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**Dr. Efad Abdul Jabbar
Ghadban**

Iraqi Ministry of
Education/ Karkh First
Education/ Baghdad

Email:

Jaiuwudh23@gmail.com

0774 707 9172

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The Effect of Using Mnemonics Strategies on Iraqi EFL Fine Arts Institute Students' on Vocabulary Retrieval

A B S T R A C T

The study aims to assess the effect, if any, of mnemonics strategies on Iraqi EFL Fine Arts Institutes students' on vocabulary retrieval.

The research adopted a quasi-experimental design and used twenty- five male Fine Arts Institute students. Two sections out of six of 3rd year EFL Fine Arts Institutes students' enrolled for the academic year (2021-2022) have been selected and assigned randomly as experimental and control groups.. The control group is taught by using conventional rote learning method, while the experimental group is taught using the keyword method. Two variables have been controlled for both groups namely, the academic level of the father and the pre- test performance in vocabulary retrieval.

The results of the study reject the null hypothesis and have indicated there is a statistically significant difference in keyword retrieval between the experimental group and the control group, with the experimental group benefit. The second finding is about the effect size of the treatment on the experimental group, which has been found large according to Cohen's classification of effect sizes.

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أثر استخدام استراتيجيات التذكر (نيمونكس) في استرجاع المعاني لدى طلاب معهد الفنون الجميلة دارسي اللغة الإنكليزية لغة أجنبية

م.د. ايڤاد عبد الجبار غضبان

وزارة التربية العراقية/ تربية الكرخ الأولى / بغداد

الخلاصة

هذه الدراسة هي محاولة لمعرفة تأثير استراتيجيات التذكر (نيمونكس) إن وجدت ، على طلاب معاهد الفنون الجميلة في العراق دارسي اللغة الإنكليزية لغة أجنبية في استرجاع المعاني. بعد تصميم شبه تجريبي ، استخدمت الدراسة خمسة وعشرين طالباً من طلاب معهد الفنون الجميلة تم اختيار قسمين من أصل ستة أقسام من طلاب الصف الثالث بمعاهد الفنون الجميلة المسجلين في العام الدراسي (2021-2022) وتعيينهم عشوائياً كمجموعتين تجريبية وضابطة يتم توجيه المجموعة التجريبية من خلال طريقة استراتيجية النيمونكس والمجموعة الضابطة يتم تعليمهم من خلال طريقة التعلم التقليدية. . تم التحكم في متغيرين لكلا المجموعتين وهما المستوى الأكاديمي للأداء القبلي في استرجاع المفردات. رفضت نتائج الدراسة الفرضية الصفرية وأظهرت وجود فروق ذات دلالة إحصائية بين المجموعة التجريبية والمجموعة الضابطة في استرجاع المفردات لصالح المجموعة التجريبية. النتيجة الثانية تتعلق بحجم تأثير العلاج على المجموعة التجريبية ، والتي وُجدت كبيرة وفقاً لتصنيف كوهين لأحجام التأثير. **الكلمات المفتاحية:** نيمونكس، استراتيجيات، المعاني، استرجاع.

Introduction

Mnemonics is a memory enhancing instructional strategy that involves facilitating positive transfer from existing knowledge to the acquisition of new knowledge. They are powerful strategies although they are not frequently utilized in schools today, to learn a lot of information. One rationale is that using mnemonic devices in the classroom may be challenging because of the practical demands. since they are time consuming to work with educationally relevant materials.

Mnemonic strategies do not represent a “philosophy” of education. They are not a teaching method or curricular approach. They are memory strategies which can be utilized to incorporate the aspects that call for memory. Iza, & Gil (1995) defines mnemonics as memory-improving instructional strategies that make use of imagery to enhance the learning and long - term retention.

Mnemonics are approaches that can be tailored to match a range of specific topic. This method helps people remember complicated concepts or words and promotes instructional retention. They may contain rhymes, songs, poems, outlines, diagrams, and acronyms. When something mundane is given meaning, it becomes increasingly unforgettable and simpler to remember. It is advantageous in both short- and long-term memory storage.

Strategy is a general plan that is manifested in the behavior of the teacher to complete the desired action. Herrell, and Jordan (2004) defined Strategies as “the approaches that can

be used across curricular areas to support the learning of students. Mnemonic strategies are deliberate approaches for memory improvement and for bringing making knowledge more significant, according to Bakken (2017).

Despite the opportunities of mnemonics devices in aiding learning and memory, the use of mnemonics is hardly a part of the methodology taught to teachers-in-training in most teacher education programs.

