

**Using a Grammar Learning Strategies Module to Enhance Use  
and Retention of Rules among EFL Majors: Linking  
Attainment to Strategy Use**

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**ABSTRACT**

This research aimed to probe the impact of a Grammar Learning Strategies (GLS) module on improving the use and retention of grammar rules among the EFL majors at the Faculty of Education, Al-Azhar University. The experimental method (the pre-posttest non-equivalent group design) was employed. The participants, totaling 56, were randomly assigned into an experimental group (29) who studied the GLS module and a control one (26) who studied the usual content. The instruments of the research encompassed a grammar test assessing both the use and retention of the grammar rules and an inventory assessing the participants' use of the GLS. Results revealed the effectiveness of the GLS module in developing the EFL majors' use and retention as the effect size of the treatment was 1.01 and 0.95 respectively. Results also revealed a positive correlation between the learner's use of the GLS and grammar achievement. The research recommended integrating the GLS in the EFL curriculum so as to enhance the grammar learning outcomes as well as emphasizing the strategy use for better contextualizing the grammar rules in real-life applications.

*Keywords:* GLS, Module, Use, Retention, Attainment.

أثر وحدة لاستراتيجيات تعلم النحو في تنمية استخدام القواعد والاحتفاظ بها لدى طلاب  
شعبة اللغة الإنجليزية: العلاقة بين التحصيل واستخدام الاستراتيجية

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### المستخلص

هدف البحث الحالي إلى استقصاء أثر وحدة لاستراتيجيات تعلم النحو في تنمية استخدام القواعد النحوية والاحتفاظ بها لدى طلاب شعبة اللغة الإنجليزية بكلية التربية بنين بالقاهرة، جامعة الأزهر، ولقد اعتمد البحث على المنهج التجريبي (تصميم المجموعات غير المتكافئة ذو الاختبارين القبلي والبعدي)؛ حيث تم توزيع عينة البحث، البالغ عددها 56، عشوائياً إلى مجموعة تجريبية، قوامها 29 طالب، درست وحدة استراتيجيات تعلم النحو ومجموعة ضابطة (26) درست المحتوى المعتاد بالطريقة المعتادة، وتمثلت أدوات البحث في اختبار القواعد نحوية لتقييم كل من استخدام القواعد النحوية والاحتفاظ بها، بالإضافة إلى استبانة لتقييم استخدام المشاركين لوحدة استراتيجيات تعلم النحو، وكشفت نتائج الدراسة عن فعالية الوحدة في تنمية استخدام القواعد النحوية والاحتفاظ بها لدى طلاب شعبة اللغة الإنجليزية حيث بلغ حجم أثر المعالجة المتمثلة في الوحدة 1.01 و0.95 على التوالي، كما أشارت النتائج إلى وجود علاقة إيجابية بين استخدام المتعلمين لاستراتيجيات تعلم النحو وتحصيلها، وقد أوصى البحث بضرورة تضمين استراتيجيات تعلم النحو في مناهج تدريس اللغة الإنجليزية لتعزيز نواتج تعلم النحو بالإضافة إلى استخدام الاستراتيجية في التطبيقات الحياتية الواقعية.

**الكلمات المفتاحية:** استراتيجيات تعلم النحو، وحدة، الاستخدام، الاحتفاظ.

## Introduction

Underlying the structure of linguistic expression, grammar plays a pivotal role in fostering impactful communication; in EFL context, understanding and mastering grammar underpins communicative competence and empowers language learners with generative basis for knowledge construction. Grammar represents not only the mechanism according to which language works, but it also paves the way for mastering language skills and presenting oneself with lucidity and precision in communication contexts. The significance of grammar cannot be overstated as an indispensable means for unlocking language: interpretation and usage; without realizing grammar, the linguistic structures, whether spoken or written, are transformed to be a formidable challenge (Richards and Renandya, 2002; Wang, 2010). Ellis (2006) described grammar as a tool for gaining intellectual understanding of a language and developing confidence in using it. Brown (2001) demonstrated that grammar encompasses a full system of rules governing the connection among sentences as well as the word combinations in the linguistic system; thus, it captures a supreme position among the other language components necessary for language use. Saaristo (2015) argued that attaining proficiency in language use entails paying the due attention to the grammatical

elements such as tense, voice, conjunctions as well as manifold key elements.

