

The Impact of Self-Learning on the Achievement of Arabic Grammar for Students at the Institute of Fine Arts : A statistical analysis

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Abstract : A quasi-experimental design with an experimental group and a control group, along with a post-test, was chosen to achieve the research objective of investigating the impact of self-learning on the achievement of Arabic grammar for second-year students at the Institute of Fine Arts. The research sample consisted of 114 second-year students at the Institute of Fine Arts. The researcher ensured the equivalence of the two research groups in certain variables, conducted a pilot study and a main study, as well as a post-test, and used SPSS software to analyze the results. The study's findings were presented, analyzed, and discussed, after which the researcher offered several recommendations and suggestions.

Keywords: Self-learning, Arabic grammar; statistical analysis ; SPCC

أثر التعلم الذاتي في تحصيل قواعد اللغة العربية لدى طلبة معهد الفنون الجميلة: تحليل إحصائي

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المستخلص : اعتمد الباحث تصميماً شبه تجريبي يتضمن مجموعة تجريبية وأخرى ضابطة مع اختبار بعدي، وذلك لتحقيق هدف البحث المتمثل في التعرف على أثر التعلم الذاتي في تحصيل قواعد اللغة العربية لدى طلبة الصف الثاني في معهد الفنون الجميلة. تكونت عينة البحث من (114) طالباً من طلبة الصف الثاني في معهد الفنون الجميلة. وقد حرص الباحث على تحقيق التكافؤ بين مجموعتي البحث في عدد من المتغيرات ذات الصلة، كما أجرى دراسة استطلاعية ودراسة أساسية، فضلاً عن تطبيق الاختبار البعدي لقياس أثر المتغير التجريبي. واستخدم الباحث برنامج الحزمة الإحصائية للعلوم الاجتماعية (SPSS) لتحليل البيانات واستخراج النتائج. وقد تم عرض نتائج الدراسة وتحليلها ومناقشتها في ضوء أهداف البحث وفرضياته. وأظهرت النتائج وجود أثر للتعلم الذاتي في تحصيل قواعد اللغة العربية لدى طلبة معهد الفنون الجميلة. وفي ضوء ما توصلت إليه الدراسة، قدم الباحث مجموعة من التوصيات والمقترحات التي يمكن أن تسهم في تطوير العملية التعليمية وتعزيز أساليب التعلم الحديثة.

الكلمات المفتاحية : التعلم الذاتي؛ قواعد اللغة العربية؛ التحليل الإحصائي؛ SPSS

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1.0 Introduction

Despite the importance of grammatical and morphological rules within the language system, the language faces difficulties in being learned by young people, and the phenomenon of weakness in grammar is perhaps one of the most complex problems facing educators (Pingil, 2022). Opinions varied regarding the reasons for the weakness in Arabic grammar. Some attributed it to the nature of the subject matter, which they characterized as dry and complex, while others blamed the prescribed textbooks, which they deemed sterile and inadequate. Still others pointed to the assessment methods and teaching approaches employed. "Among the reasons related to the subject matter is the abundance and complexity of grammatical and morphological rules, and the excessive detail they provide, which hinders the retention of these concepts in students' minds. Among the reasons related to the teacher is their potential weakness in linguistic preparation, in addition to the lack of attention given by teachers of other subjects to students' errors due to their limited expressive, grammatical, and spelling ability (Sultan and Yahya, 2024). After reviewing the relevant literature and studies related to this subject, the researcher concluded that the students' weakness in Arabic grammar stemmed from their limited understanding of the rules, even at a basic level, as well as their low achievement in this subject (Fraiwan, 2021). Therefore, the existence of this problem warrants study in this research, which aims to identify the impact of self-learning on the acquisition of Arabic grammar by second-year students at the Institute of Fine Arts. This research is an attempt by the researcher to facilitate the comprehension of these rules (Ghanim et al, 2024). Education is a necessary process for both the individual and society. For the individual, it is essential for preserving their species, guiding their instincts, regulating their emotions, and developing their inclinations in accordance with the culture of the society in which they live. Education, therefore, is a necessary process for facing life and its demands. Education has a broad and comprehensive concept. According to this broad concept, it shapes personality, establishes identity, and strives to create a virtuous and productive individual capable of contributing effectively to the development of their society in a manner consistent with the values and ideals of that society, and who strives towards clear and diverse goals and objectives (Obaid Al-Khafaji et al, 2021). The researcher views education as a social process, reflecting the nature, philosophy, goals, and aspirations of society. It is part of the overall social system, influencing and being influenced by it through a continuous interactive relationship, thus preserving its structure and continuity (Gross, 2013). Therefore, education is considered a mirror of society, revealing its unique characteristics and distinguishing it from other societies. Muslim thinkers have paid great attention to those who teach people, both in terms of the soundness and usefulness of their knowledge, and in terms of their character and professional and social conduct. They must possess two competencies: firstly, scholarly competence, which requires them to have a deep understanding of all Islamic sciences and a broad knowledge of general culture; and secondly, educational competence, which requires them to be upright in their character and conduct, based on the verse: "Indeed, the best of those you can hire is the strong and trustworthy one" (Turky, 2024). Strength lies in one's scientific ability and professional skills, while integrity pertains to morality and socially acceptable conduct within the society in which one lives and works. This latter aspect has received the greatest attention because acquiring knowledge and skills is far easier than acquiring integrity and morality, which are qualities attained only through repetition and sustained self-discipline over extended periods (Khater, 2015). Modern education emphasizes modern teaching methods due to their impact on fulfilling the role of education in contributing to the progress and development of society, enabling it to assume its rightful place among nations, through the educational and

