# The Effectiveness of Using Metacognitive Language Learning Strategies in Developing EFL Students' Comprehension of Written Discourse

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## ABSTRACT

This study aimed at investigating the effectiveness of using metacognitive language learning strategies in developing EFL students' comprehension of written discourse. Twenty six second year EFL students from Palestine Ahliya University were chosen as the study group. The study adopted the one-group quasi-experimental design. A pre-post comprehension of written discourse test was designed to assess the students' comprehension of written discourse before and after the treatment. The results were analyzed and the findings revealed that there was a statistically significant difference at ٠.٠٥ level between the mean scores of research group in the pre-post administration of the comprehension of written discourse test favoring post testing, which means that metacognitive language learning strategies were effective in developing second year EFL students' comprehension of written discourse. Some recommendations and suggestions for further research were presented.

**Key words**: Metacognitive language learning strategies and comprehension of written discourse

## مستخلص البحث

هدف البحث الحالي إلى التحقق من فاعلية استخدام الاستراتيجيات ما وراء المعرفية لتنمية فهم النص المكتوب لدى دارسي اللغة الانجليزية كلغة أجنبية و تم اختيار مجموعة البحث المكونة من ستة وعشرين طالبًا وطالبة من طلبة السنة الثانية في جامعة فلسطين الأهلية. واستخدم البحث الحالي المنهج التجريبي ذي التصميم شبه التجريبي القائم على المجموعة الواحدة وقام الباحث بإعداد اختبار قبلي بعدي لقياس فهم الطلبة للنص المكتوب. توصلت الدراسة الحالية إلى انه يوجد فرق ذو دلالة إحصائية عند مستوى ٠.٠٥ بين متوسطات درجات الطلبة في الاختبار القبلي ألبعدي لفهم النص المكتوب لصالح الاختبار ألبعدي وهذا يدل على أن استخدام الاستراتيجيات ما وراء المعرفية له دور فعال في تنمية فهم النص المكتوب. كما وقدم البحث بعض التوصيات والاقتراحات لمزيد من الأبحاث.

**الكلمات المفتاحية:** الاستراتيجيات ما وراء المعرفية و فهم النص المكتوب

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## INTRODUCTION

English has been the most widely used and spoken language around the world for decades. Today, in most of the world's countries, learning English has become a common demand. There are various reasons for the importance of learning English, such as the fact that hundreds of millions of people around the world are using English as either a first or second language and the fact that English is the main language used in a variety of disciplines (Mahu, ٢٠١٢, ٣٧٤). Therefore learning English has become a true necessity, not a mere luxury or addition to one's repository of skills.

Interacting with any foreign language requires the use of several skills. Probably the first skill to be used with any language is reading. Reading is not merely the process of identifying letters and words, but it includes, more importantly, understanding the meaning of combinations of words, sentences, and paragraphs, which form written discourse.

In essence, comprehension of written discourse is the process of inferring meaning from a written content. The purpose of this process is not to identify the meaning of individual words in the discourse, but to make meaning from the discourse as a whole (Woolley, ٢٠١١, ١٥). Comprehension of written discourse is a complex process. It encompasses several visual processes for understanding the written content, such as the identification of semantic and phonological representation and use of language syntax for understanding a sentence. However, it is important to note that the scope of comprehension of written discourse is broader than the mere scope of sentences, as it involves integration of meaning of several sentences, use of personal knowledge for comprehension, and using inductive thinking to infer indirectly stated information (Kendeou et al., ٢٠١٦, ٦٣).

Therefore, reading is an important skill for acquisition of language among EFL students. Through reading, EFL students not only make improved achievement in EFL contexts, but also build a deeper understanding of the culture of societies whose native language is English (Pasaribu, ٢٠٢٠, ٢١).

However, reading skills, including comprehension of written discourse, are characterized by being challenging to develop and improve. This is attributable to several factors, such as the lack of interest in learning English and lack of appropriate learning material. These challenges are further exacerbated among university-level students, as reading material becomes increasingly more complex at that educational stage (Pasaribu, ٢٠٢٠, ٢١).

Therefore, it is important to devise appropriate programs for developing reading skills among EFL students. Recent studies presented several suggestions for improving reading skills among EFL students. For example, the study of Kalanzadeh et al. (٢٠١٤) suggested the use of information and communication technology (ICT) in carrying out reading activities in order to increase motivation among both EFL learners and instructors to carry out these activities. Another suggestion was presented by Kaya (٢٠١٥). This study suggested carrying out training programs that can impart students with effective strategies for comprehension of written discourse. Moreover, the findings of the study of Al-Mansour & Al-Shorman (٢٠١٤) indicated that activities of "extensive reading" are effective in developing reading skills.