Considering this perspective, grammar rules must be acquired for the language to be used accurately and fluently; EFL learners ought to be empowered with acquisition-facilitating techniques of grammar knowledge and use to promote long-lasting efficient learning as well as foster profound comprehension of the intricacies of a language (Oxford, 1990 & Abri et al., 2017). Another notion worth mentioning, grammar as a term induces negative perceptions because of its connection with systemic rules controlling how meaning is constructed, yet the complexity of grammar poses a continuing challenge hindering attainment and use of language correctly (Larsen-Freeman & DeCarrico, 2019). Using language necessitates making mistakes, yet progressively learners develop proper deep understanding of the language use, and the learning process is optimized as well as the learning outcomes are maximized via empowering the learners with viable custom-tailored strategies to their needs and interests (Wang, 2010; Saaristo, 2015). Another point of intrigue, teaching grammar posits monumental challenge for teachers and educators due to the complexities, rigidity, and abstraction of the grammar rules, and learners always find copious difficulties regarding internalizing and applying the grammar rules effectively (Al-Mekhlafi & Nagaratnam, 2011; Farisatma, &

Rahman, 2017). Subsequently, teachers and educators ought to employ feasible effective strategies to overcome any encountered challenges as well as augment the outcome of the teaching-learning process to the optimal level (Tilfarlioglu & Yalçin, 2005; Wenden, 1998).

Given this perspective, it has been recognized that active interaction in the teaching-learning process has become a central focus in the language-learning community. Language learning strategies act as a vital instrument that boosts self-reliance and language development (Cohen & Henry, 2019). LLS plays an essential role in the teaching-learning process as demonstrated by a plethora of empirical evidence. Shi (2017) highlighted that the employment of proper learning strategies enables learners to be autonomous and hold their learning responsibilities. Cohen (2011), on the other hand, underscored that utilizing LLS promotes learning outcomes and fosters learning autonomy. Oxford (2007) suggested that language-learning strategy use has significant implications for the language teaching-learning process. More critically, being aware and more conscious about the appropriate employment of LLS boosts language performance and develops autonomy (Griffiths, 2003; O'Malley et al., 1985; Oxford, 1990).

Research in language learning strategies has evolved significantly since Rubin (1975) developed a pioneering work

depicting the characteristics of successful language learners. Throughout the years, significant progress has been made for identifying the strategic devices that might be employed in various contexts. On the other hand, new methods of data collection have been utilized for exploring the impact of strategy-based instruction (SBI) (Cohen & Macaro, 2007; Cohen, 2011; Oxford, 2011, 2017; Pawlak, 2011a; Griffiths & Oxford, 2014; Griffiths, 2018; Oxford & Amerstorfer, 2018; Pawlak & Oxford, 2018). The field has been renewed via the integration of the Complex Dynamic Systems Theory (CDST) and the exploration of new research paths (Oxford, 2017; Pawlak & Oxford, 2018). Since educational psychologists and educationalists called for adjusting the strategies for self-regulation and effective learning, the Grammar Learning Strategies (henceforth: GLS) research has gained momentum due to the skillful applications, instruction enhancement, and learning autonomy (Oxford, 2017; Zimmerman & Moylan, 2009).

Respectively, GLS is deemed as subsection of LLS encompassing reactions, behaviors and thoughts utilized by students to enhance the language learning process with an ultimate aim of developing grammatical competence (Oxford et al., 2018; Scarella & Oxford, 1992; Pawlak, 2008, 2013a, b). Utilizing GLS means deliberate and active choice of viable strategies with the aim of regulating and adjusting the learning process to be more enjoyable



(Griffiths, 2008; Pawlak, 2009). Such strategies are employed as dynamic mental processes applied by learners to enhance self-regulation and long-term proficiency (Oxford et al., 2007; Oxford, 2017). Another topic worth exploring, the construct of GLS has emerged as a focal point of research to shed light on how learners consciously employ strategies to promote their knowledge and use of grammar (Oxford et al., 2007). Beyond that, Oxford (2017) underscored that the discipline of GLS was given a secondary importance compared to the other language skills and components; she characterized GLS as a field of investigation as the “Second Cinderella” in language learning (Oxford, Lee, & Park, 2007).