formative preparation of the new generation (Al-Ani et al ,2020) . Therefore, the modern school of education asserts that language is not merely a collection of facts to be memorized, but rather a set of skills acquired throughout life to enable individuals to live as they choose . Language is a product of human development. Psychological and educational studies indicate that language has a significant impact on human activity. It is the vessel of culture and the means of communication between the past and the present, and between the present and the future. No one can access the treasures of human thought unless they master the language of thought . The Arabic language branches into several sub-branches, including grammar. These rules protect the speaker from errors in the final syllables of words, leading to a correct understanding of meaning (Bagabas,2016). They include rhetorical rules responsible for stylistic beauty, morphological rules that examine word structures and their implications for meaning, spelling rules that ensure correct spelling, handwriting that guides the learner in refining their written expression, oral expression, written expression, reading, memorization, and texts that enhance the learner's vocabulary and new styles, and literary history that deepens literary concepts . The importance of grammatical rules stems from the importance of the Arabic language itself. The greater the need for reading, writing, and expression, the more evident the importance of these rules becomes, as learners cannot read correctly and without errors without knowing the fundamental rules of the language (Karamete,2024) . The primary goal of teaching Arabic grammar is to accustom learners to using sentences, phrases, and vocabulary. In other words, the aim of studying grammar is to safeguard the tongue and pen from errors in reading, writing, speaking, and listening. Grammar is not an end in itself, but rather a means to help learners master language skills . It is a way to correct speech and writing errors, and it is the science that safeguards the Arabic language. It is the set of rules that governs the language; without it, the language would be a jumble of words used by readers or writers as they please. The researcher believes that our passion for the Arabic language, as it is the language of the Quran, does not absolve us of the responsibility to facilitate its learning, especially regarding extraneous opinions that may have become attached to its grammar and are among the main reasons for its difficulty (R'boul ,2024). This includes reformulating its structures according to our students' methodological and functional needs, as well as utilizing e-learning, a new experience for our students, implemented due to the circumstances of the country and the world with the COVID-19 pandemic, which has made physical and social distancing the defining characteristic of societies. The current research aims to identify the use of self-learning and its impact on the acquisition of Arabic grammar by second-year students at the Institute of Fine Arts.

2.0 Research Methodology

The current research aims to investigate the impact of employing self-directed learning on the achievement of second-year students in Arabic grammar at the Institute of Fine Arts. This necessitates testing this method and determining its effectiveness. Therefore, the researcher adopted the experimental method to achieve the research objectives, as it is the most suitable scientific method for the current research procedures. Experimentation is considered a leading and successful method because the researcher is the one guiding and directing the problem. (Qandilji, 1993, p. 98)

2.1 Experimental Design

The researcher carried out the procedures followed in terms of the appropriate experimental design, the research population, the method of selecting the sample, the equivalence of the two

groups, the research requirements and tools, how to apply them, the statistical methods she used, as follows:

Table 1. Experimental design for experimental and control groups

Group	Class	Independent Variable	Dependent Variable
Experimental	A	Use of Self-Learning Strategy	Achievement in Arabic Grammar
Control	B	Traditional Method	Achievement in Arabic Grammar

2.3 Research Population and Sample

The current research population consists of students of the Institute of Fine Arts for Boys/Diyala Education Directorate for the academic year 2024-2025. From this population, the researcher intentionally selected second-year students and randomly selected two sections (A and B), with 26 students in each group. Before commencing the experiment, the researcher ensured the statistical equivalence of the students in the two research groups in several variables believed to influence the results of the experiment. These variables are: a- Chronological Age of Students (calculated in months) . The average age of the students in the experimental group was 198.43 months, while the average age of the students in the control group was 199.21 months. When using the independent samples t-test to determine the statistical significance of the difference between the ages of the students in the two groups, the difference was found to be insignificant, as shown in Table 2.