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Acquisition of skills of comprehension of written discourse is also reliant on language learning strategies. Language learning strategies play an important in learning language skills in EFL contexts. This is noticed in high-achieving EFL learners. Those learners use language learning strategies that are most appropriate for their needs. In specific, a successful EFL learner selects the language learning strategy that is most congruent with their personal characteristics, such as skills, age, personality, etc. (Javid et al., ٢٠١٣, ٣٦).

Comprehension of written discourse requires the development of adequate cognitive skills. Moreover, comprehension of written discourse skills are linked to the activation of metacognitive skills. The effective use of those skills necessitates the use of appropriate cognitive and metacognitive strategies in reading. The strategies that a student uses impact future reading performance and the new reading strategies that the student will learn (Kuşdemir& Bulut, ٢٠١٨, ٩٧-٩٨).

With regards to metacognitive strategies, they are mental processes used by a student to regulate reading. They are strategies with which the student thinks about their own thinking. They are used for regulating, evaluating, and planning the reader's own reading. Metacognitive strategies use a wide variety of skills that include defining the reading task to be performed, assessing the predictions, placing emphasis on key pieces of information in the discourse, linking among pieces of information, ignoring less significant words, and thinking about the outcomes of the meaning guessing process (Ahmadi& Gilakjani, ٢٠١٢, ٢٠٥٦).

The pioneering work in the field of language learning strategies was carried out in the mid-seventies by researchers such as Stern (١٩٧٥) and Rubin (١٩٧٥). The language learning strategy field continues to be characterized by "no consensus" even though nearly a quarter of a century has passed since then, (O'Malley et al, ١٩٨٥, p.٢٢) and the concept of language learning strategies stills "fuzzy" (Griffiths, ٢٠٠٤)

Even though the concept of strategy itself is not 'easy to tie down' and 'somewhat fuzzy' (Ellis, ١٩٩٤: ٥٢٩), Wenden (١٩٨٧) explains the term learning strategies in three aspects. She refers to learning strategies as 'what learners know about the strategies they use', and researchers can gather such kind of knowledge by asking learners to retrospect, through think-aloud protocols for example, on some specific points of their language learning. She also refers to learner strategies as the language learning 'behaviors' the learners practically engage in to learn and direct the process of second language learning. As a result, researchers can gain information about these behaviors by observing the learners or asking them to describe what they usually do when undertaking language learning tasks. Wenden finally refers to learning strategies as 'tools' that the learner may use to realize some aspects of his or her language regardless of what kind of strategies he or she uses (Wenden, ١٩٨٧: ٦).

Based on the preceding discussion, the researcher was motivated to conduct the present study. The present study aims to investigate the effectiveness  of using metacognitive language learning strategies to develop the comprehension of written discourse among EFL students.

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## LITERATURE REVIEW

Kummin& Rahman(٢٠١٠) conducted a study, entitled: "The Relationship between the Use of Metacognitive Strategies and Achievement in English". This study aimed at examining the relationship between using metacognitive strategies and achievement scores in English among a group of university students. The study population consisted of all undergraduate students enrolled in the Academic Communication I course in the first academic year at the National University of Malaysia, located in Malaysia. The study sample included (٥٠) students. The researchers adopted the analytical descriptive approach, which relied on the Motivated Strategies for Learning Questionnaire (MSLQ) as the research instrument, with the purpose of assessing study respondents' use of metacognitive strategies in learning English. The study yielded several results, of the most important were the following:

١. There was a significant positive correlation between the use of metacognitive strategies and achievement scores in English.

٢. The "Rehearsal" strategy was the most commonly used metacognitive strategy among study respondents.

٣. There were no statistically significant differences among study respondents in the selection and use of metacognitive strategies, based on the variables (gender - ethnic group).

The study introduced a number of recommendations, of which the most important are the following: the necessity that educators provide students with adequate information and training regarding the use of metacognitive strategies in learning various subjects.

Although achievement is an important indicator measuring the impacts of cognitive and metacognitive strategies on language learning and language skills, what truly measures students' knowledge and skills is the measurement of how accurate they comprehend educational material. The following study discusses this particular issue in detail.