The efficient use of GLS substantially contributes to the efficient usage of grammar knowledge both implicitly and explicitly (De Keyser, 2017). On the other hand, Pawlak (2018a) asserted that students who skillfully operate various strategies to learn grammar might have the ability to comprehend and use the grammatical rules and structures correctly. Alsied et al. (2018) confirmed that the effective employment of GLS might enhance the grammatical competence as well as the linguistic performance of EFL learners. It was also posited that the proper employment of GLS might result in a discernable development in language achievement in both knowledge and use (Yeh, 2021). With this in mind, the proper implementation of such strategies, taking into account the manifold

factors related, is a critical requirement that significantly contributes to using such strategies (e.g., Abri et al., 2017; Oxford and Amerstorfer, 2018; Rahimi et al., 2008; Zhou, 2017).

GLS is defined as “deliberate thoughts and actions students consciously employ for learning and getting better control over the use of grammar structures.” (Cohen et al., 2010, p. 66). Moreover, Stavre and Pashko (2016, p. 445) described GLS as “compensatory tools to help learners fill voids in their structural use of foreign language patterns”, which are claimed “to develop into tools that help the learner draw a planned learning pathway towards reaching their learning outcomes”. Moreover, Oxford and Amerstorfer (2018, p. 244) defined GLS as “teachable, dynamic thoughts and behaviors that language learners consciously select and employ in specific contexts to improve their self-regulated, autonomous L2 grammar development for effective task performance and long-term efficiency”. Subsequently, GLS is considered a subset and an integral part of language learning strategies addressing grammar as a language component.

Accordingly, GLS are steps that are employed by language learners to enhance their grammar learning as well as enable them to be actively involved in the grammar learning process. Griffiths (2008) enumerated the unique characteristics of GLS as follows: GLS are interpreted from learners’ actions showing active use; they

are partially conscious by language users; they are entirely discretionary indicating that learners select the suitable strategies for them; their application entails purposeful activity; and GLS are utilized by learners to regulate and facilitate the process of learning.

Various efforts have been executed to delineate a detailed and comprehensive classification of GLS. Initially, [O'Malley and Chamot's \(1990\)](#) attempt targeted classifying learning strategies under three main categories, namely, metacognitive strategies, cognitive strategies, and socio-effective strategies ([pp. 118-121](#));

each of which is divided into sub-categories as follows:

- 1) Metacognitive strategies: The procedures learners follow to solve a problem (centering – arranging – planning).
- 2) Cognitive strategies: The procedures employed by learners to regulate and control learning through planning, monitoring, and evaluating (practicing - receiving and sending messages - analyzing and reasoning).
- 3) Socio-effective strategies: The ways of interaction with other people (interaction with another person or ideational control over affect).

[Oxford et al. \(2007\)](#) devised a typology of GLS based on the type of instruction divided into three main categories as follows:

- 1) GLS reflecting implicit learning focusing on form (i.e., focusing on form concerning conveying meaning and message delivery).
- 2) GLS demonstrating explicit inductive learning (i.e., identifying grammatical patterns within the input data).
- 3) GLS targeting explicit deductive learning (i.e., utilizing the rules in various tasks presented by the teacher).

On the same line, [Pawlak \(2018b\)](#), in an attempt to facilitate grammar learning, has developed a classification of GLS which comprised four main categories of strategies, namely, metacognitive, cognitive, affective, and social strategies.