The study results are in line with previous mnemonic research that found positive effect on students' vocabulary retrieval. Students can successfully recall the meanings of unfamiliar vocabulary and thus have better educational outcomes. The finding of the study is in line with a study by Bower conducted in 1973, revealed that mnemonic devices were superior to simple memorization when it came to recalling lengthy lists of items. The subjects who had received mnemonics training were also substantially better at remembering the order of each item and the list it was on.

Procedures and Methodology

This study aims to determine the effect, if any, of mnemonics strategies on Iraqi EFL Fine Arts Institutes students' on vocabulary retrieval.

The study utilized a quasi-experimental design with twenty- five male Fine Arts Institute students. Two sections out of six of 3rd year EFL Fine Arts Institutes students' enrolled for the academic year (2021-2022) have been chosen. Both experimental and control groups were randomly assigned. The control group is taught using the conventional rote learning method, whereas the experimental group is taught using the keyword method. (See table 1)

Table 1
The Experimental Design

The Groups	The Test	Independent Variable	The Test
The Control Group	Pre-Test	Traditional Strategy	Post-Test
The Experimental Group	Post-Test	Mnemonic Strategy	Post-Test

Third-year students make up the study's target population. Iraqi EFL Fine Arts Institute students. It includes students enrolled at Fine Arts Institute during the Academic year 2021-2022. The total number of the 3rd year students 673 of males (see Table 2).

Table 2
The Population of the Study

Departments	First Year	Second Year	Third Year	Fourth Year	Fifth Year
Calligraphy	39	27	20	12	17
Design	35	36	20	22	15
Theater	31	18	20	13	20
Music	22	15	20	12	6
Plastic arts	36	32	17	15	17
Cinema	38	38	21	19	20
Total	201	166	118	93	95

The sample of the present study is chosen from 3rd year. They represent one stratum of the whole population which, in turn, consists of five strata. The total number of the 3rd year students is 118 students divided into six sections. The six sections include 20, 20, 17, 20, 21 and 20 students, respectively. Two sections out of six have randomly been selected and assigned as an experimental and control groups. group (A) which includes 20 students represents the experimental group and group (b) which includes 20 students is set as the control one. The total number of the participant in the two groups is 40 but as a result of the equalization procedures; some students have been excluded. And because they are either repeaters or absent from the pre or the post test. Therefore, the experimental group consists of 13 students, while the control group includes 12 students. (See Table 3).

Table 3
The Sample of the Study

	Calligraphy	Design	Theatre	Music	Plastic Arts	Cinema
Third Year	20	20	20	20	17	21

To make the experiment more sensitive, equalization between the two groups is intended. For both groups, the following variables have been controlled:

1. Pre- test performance in vocabulary retrieval.
2. The academic level of father,

In order to find out whether there is any statistically significant difference between the two groups at the fathers' academic level, chi-square formula has been used. The result shows that the value of the computed chi-square for the fathers' academic level is 1.04 which is less than the table value of chi-square which is 5.99 under 2 degree of freedom and at 0.05 level of significance. This means that there is no statistically significant difference between the two groups in this variable (see Table 4).

Table 4

The Frequencies and the Chi-square Value for Fathers' Academic Level

Stages of Education	Frequency		Total	Degree of Freedom	Chi- Square Value		Level of Significance
	Exp.	Con.			Computed	Table	
preparatory	7	5	12	2	1.04 (2.24)	5.99	Not Significant
college	4	4	8				
Higher studies	2	3	5				
Total	13	12	25				

In order to find out whether there is any statistically significant difference between the two groups at the pretest, Mann Whitney test for two independent groups has been used.

Mann Whitney U test is used to see if there is a statistically significant difference between the two groups in students' vocabulary retrieval pretest. The results indicate the following: The total mean score of the control group is 13.54 is higher than the total mean score of the experimental group which is 12.50 (see Table 5). These results show that there is no statistically significant difference between the two groups in students' vocabulary retrieval pretest since the significance is 0.72 which is higher than 0.05 this means that we accept the null hypothesis.

Table (5)

The Means, Mann Whitney Value of Performance on the Pre- Test

vocabulary	N	Mean	Mann Whitney Test	Significance
Control	12	13.54	71.50	0.72
Experimental	13	12.50		

The following null hypothesis is put forth: There is no statistically significant difference in vocabulary retrieval between the experimental group taught using the proposed mnemonics strategy and that of the control group taught using the conventional strategy for the students at the EFL Fine Arts Institutes.

The theoretical approach that give support to the study is Craik and Lockhart's theory 'processing depth theory' (1972). The theory shows that repetition of information helps only with memorizing when it is done thoroughly and with the intention of processing the information semantically.

