: Dar of Knowledge and Faith for publication and distribution.
- Salamah, A. & Attary.A.(2019). The effect of using electronic games in developing the intuitive English language skills for basic first grade female pupils, International of Research in Educational Sciences.2(2). <http://search.shamaa.org/FullRecord?ID=240934>.
- Szakiel, P. (2018). "5 Ways Software Can Benefit the Classroom in 2019" Learning Hub (Online), 17 Nov 2019 retrieved from: <https://learn.g2.com/software-benefit-classroom>.
- Teachers Syndicate (2014). "Why is education in Jordan collapsing?", Ammon News Agency (Online), 7 Dec 2019 retrieved from [:https://www.ammonnews.net/article/185334](https://www.ammonnews.net/article/185334)
- Thneibat, M. (2014). "Why is education in Jordan collapsing?", Ammon News Agency (Online), 22 Feb 2020 retrieved from:<https://www.ammonnews.net/article/185334>.
- Yahyaoui, I.O. (2019). The impact of information and communication technology on the educational process in Algeria. Amman: Al-Yazouri Scientific Dar.
- Yassin, A.A. (2019). "The level of English among our school students: reality and solutions", Dunia Al-Watan (Online), 22 April 2020 retrieved from: <https://pulpit.alwatanvoice.com/articles/2019/10/28/505293.html>.
- Zamroni, A. (2017). Modern Strategies to Develop Reading Skills. International Journal of Arabic Teaching and Learning (iJATL), 1(1), 36-57.
- Zuhair, A.M. (2017). The relationship of phonemic awareness with understanding the reading skill of primary school pupils, Al-Hikma Journal for Social Studies, 12,248-258.