1. Metacognitive strategies: Strategies employed by learners to supervise and consciously control grammar learning via setting schedules, planning, monitoring, and targeting specific objectives in mind. They also comprise grammar analysis in several contexts.
2. Cognitive strategies: Strategies linked directly to the acquisition of the target language grammar; they are linked to practices related to grammar learning and this category is categorized into four sub-categories as follows.
  - a. GLS used in communication tasks: Strategies employed to improve explicit grammar knowledge based on

observation, such as students' attention to rules through definition reviewing and utilization of online tools.

- b. GLS for developing explicit knowledge of grammar: Strategies for enhancing grammar comprehension in communication activities such as reading for enjoyment or taking part in a communication activity.
  - c. GLS for developing implicit knowledge of grammar: Strategies utilized to cultivate implicit grammatical knowledge such as paraphrasing, or completion activities utilized for comprehending the applications of grammar rules.
  - d. GLS used to deal with corrective feedback on errors in the production of grammar: Strategies for managing corrective feedback regarding incorrect grammar usage such as attaining input from the instructor about the accuracy of the structures used as well as searching for the mistakes in the grammar process.
3. Affective strategies: such strategies revolve around the affective elements in the learning process management. Such strategies might include motivating students to practice difficult structures.
  4. Social strategies: such strategies include interaction with fellow learners or those who can assist in understanding language, such

as asking the instructors to clarify unclear grammatical aspects and practicing grammatical rules with peers.

The landscape of GLS literature comprises a wide array of studies delving into diverse facets of language acquisition, namely, their utilizations as well as the intricate interplay within the scope of language acquisition. One of the first attempts was conducted by [Oxford \(1990\)](#) and resulted in devising a classification of language learning strategies into two main classes. Firstly, direct strategies which refer to the learning process or the production of the target language under three main subcategories (memory strategies, cognitive strategies, and compensation strategies). In other words, the learner utilizes his background knowledge to provide linguistic clues relevant to grammar knowledge. Secondly, indirect strategies facilitate the occurrence of the direct strategies which encompass three distinct sub-categories (metacognitive strategies, affective strategies, and social strategies). It is supposed that the interplay between the two main strategies assists the exchange of correct grammar rules. On the same line, [Oxford et al. \(2007\)](#) distinguished three main categories of learning strategies linked to the teaching process. The first strategy focuses on form taking into account the meaning delivery of the target message. The second strategy suggests using the input data to acquire linguistic patterns and

grammatical rules. The last strategy is connected to using the grammatical rules presented by teachers in different contexts.

The study of [Kemp \(2007\)](#) sought to ascertain whether multilinguals employ more GLS and manifest an accelerated perception of grammar concepts. The intervention comprised 144 participants, using a language background questionnaire evaluating 40 GLS and some other learning strategies. The results of the study discerned that the more the learners are proficient in grammar, the greater the number of GLS they use. The multilingual exhibited the use of 40 strategies more than their two-language counterparts.

[Pawlak \(2009\)](#) explored the correlation between the use of GLS and the attainment of the target language among the study participants, totaling 142 English department students and the proficiency level in the target language. GLS used were categorized under three main categories implicit, explicit inductive, and explicit deductive. The results attained revealed the absence of a positive correlation between the grammar learning strategy use and achievement; there were no statistically significant differences between the participants of varied levels of proficiency.

[Yalcin and Yalcin \(2005\)](#) explored the deliberate efforts exerted by language learners to efficiently learn the language by shedding light on the specific strategies used in language and the relationships between the strategies adopted and language achievement. The study

results revealed that there is no statistically significant difference between strategy usage and achievement. Moreover, it was highlighted that proficient learners are more aware concerning the strategies used and they have an aptitude to use such strategies. Contrarily, the less proficient learners do not know how to employ the appropriate strategies pertinent to a given task. [Gurata \(2008\)](#) sought to verify the strategies adopted by the EFL learners when learning and using the grammar structures linking the strategy use to a number of variables, namely, gender, proficiency level, and grammar achievement. The study data was collected using a 35-item questionnaire that was completed by the study participants (176 students of three different proficiency levels: pre-intermediate, intermediate, and upper-intermediate). The results attained demonstrated that the participants perceive the significance of GLS, and they employ copious GLS; moreover, there were no differences in learning strategy use among different proficiency levels. Finally, it was concluded that utilizing GLS has positive effects in grammar achievement. [Bayou \(2015\)](#) explored the GLS employed by the study participants totaling 277 grade 11 preparatory stage students shedding light on the optimal differences in the usage due to the gender. The results of the study revealed that the learners utilize the compensation strategies more than the affective strategy. The statistical analysis of the data obtained revealed that there are no



statistically significant differences in the preference for using six taxonomies of strategies among males and females.