The Instrument of the Study

In order to achieve the aim of the present study and to test its hypothesis, one instrument has been used for data gathering. Like the pre-test, the post-test is administered but, The same vocabulary pretest and posttest are given to both groups at the end of the treatment in order to compare how well the students maintained their vocabulary. The Scoring Scheme of the Post – Test yield both holistic and analytic scores. The highest score is 30 and the lowest is zero.

The Procedures

The following procedures have been conducted in this study: The students were divided into two groups, and a control or experimental group was given to each group at random. The experimental group members received a thorough description of the chosen strategy (the keyword method) from the researcher at the first session.

The researcher came up with a list of keywords that correspond to words found in the textbook. The course of treatment consisted of eight sessions, including a 25-minute instruction once a week. Each vocabulary item had a related keyword that the students were to assist develop. Using this method, seven to eight words were taught throughout each session. The topics were taught in the control group using the conventional manner, which included translation, definition, and memorizing techniques.

A keyword serves as a mediator in a chain of two connections that connect a foreign word and its Arabic translation: the foreign word and keyword are linked by a similarity in sound (acoustic link), and the keyword is related to the Arabic translation via a mental image (imagery link).

Statistical Methods

The following statistical methods are used:

1. Chi- Square

It is used to test the equality of the two groups (experimental and control) in the parents' level of education and the gender of the testees.

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where:

X² = the value of chi- square

O = the observed frequencies

E = the expected frequencies

(Best & Kahn, 2006:77)

2. Mann Whitney U Test

Formula:

$$U_x = N_x \cdot N_y + \frac{N_x(N_x + 1)}{2} - \Sigma r_x$$

Where, U_x is the Mann Whitney calculation for sample X

N is number in the samples

Σr_x is the sum of ranks for sample X.

3. Shapiro-Wilk Test for Normality equations

$$W = \frac{\left\{ \sum_{i=1}^n a_i (x_{(n-i+1):n} - x_{i:n}) \right\}^2}{\sum_{i=1}^n (x_i - \bar{x})^2},$$

4. The Kolmogorov-Smirnov

Kolmogorov-Smirnov Test

- The formula to calculate the test statistic d^+ for a specific data set is shown below.

$$d^+ = \max_{j=1}^n \left[\frac{j}{n} - \frac{nX_{le}Y_j}{m} \right]$$

5

5. Effect size formula for cohen's d

$$\text{Effect Size} = \frac{[\text{Mean of experimental group}] - [\text{Mean of control group}]}{\text{Standard Deviation}}$$

Data Analysis, Results. Conclusions, Recommendations, and Suggestions

The outcomes that met the objectives of the current work, is finding out the effect of mnemonic strategy, if any, on Iraqi EFL Fine Arts Students in vocabulary retrieval.

To determine whether there are any statistically significant variations between the control group's mean score, which is taught using the conventional technique for vocabulary

retrieval, and that of the experimental group, which is taught utilizing mnemonics, the *Mann Whitney* test for two independent samples is used.

Before doing the Mann Whitney test, another step is needed, which is to determine whether the distribution of the scores of the control and experimental group of the independent variable have the same shape or a different shape.

The most popular techniques to check the normality of the data are the Shapiro-Wilk test and the Kolmogorov-Smirnov test, which are both well-known tests of normality. The statistical program "SPSS" allows users to do normality tests (analyze, descriptive statistics, explore, plots, and normality plots with tests).

In table (6) indicates that the scores of the two groups failed test of normality where the significance of the Kolmogorov-Smirnov and Shapiro-Wilk is below 0.05 so we reject the null hypothesis that scores failed normality of distribution. Therefore, we can use Mann Whitney test.

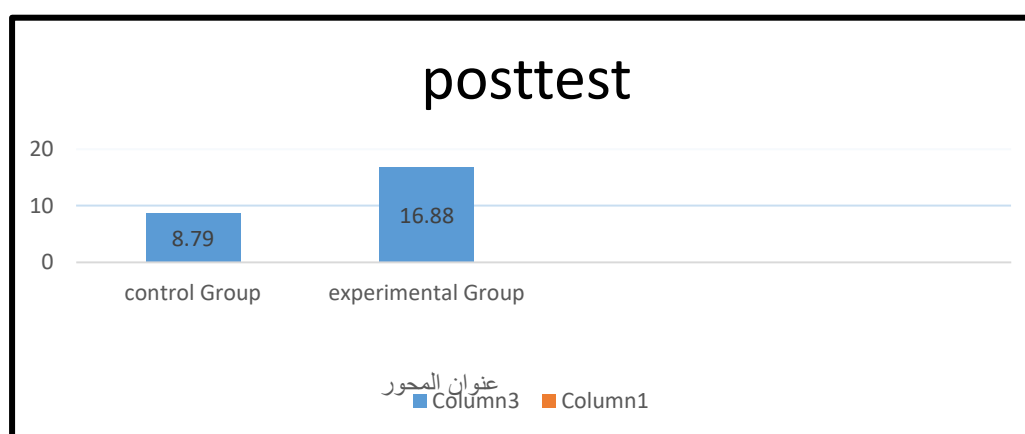
Table (6)
The Kolmogorov-Smirnov and Shapiro-Wilk

