

The Efficiency of Using Educational Electronic Games in Improving English Language Skills for Fourth Elementary Grade Students

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Abstract

This study examined the efficiency of using educational electronic games in improving English language skills of the fourth Elementary grade students in Riyadh region, Kingdom of Saudi Arabia. To achieve the objectives of the study, two tests were prepared: first, to measure English language skills and the second to measure the electronic programming that provides appropriate validity and reliability. Afterwards, the programme was applied to the sample that consisted of 63 female students who were randomly distributed into two samples; one represented the experimental group (31 students) and the second the control group consisting of 32 students, from those who were enrolled during the second semester of the academic year 2015-2016. In order to answer the main questions of the study, means, standard deviations and One-Way- ANOVA were used. The study showed that there are no significant statistical differences in the English language skills among either group (experimental and control groups) that are attributed to the method of teaching, for the benefit of the software of the educational electronic games.

Keywords: Educational electronic games, English language skills, the elementary grade.

1. Overview

Playing is the source from which a child receives information and through it they learn how to deal with the external world and discover what goes on around them; it is a natural activity that contributes in creating a climate of competition and creativity (Marget, 2000). However, modern education confirms the role of purposeful games and calls to use them in raising children, due to their role in creating a vital role in forming the dimensions of the child's character. In addition, play is the child's world; it is the frame of early childhood and the key to nurturing them. Moreover, it is the key to life; playing during the first years of life is parallel with the child's growth (Marino, 2013). In this context, games play a significant role in searching for new things as well as to activate the learner's role as a means for recreation and to spend energy, create emotions and to discover the features of the environment through experimentation; it is a means of developing various thinking skills (Moreno, 2008). It is well known that learning through play is considered a useful and efficient means. In this regard, psychologists support such use within modern educational attitudes. The efficiency of this method becomes more serious the further we descend into the educational scale/system and this can be reflected in the positions and perspectives on this method. It motivates them and fills the educational climate with interest and enthusiasm provided that competition is honest and avoids the desire for revenge.

In this vein, educational play is a modern style in teaching and learning; it engages the learner in a dynamic situation where they interact within educational situations with their peers and other learners in order to motivate their interest in the educational situation and to attract their attention to the material and present it in such an interesting and objective way, which will result in raising the efficiency and competency of the learner to the greatest possible extent (Walker & Delacey, 1994). It is worth confirming that games are linked strongly with children, which provides it with a good position in child literature while employing educational games as a modern method for instruction. This method is used mainly during the lower primary stages; games focus on the learner's activity and response and give them an active role in the educational process, since all children's lives during this stage are "play". In addition, educational games improve learning in the educational process and provide the learner with new concepts and develop various processes (Kitchenham, 2005).

In this regard, Walker and Delacey (1994) conducted a study that aimed to examine the effect of using computers in developing the oral capacities of children. The pilot study was conducted on two groups of students (an experimental and a control group) (11 students) who learned by using computers, while the second group (the control group) (10 students) were taught by the traditional method. Pre- and post-tests were applied on the sample and the researchers concluded that using computers was efficient in developing children's language and in increasing their oral skills.

Problem of the study

The process of learning English language skills for students of the elementary stage is necessary since it is a new and important language that should be learned in addition to the mother tongue (Krause, 2007). Among the most important methods for child learning is "play", in order to attract them to learn through employing educational electronic games that include sound and pictures, in order to improve English language skills of the fourth grade students (Lynna, 2004).

Questions of the study

The current study aimed to examine the efficiency of using educational electronic games in improving English language skills of the fourth grade female students in the Riyadh region, Kingdom of Saudi Arabia, through answering the main question: Are there any effects of using educational electronic games in improving English language skills of the fourth grade female students in Riyadh region, Kingdom of Saudi Arabia?

In order to answer this main question, the following hypothesis was tested:

There are no significant statistical differences at ($\alpha = 0.05$) between the means of the performance of the fourth grade students for the English language skills, who study English language, together and separately, that are attributed to the method of instruction (educational electronic games and the traditional method).

Objectives of the study

The study intended to examine the efficiency of using educational electronic games in improving the English language skills of the fourth grade students in Riyadh region, Kingdom of Saudi Arabia.

Significance of the study

The importance of the study is embodied in the following:

- It helps specialists and teachers of the elementary stage to focus on the practical aspect through employing educational electronic games in teaching children.
- Focusing on the need to develop the students of the elementary stage in English language skills.
- The need to create more interest by teachers and parents in English language electronic games to develop child skills.