With this in mind, despite the notable strides that have been made in the field of language learning research, certain areas have not attracted attention and the conspicuous paucity of research regarding the realm of grammar learning strategy is an evident example (Oxford & Amerstorfer, 2018; Cohen, 2014; Cohen & Griffiths, 2015; Cohen & Macaro, 2007; Grenfell & Harris, 2017; Griffiths, 2013, 2018; Griffiths & Oxford, 2014; Oxford, 2011, 2017; Oxford & Amerstorfer, 2018; Pawlak, 2009; Pawlak, 2011a). Acknowledging this, the investigation of GLS is in its early stages and is continually developing necessitating more explorations to exhibit their full potential in the teaching-learning context (Pawlak, 2012, 2020). Consequently, further explorations of GLS are expected to shed light on the effective strategies that might have the potential to develop the EFL learner's grammatical proficiency. Even a cursory look at the literature available dealing with GLS demonstrates that the body of research has increased; however, the questions asked remained similar addressing the identification and categorization of GLS. Subsequently, there is a dire need for a new line of inquiry to be pursued to verify the impact of an intervention based on GLS for enhancing the attainment and use of grammar knowledge.

## Research Purpose and Questions

Grammar use and retention are always a challenge for EFL learners, and they encounter copious difficulties that negatively impact the reception and production of language correctly; furthermore, they are considered a distractor for teachers and educators due to the complexity, rigidity, and abstraction of the grammar rules. Consequently, the gap between theory and practice ought to be bridged by making use of the practical applications of the GLS through tailoring instructional materials and practices prioritizing the needs and preferences and fostering greater autonomy in language learning. More critically, the correlation between grammar learning strategy use and language attainment might empower the development and utilization of the best practices in the realm of language instruction as well as self-guided language learning as the learners would be equipped with strategies to navigate the complexities of English grammar.

Scrutinizing the literature available delves into the various aspects of GLS and their significant contribution to language acquisition, this research in the field of GLS encompasses a range of investigations and perspectives that shed light on the deployment of such strategies and potential implications of language acquisition and proficiency. However, empirical evidence regarding the effect of mediating variables on the application of GLS is notably sparse,

confined to a handful of studies concentrating on variables such as proficiency, experience, educational background, gender, and age which exhibit inconsistent results (Tilfarlioglu, 2005; Pawlak, 2009). Such a paucity of conclusive evidence has to be remedied in order to clear up the doubts arisen concerning the rationale for pedagogic interventions.

Subsequently, to provide empirical evidence on the impact of employing GLS in enhancing the use and retention of grammar, the outcomes would inform the educators and curriculum developers about the feasibility of incorporating such strategies in the teaching-learning process. This research aimed to contribute to the development of English as a foreign language instruction via formulating dedicated specialized GLS module for EFL learners. Teachers and educators can improve teaching practices as a step in their professional growth.

Given this perspective, the present research aims to elucidate responses to the following pivotal inquiries:

1. What is the effect of using a module comprising GLS on EFL majors' use of grammar rules?
2. What is the effect of using a module comprising GLS on EFL majors' retention of grammar rules?
3. What is the relationship between GLS use and grammar rule achievement?

## **Treatment Materials**

A grammar learning strategy-based module to enable EFL majors to retain and use the theoretical grammar rules via employing learning strategies. The module included five lessons, namely the verb tense, subject-verb agreement, sentence structure, sentence fragment, and parts of speech. Furthermore, an orientation session was first designed to introduce the GLS to the participants. Each lesson included the ILOs, the instructional content supported with examples, exercises, and activities, and concluded with a summary of the items covered as well as the assessment.