Table 2. Results of the t-test for students in the two research groups at different chronological ages

Group	Sample Size	Mean	Standard Deviation	Variance	Degrees of Freedom	t-Value (Calculated)
Experimental	26	198.43	11.42	130.43	51	0.254
Control	26	199.21	13.55	183.62	—	—

2.4 Language Proficiency Test Scores

After analyzing the data related to this variable, the average score of the experimental group students was (72.269) points, while the average score of the control group students was (73.038) points. When using the independent samples t-test to determine the statistical significance of the difference between the scores of the two groups, the results are shown in Table 3.

Table 3. Results of the t-test for the two research groups in the language proficiency test

Group	Sample Size	Mean	Standard Deviation	Variance	Degrees of Freedom	t-Value (Calculated)
Experimental	26	10.94	1.80	3.23	67	0.46
Control	26	10.76	1.30	1.70	—	—

3.0 Results and discussion

3.1 Parents' educational attainment

It appears from Table 4 that the students of the experimental and control research groups are statistically equivalent in the frequencies of parents' educational attainment.

Table 4. Academic achievement frequencies of parents of students in the two research groups and the calculated and tabulated (chi2) value

Group	Sample Size	Degrees of Freedom	Chi-Square Value (Calculated)	Chi-Square Value (Tabulated)	Significance Level (0.05)	Statistical Significance
Experimental	26	2	2.3	7.82	0.05	Not statistically significant
Control	26	—	—	—	—	—

3.2 Mothers' Educational Achievement

Table 5 shows that the students in the experimental and control groups were statistically equivalent in terms of mothers' educational achievement frequencies, as demonstrated by the chi-square test.

Table 5. Educational Achievement Frequencies of Mothers of Students in the Two Groups and the Chi-square Value.

Group	Sample Size	DOF	Chi-Square Value	Chi-Square Value	Statistical Significance at (0.05)
Exp	26	3	1.013	7.82	Not statistically significant at 0.05 level
Control	26	—	—	—	—

2.3 Controlling Extraneous Variables

In addition to the above procedures for statistical equivalence between the two research groups, the researcher tried as much as possible to avoid the effect of a number of extraneous variables on the course of the experiment, and therefore on its results. The following are these extraneous variables, and how they were controlled: A- Differences in Sample Selection: The researcher tried as much as possible to avoid the effect of this variable on the research results, by conducting statistical equivalence between the students of the two research groups, in addition to the homogeneity of the students of the two groups in social and cultural aspects to a large extent due to their belonging to one social environment.

2.4 Presentation of Results

Table 6 shows that the mean achievement of the experimental group, who studied using self-learning, was (20.923), while the mean achievement of the control group, which studied using the traditional method, was (16.446). Using the independent samples t-test to compare these two means, the calculated t-value (2.987) was found to be greater than the critical value of (2.011) at a significance level of (0.05) and degrees of freedom of (50). This indicates the superiority of the experimental group students who studied according to self-learning in their studies over the

control group students who studied in the traditional (inductive) way in answering the post-achievement test that was conducted after the end of the time limit of the experiment, and Table (13) illustrates this.

Table 6. The statistical results of the experimental and control groups in the post-test achievement test.

Group	N	Mean	Variance	Degree of Freedom	t-value	t-table	Significance
Experimental	26	20.923	28.633	50	2.987	2.01	0.05
Control	26	16.446	29.408				

2.4 Interpretation of Results

Based on the previously presented results, statistically significant differences in student achievement are evident, favoring the experimental group that studied Arabic grammar using self-learning for second-year students at the Institute of Fine Arts ($p < 0.05$). Defining educational objectives and informing students of them before the start of the learning process to clarify the purpose of learning, thus increasing students' awareness of the required material and the main idea of the subject. Organizing the material and dividing it into parts, presented in sequential steps. The self-learning method makes students the central focus of the learning process, enabling them to carry out activities and engage in organized work, which contributes to increased achievement.

4.0 Conclusion

Teaching grammar using self-learning instilled enthusiasm and energy in students and fostered a spirit of cooperation, interaction, and participation during the lesson. Self-directed learning has made students more engaged with the material and the instructor. Self-directed learning requires more training, effort, and skill than traditional teaching methods and techniques. Introductory workshops should be held for instructors at the Institute of Fine Arts, and the resulting teaching methods should be implemented. School libraries should be provided with books and references that include modern teaching methods. The researcher suggests conducting several experimental studies to complement her research, including. Conducting a similar experimental study in other subjects. Conducting a comparative study between self-directed learning and other teaching methods to determine the effectiveness of each. Conducting an experimental study on employing self-directed learning in the acquisition of Arabic grammar for varying age and gender groups, as exemplified by the Girls' Institute of Fine Arts.'

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