Limitations of the study

Place limitation: The study was applied on the female students of the elementary stage in Riyadh region, Kingdom of Saudi Arabia.

Time limitation: this study was applied during the second semester of the academic year 2015-2016.

Human limitation: the study was applied to the fourth elementary grade students in Riyadh region.

Method and procedures

Methodology

The researcher used experimental methodology since it fits with the nature of the study that aimed to examine the efficiency of using educational electronic games in improving English language skills of the fourth grade students.

Population of the study

The population of the study consisted of the fourth elementary grade students in Riyadh region.

Sample of the study

The sample consisted of 63 female students; the experimental group consisted of 31 students while the control group consisted of 32 students, who were chosen randomly from the schools of Riyadh region during the second semester of the academic year 2015-2016.

Instrument of the study

In order to achieve the objectives of the study, the researcher constructed two instruments . First, a test for measuring English language skills, which includes visual conception skills, the ability to memorize and the skill to concentrate. The test included shapes, drawings and colours that are fit for the fourth elementary grade students. Second, the researcher used software to measure the efficiency of using educational electronic games in improving English language skills of the fourth grade elementary students. The test focuses on the skill of visual comprehension through presenting various colours and shapes. The test was presented to a group of referees to ensure it was appropriate for the purposes of the study.

Test validity

To ensure the validity of the test, it was presented to 11 referees who are specialized in English language teaching methodology, to judge the validity of the items in light of the educational objectives and as per the table of specification. The referees provided a series of comments relating to the wording of some items, and thus the researcher re-worded them, and then prepared the final form of the test.

Test reliability

To ensure the reliability of the test, the measure was applied on a sample that consisted of 30 female students other than the sample of the study. It was returned within 15 days. Pearson factor between the two applications was calculated, as the reliability value for English language skills was 0.88 and the reliability of the electronic software was 0,85. Both coefficients have significant reliability and are considered suitable for the purposes of the current study.

Design of the study and statistical processing

The current study is a semi-experimental one that included two groups (an experimental and a control group) which were not equal for pre- and post-tests. In order to answer the main question of the study, the researcher used means, standard deviations and One-Way ANOVA.

Results and Discussion

Results of the study

The current study intended to examine the efficiency of using educational electronic games in improving the English language skills for the fourth grade female students in Riyadh region, in the Kingdom of Saudi Arabia.

First question: What is the effect of using educational electronic games on improving the English language skills for the fourth grade female students in Riyadh region, in the Kingdom of Saudi Arabia?

To answer the first question means and standard deviations were calculated with an analysis for the multiple variations. Table 1 shows the results of the question.

Table 1: Means and standard deviations of the responses of the experimental and control groups

Group	Pre- test			Post test		
	Number	Means	SD	Number	Means	SD
Experimental	31	2.94	1.00	31	20.94	2.91
Control	32	2.78	0.87	32	14.81	2.21

From the table above, it is clear that the means of the experimental group on the pre-test was 2.94 with a standard deviation 1.00, but on the post-test, it became 20.94, with a standard deviation of 2.91. As for the control group, the means of the performance group on the pre-test was 2.78 (SD: 0.87) and became 14.81 on the post-test (SD: 2.22). This shows that there were significant statistical differences between the means of the two groups. To ensure that such differences are vital, multiple variation analysis was made. The results are presented in Table 2.

Table 2: Results of the multiple variation in the academic achievement between the two groups (experimental and the control).

Source of variation	Total squares	Degree of freedom	Means of squares	F	Significance
Pre-test	0.12	1	0.12	0.02	0.89
Group	584.80	1	584.80	86.29	0.00
Mistake	406.62	60	6.78		
Total	991.55	62			

From the above table, it is clear that F value for the variation in the means between the two groups reached the level of 0.05 and below in the statistical level, which was 86.29 with a significance level below 0.05. This indicates that using educational electronic games was efficient in improving English language skills for the fourth grade female students.

The research may justify this result in that playing creates an interactive environment between the student and the educational material, transforms the educational climate into one of interest and pleasure and encourages cooperation among the students when playing group games. In addition, playing creates a kind of positive competition among the learners during study, which increases their level of concentration and attention during the educational situation and enhances discovery that is positively reflected in their motivation for learning.

Recommendations

- Enhance the use of education that is based on electronic games due to its importance in motivating learners.
- Variation in the methods used for teaching English due to their importance in improving the academic achievement.
- Conduct training courses for teachers on the ways of using electronic games and to include that in various educational situations.
- Conduct further studies on the importance of learning by play in English on other grade levels.

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