## **Methodology**

The current research echoes with the positivism paradigm as the attainment and use of grammar occurs only through rigorous application of the empirical intervention. Considering this, positivists perceive the world as an objective realm and the underlying laws and principles would be uncovered through systematic investigations. Ontologically, the research pinpoints that there is a cause-and-effect association resulting in the form of grammar attainment and use due to the employment of the GLS module. Epistemologically, the research posits that there is only an external objective reality (grammar attainment and use) which is prone to systematic inquiry, measurement, and analysis.

Methodologically, the present research conforms to the quantitative research approach which incorporates using tests for assessing the participants' attainment and use of the grammar rules. The present research adopted the experimental method (pre-posttest non-equivalent group design); namely, two non-equivalent groups, an experimental group and a control one, partook in the administration process as the experimental group studied the grammar course via the GLS module; however, the control group studied the conventional content via the conventional method of teaching.

The population of the current research incorporates undergraduates EFL majors at the Faculties of Education in the Egyptian context; the research participants were 56 third-year EFL majors at the Faculty of Education, Al-Azhar University. The participants were randomly assigned to partake in the research using the SPSS random distribution formula. With this in consideration, randomization guarantees the homogeneity of the participants as well as the possibility of generalizing the results and the credibility of the results yielded. More critically, prior to the administration of the research instruments, the participants were informed with comprehensive information about the objectives of the research, and their roles and responsibilities. The participants were also notified that their participation was merely voluntary, and they are permitted to withdraw from the administration process when inconvenience or

annoyance occurred; furthermore, the participants' identities were confidential, and they were also reported that their responses, participation, and scores on the test would not be used except for research purposes. Most importantly, the approval for conducting the research was obtained as a measure of accountability from the Faculty of Education, Al-Azhar University.

To fulfill the objectives of the current research, two main instruments were constructed by the researcher, namely a grammar test evaluating FL majors' use and retention of grammar rules, and a GLS inventory appraising the participants' use of the GLS.

Firstly, the grammar test was developed incorporating five main grammatical aspects, namely verb tense, subject-verb agreement, sentence structure, sentence fragment, parts of speech. The test mainly consists of five main questions as follows: multiple choice questions, transformation tasks, find and correct the mistakes, and writing prompts. Each part in the test contributes to the assessment of the grammatical aspect under investigation reflecting totally the examinee's level. The total score of the test was 100 marks and the total number of the sub-points was 27 questions as indicated in the table of specifications (table 1).

Table (1):

*The Table of Specifications of the Grammar Achievement Test (Use and Retention)*

Content Question	Verb Tense	Subject- Verb Agreement	Sentenc e Structur e	Sentenc e Fragme nt	Parts of Speec h	Total Question s	Total Marks
Multiple Choice	4	4	4	4	4	20	40
Transformatio n	1	1	1	1	1	5	20
Find the Mistake	1	1	1	1	1	5	20
Writing Prompts	1	0	0	0	1	2	20
Use Ques.	3	2	2	2	3	12	60
Retention Ques.	8	8	8	8	8	20	40
Total Marks	26	16	16	16	26	100	100

To further ensure the validity of the test, the content validity of the test was ensured via submitting the test to a jury of specialists and experts in the field of EFL curriculum and instruction. The jury confirmed that the test is aligned with the learning objective and the

target grammatical elements after a number of slight modifications. Using the test/retest method to determine the reliability of the test, the reliability coefficient calculated was (0.81) indicating that the test is highly reliable and ready to be administered to the participants by the researchers.

The GLS inventory sought to gauge the EFL majors' use of the GLS. A plethora of resources were consulted in the process of the construction of the inventory (Griffiths, 2008; Oxford, 2017; Pawlak & Oxford, 2018; O'Malley and Chamot, 1990; Pawlak, 2018b), and its final form encompassed four main categories: meta-cognitive, cognitive, affective, and social strategies. The inventory was validated by a panel of EFL professors. Likewise, Cronbach's alpha coefficient was used to calculate the reliability of the inventory which was 0.90 indicating that the inventory is reliable and valid to be administered to the research participants who participated in the treatment.