Ofodu& Adedipe (٢٠١١) carried out a study entitled: "Assessing ESL Students' Awareness and Application of Metacognitive Strategies in Comprehending Academic Materials". This study aimed at investigating the level of students' awareness and use of metacognitive strategies in learning and understanding academic material. The study population consisted of all junior and senior secondary school students in Ekiti State, Nigeria. The study sample included (١٢٠) students. The researchers adopted the descriptive approach, which relied on a questionnaire as the research instrument, with the purpose of collecting basic demographic data, investigating study respondents' knowledge of reading strategies and skills, and examining study respondents' purposes for reading. The study yielded several results, of which the most important were the following:

١. Study respondents' level of awareness of metacognitive strategies used in comprehension and reading were (high).

٢. Study respondents' level of use and implementation of metacognitive strategies in understanding and comprehending academic material was (high).

٣. There is a significant correlation between the awareness of metacognitive comprehension and reading strategies on one hand and the use of these strategies in learning on the other.

The study introduced a number of recommendations, of which the most important were the following: the necessity that educators provide students with adequate guidance with regards to the use of various metacognitive comprehension and reading strategies.

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Recent research has also paid considerable attention towards the role metacognitive strategies can play in improving the comprehension of written discourse among students. The following study may help in drawing a clearer picture of the nature of the relationship between the two variables.

Wichadee (٢٠١١) in his study "The Effects of Metacognitive Strategy Instruction on EFL Thai Students' Reading Comprehension Ability" investigated the impact of teaching metacognitive strategies to a number of EFL learners on their reading comprehension skills. The study population consisted of all undergraduate students enrolled in a course titled "EN ١١١: Fundamental English I" in Bangkok University. The study sample included (٤٠) students divided into three groups based on the level of proficiency: high, intermediate, and low. The researcher adopted the quasi-experimental approach, which relied on the implementation of an intervention program involving the teaching of metacognitive strategies to study sample members. The study yielded several results, of which the most important were the following:

١. There were statistically significant differences between pre-test and post-test reading test scores for all three study groups at the (٠.٠٥) level of significance, for the favor of post-test results.

٢. There were statistically significant differences between pre-test and post-test with regards to using reading strategies, for the favor of post-test results.

٣. The metacognitive reading strategy that received the highest mean scores was (clarifying the goals of reading), followed by (being aware of how much the content remained to be read), while (thinking about how the text made one feel) came last.

The study introduced a number of recommendations, of which the most important are the following: the necessity that teachers teach metacognitive strategies as a part of educational curricula; and the importance of allocating adequate periods of time for teaching metacognitive strategies.

In some cases a student may cognitively be capable of comprehending the written text, but he/she may find the content of the text itself unbelievable or acceptable. The following study brings this important topic into discussion.

Maier & Richter (٢٠١٤) conducted a study entitled: "Fostering Multiple Text Comprehension: How Metacognitive Strategies and Motivation Moderate the Text-Belief Consistency Effect". This study aimed at exploring the impact of knowledge about metacognitive strategies on the motivation for using them in fostering multiple reading comprehension, particularly in cases when textual content is inconsistent with the reader's personal beliefs. The study population consisted of all undergraduate students majoring in social sciences in all universities located in Germany. The study sample included (٨٥) students divided into four groups, a control group, and three groups who received information about three metacognitive strategies: a group receiving feedback for failing to comprehend the meaning, a group receiving feedback for succeeding to comprehend the meaning, and a group receiving no feedback. The researcher adopted the (٢ X ٤) experimental approach, which relied on conducting an experiment in which study respondents, after being taught three metacognitive reading strategies, read two pieces of textual content regarding a controversial scientific topic, one of them is belief-consistent and the other is belief-inconsistent. The study yielded several results, of which the most important are the following:

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١. Control, failure feedback, and no-feedback groups had significantly stronger situation models with belief-consistent textual content in comparison to the case of belief-inconsistent textual content.

٢. There were no statistically significant differences between the strength of situation models achieved by the success feedback group for belief-consistent and belief-inconsistent scientific texts.

٣. There were statistically significant differences among study groups in the amount of time devoted for reading belief-inconsistent texts, for the favor of groups that were taught about metacognitive strategies.

The study introduced a number of recommendations, of which the most important are the following: conducting further studies on the potential of improving metacognitive strategies by direct training.