scored	Kolmogorov-Smirnov	Shapiro-Wilk
control	0.200	0.65
experimental	0.27	0.49

Mann Whitney U test is used to see if there is a statistically significant difference between the two groups in students' vocabulary retrieval posttest. The results indicate the following: The total mean score of the control group is 8.79 is lower than the total mean score of the experimental group which is 16.88 (see Table 7 figure 1). These findings demonstrate a statistically significant difference in favor of the experimental group, which has the greatest mean score and a level of significance below 0.005, between the two groups with respect to students' vocabulary retrieval post-test. Therefore, the null hypothesis that there is no statistically significant difference between the mean scores of the experimental group and those of the control group is rejected.

Table (7)**The Means, Mann Whitney Value of Performance on the Post- Test**

vocabulary	N	Mean	Mann WhitneyTest	Significance
Control	12	8.79	27.5	0.005
Experimental	13	16.88		

**(Figure 1)****Discussion of the Results**

Mnemonics may be developed, employed, and nurtured at the institute level, according to the experimental group's findings after they were taught using the specified mnemonics strategy. Students in the experimental group performed much better in vocabulary retrieval than students in the control group.

Mnemonics are successful at assisting learning and memory when applied to a variety of themes and topics, according to both personal experiences and research data. Students frequently say that mnemonics aid in remembering facts and principles and make studying more engaging.

The usage of mnemonic devices as one of the teaching tactics to be employed in languages methodology courses would similarly be incorporated by teacher education programs. Additionally, it would be crucial to incorporate the use of mnemonics into the curriculum of programs for retraining English language teachers.

Therefore, it would be essential for researchers in the field of English Language Teaching to emphasize on experimentally documenting the effects of the usage of mnemonic devices on students' learning outcomes across a range of teaching contexts and levels. Investigating other potential learner traits in relation to how the usage of mnemonics affects learning outcomes might also be beneficial.

The second finding is about the effect size of the treatment on the experimental group. The effect size has been found 9.41, which has been found large according to Cohen's classification of effect sizes. Kelley and Preacher (2012) define effect size as "a quantitative reflection of a magnitude of some phenomenon that is used for the purpose of addressing a question of interest".

Cohen's *d* is an appropriate effect size for the comparison between two means. It can be used, for example, to accompany the reporting of *t*-test and ANOVA results. It is also widely used in meta-analysis.

To calculate the standardized mean difference between two groups, subtract the mean of one group from the other ($M1 - M2$) and divide the result by the standard deviation (SD) of the population from which the groups were sampled.

This finding is in line with previous research on memory for order, showing positive effects of mnemonic acronyms on memorization of the order of verbal items (Morris and Cook, 1978). The results are also in line with a study done by Eaton, Zinna, (2020) where the findings showed that students in the experimental condition progressed academically more than students in the control condition on the pre- and post-tests, and that students in the experimental group improved the most among all students in either condition.

Pedagogical Recommendation

1. Mnemonics should be used in conjunction with other learning strategies.
2. Learning a mnemonic and using it repeatedly
3. Mnemonics should be used primarily as an aid for recall once students have already mastered the material.
4. When learning to use any strategy educators and students should know why they are using it and why it is appropriate to use it in that particular context.

Future studies are required to determine how effective mnemonic strategies are on other English Language skills such as reading, writing, speaking, and listening. Mnemonic strategy training could have been systemically implemented at different stages of education starting from elementary until college education. Future studies needed to assess different types of mnemonic strategies including letter strategies, consisting of acrostics and acronyms, and pegword methods. Future Studies are needed to answer if mnemonics promote Long-Term Learning and to measure their effect as increasing motivation to study and to see their effect on higher order thinking.

Author Biography

Efad Abdul Jabbar Ghadban is a PhD holder in methods of teaching English Language from university of Baghdad. Her master degree (master degree in methods of teaching English Language) was obtained from university of Baghdad. She worked as an English instructor an Iraqi Ministry of Education, Al Karkh First Directorate Fine Arts Institute, Baghdad - Morning Studies. Her research interests are in applied linguistics, educational linguistics, EFL/ESL Writing, language testing, Argumentative essay writing, and methods of teaching.

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