## **Results and Discussion**

To address the first research question, "What is the effect of using a module comprising GLS on EFL majors' use of grammar rules?", an independent sample *t*-test was operated, after assuring the test assumptions, to compare the mean scores of both groups' posttests highlighting the variation in the use of the grammar rules



before and after the treatment. The following table (2) depicts the statistical analysis processed.

**Table 2:**  
*Comparison of Grammar Rules Use Mean Scores between the Control and Experimental Groups (N=56)*

Group No.	M	SD	T-Value	Sig. (2tailed)	<i>d</i>
Con	27	35.85	7.26	3.80	0.00
Exp	29	43.20	7.19		

The displayed results in the above table demonstrate that the *t*-test score yielded (3.83), which was significant (sig. = 0.00 2tailed = 0.05). To further authenticate the results attained, the effect size <P> was computed, Cohen's *d* value (*d*= 1.01) suggesting that the GLS module has significantly improved the use of grammar rules by the EFL majors at the Faculty of Education, Al-Azhar University. To answer the second research question "What is the effect of using a module comprising GLS on EFL majors' retention of grammar rules?", an independent sample *t*-test was implemented, after assuring the test assumptions, to compare the posttests mean scores of the control and the experimental groups to reveal the

difference in the EFL majors' retention of grammar rules as demonstrated in table (2).

**Table 3:**  
*Comparison of Grammar Rules Retention Mean Scores between the Control and Experimental Groups (N=56)*

Group	No.	M	SD	T-Value	Sig. (2tailed)	<i>d</i>
Con.	27	23.78	4.86	3.57	0.00	0.95
Exp.	29	28.41	4.84			

The demonstrated results in the table above illustrate that the *t*-test score yielded (3.54), which was significant (sig. = 0.00 2tailed = 0.05). Substantiating the results of the statistical analysis entails <P computing the effect size (how much variance between the two groups in the retention of the grammar rules as a result of the treatment), Cohen's *d* value was (0.95). In other words, the treatment in the form of the GLS module significantly contributes to improving the retention of grammar rules by the EFL majors at the Faculty of Education, Al-Azhar University.

To address the third research question, "What is the relationship between GLS use and grammar rule achievement?", an analysis of the correlation between the students' responses on the GLS

inventory and their total achievement in the grammar test of the experimental group students was computed as displayed in table (3).

**Table 4:**

**The Correlation Coefficient of the GLS Inventory and the Grammar Achievement (N=29)**

Group No.	Factor	M	SD	r	Sig. (2tailed)
Exp 29	Responses to the GLS inventory	71.52	8.95	0.84	0.00
	Grammar achievement scores	53.21	7.20		

The results displayed in the above table indicate that the scores of the students' use of the GLS module as computed by the inventory significantly correlate with their grammar achievement scores as calculated by the grammar test. The results suggested a strong positive correlation as  $r = 0.84$  ( $p < 0.01$ ) illustrating that the more the use of the GLS, the higher the scores in grammar achievement. Thus, the GLS module as an effective pedagogical strategy was proved to be effective in developing the EFL learners' outcomes.

To summarize, GLS module has a considerable effect in developing the use and retention of the grammar rules among the EFL majors at the Faculty of Education, Al-Azhar University. Such

yielded results are in line with a number of studies that showed the effectiveness of strategy training in developing various language aspects (Alsied et al., 2018 ; Baghaei and Baghaei, 2022 ; Pawlak, 2009 ; Pawlak & Csizér, 2023). Some previous studies showed that students have made use of strategy training to develop their language skills: listening comprehension (Ngo, 2016 ; O'Malley et al., 1985); speaking (Dadour & Robbins, 1996 ; El-Sakka, 2016); and reading (Younus, & Khan, 2017). However, this research sought to utilize

GLS training for enhancing use and retention of grammar rules. A reasonable interpretation of the yielded results might be attributed to the strategies adopted in the GLS module. Focusing on strategy use aligns with the cognitive theories of language acquisition, and the strategy-based instruction adopted in the module might promote effective learning and fine-tune the outcomes. The results reached might be in line with those of Zhou (2017) which asserted that GLS were effective in developing the EFL learners' grammar achievement. Furthermore, the metacognitive strategies which help students plan, monitor and evaluate their learning might have positive impact on the gained outcomes. The learners' ability to identify their points of strength and weakness might help them to adopt and adjust the appropriate strategies related to the context. This interpretation is in line with that of Chamot (2005) which showed that students' adoption of a learning strategy derived from a

cognitive model of learning assists their comprehension and retention of both language skills and concepts in the content areas.

A possible explanation of the attained results might be attributed to the fact that breaking the complex grammar rules into chunks, which can be managed properly and easily by learners might reduce the cognitive load and in turn enhance mastering the grammar rules. In other words, simplifying the grammar rules facilitates use and retention of grammar rules effectively. Such results might be in line with that of [Sweller et al. \(2011\)](#). Another pertinent explanation of the gained results might be attributed to the repetition practice which is incorporated by the GLS module. Worth noting, the repetition practice transfers the knowledge from short-term memory to long-term one; moreover, repetition enables the learners to internalize the grammar rules meaningfully and enable deep and lasting learning. Such interpretation is in line with that of [Roediger and Butler \(2011\)](#) who confirmed the significance of interpretation in consolidating the learners' knowledge.

Another significant point to be tackled is the incorporation of the CLT elements which emphasize the language use rather than the rote learning of the rules and decontextualization of the use of the rules. Consequently, combining both form and use in a GLS module might be a feasible means for practicing the grammar rules effectively in meaningful contexts. With this in mind, combining the

principles of both CLT in line with the connectivism which was integrated in the GLS module might in turn lead to better outcomes in both use and retention. Such interpretation echoes that of [Doughty and Williams \(1998\)](#), [Savignon \(2002\)](#), and [Vygotsky \(1978\)](#).

Another point to be considered, making use of a plethora of interactive activities in the GLS modules might make the learning journey more enjoyable and engaging. The employment of activities in the teaching-learning process harnesses the learners' motivation to effectively internalize the grammar rules meaningfully. Furthermore, the contextualization of the grammar rules in the GLS module might contribute to the student's understanding of the mechanisms of real-life communication. Such an explanation is in line with that of [Fryer and Bovee \(2016\)](#), [Nunan \(1999\)](#), and [Schraw \(1998\)](#). Finally, the scores of correlations attained confirm the impact of practice on production. When the EFL majors used the GLS regularly and consciously, they excelled in the use and retention of the grammar rules. A plethora of psychological factors might also interpret the results obtained; for instance, motivation, self-efficacy, and anxiety reduction which might contribute to the achievement results of the grammar rules. Another important point, the learning strategies reinforcement as well as the active learning practice might play a role in the results attained in both use and retention.

## **Research Recommendations**

Taking into account the results obtained, the educational institutions should make use of the GLS in the EFL programs in order to enable the students to internalize the grammar rules effectively in meaningful situations. Furthermore, the repetition and practice opportunities of grammar rules must be given due attention by the curriculum developers which can be achieved through exercises and activities which ensure use and retention of the grammar rules. Another point to be considered, the incorporation of metacognitive strategies ought to be implemented to promote self-reflection and awareness which enable the learners to be immersed in the learning process meaningfully. Finally, contextualizing grammar teaching learning ought to be adopted by instructors and curriculum developers through authentic texts and real-life exercises to help students best retain and use the grammar rules in meaningful contexts.

## **Suggestions for Further Research**

In light of the results attained, the following future venues for future researchers seem pertinent.

- Conducting a longitudinal study tracking the long-term effects of GLS training on use and retention of grammar rules.

- Employing mixed method approaches combining both quantitative and qualitative data for gaining a comprehensive view of the impact of GLS training.
- Investigating the impact of integrating AI technologies into the GLS training for enhancing use and retention of grammar rules.
- Exploring the impact of different learning profiles such as learning styles, and proficiency level on GLS training.

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