## Statement of the Problem

Reading is one of the main four language skills. It plays an essential role in receiving and comprehending written discourse. Since reading is reliant upon comprehension, it is important for EFL students to use both cognitive and metacognitive resources and strategies in the reading process. Moreover, it is important to use inductive thinking skills that help in inferring the meaning of the written discourse. However, cognitive and metacognitive resources and strategies necessary for comprehending written discourse may not be adequately developed among students. Therefore, it is important to train students on using these strategies. Several recent studies demonstrated the positive impacts of developing cognitive and metacognitive strategies on language skills, including comprehension of written discourse, among students.

The researcher noticed during his work as an English language instructor and the coordinator of the Language Center at Palestine Ahliya University (PAU) that the undergraduate English majors, at Palestine Ahliya University face a problem in comprehending written discourse. Many of the students do not do very well in all the sections given in the sessional tests. They actually do much more poorly in the reading section due to probably lack of insufficiency or rather deficiency of the strategies they use to comprehend written discourses. The researcher noticed these weaknesses during correcting and analyzing students' work and tests results. After reviewing the related studies and the results of the pilot study, the research problem can be defined as follows" undergraduate English majors at Palestine Ahliya University have a problem in comprehending the written discourse".

## Question of the Study

- To what extent does the use of metacognitive language learning strategies affect EFL students' comprehension of written discourse?

### Hypothesis of the Study

- There is a statistically significant difference at ٠.٠٥level between means of scores of the study group in the pre and post administration of the comprehension of written discourse test, in favor of the post administration.

## Definitions of Terms

## - Written Discourse

Sharif (٢٠١٥) defines written discourse as the meaning that a reader makes from a certain piece of written content as an outcome of the process of inferring the meaning.

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Another definition of written discourse is presented by Purnamasari (٢٠١٦). The author defines written discourse as a discourse made in a written form and is built in a manner such that it is free from issues typically found in spoken transcripts.

According to Price & Jackson (٢٠١٥), written discourse is a form expression through written language and that goes beyond the mere confines of individual sentences.

For the purpose of the present study, the researcher defines written discourse as discourse that is made in a written form and that conveys to the reader the meaning, both directly in directly, through the content as a whole, not through individual sentences or words.

## - Metacognitive Strategies

Haukås (٢٠١٨) defines metacognitive strategies as the set of skills that a learner uses for managing, guiding, regulating, and organizing their own learning, and that is through the processes of assessing, monitoring, and planning.

Shih & Huang (٢٠١٩) provides a similar definition of metacognitive strategies. According to the authors, metacognitive strategies are strategies that revolve around the learner's thinking about their own learning processes and performing a variety of other mental processes, such as monitoring and planning, and they are performed for the purpose of guiding, regulating, and directing learning.

Another definition of cognitive strategies is presented by Gutiérrez-Braojos (٢٠١٥). The authors define cognitive strategies as deliberate mental processes used for the purpose of assessing, organizing, and planning cognitive activities in terms of certain rules.

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For the purpose of the present study, the researcher defines metacognitive strategies as mental strategies used in the context of a learning process, and they pertain to assessing, monitoring, planning, and organizing the learning process.

## Objectives of the Study

## -This study aims at:

Developing EFL students comprehension  of written discourse using metacognitive language learning strategies.

## Significance of the Study

The present study is expected to be significant for the reasons that follow:

- ## **Theoretical Significance:**
١. Findings of the present study revealed the underlying patterns of impact of metacognitive strategies on comprehension of written discourse among EFL students.
٢. Findings of the present study highlighted the main challenges that university-level students encounter in comprehension of written discourse.
- **Applied Significance:**
١. The suggested program could provide EFL curricula designers,-teacher-trainers and textbook writers with appropriate solutions for training students on using metacognitive strategies in learning.
٢. Findings of the present study could present applicable practical suggestions for addressing common issues that EFL students encounter in training their own reading skills.

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## Limitations of the Study

**The current study is limited to the following:**

- A group of second year EFL students at PAU, Palestine. The study also is limited to some metacognitive language learning strategies.

## Tools and Materials of the Study

## The researcher prepared the following tools and materials:

- A program based on cognitive and metacognitive learning strategies to develop students' comprehension of written discourse. The program includes:

-The teacher's guide.

-The Students' book.

٢. A comprehension of written discourse pre-posttest.

## Procedures of the Study

To answer the question of the study: the following steps were followed:

١. Reviewing the related literature.

٢. Designing the tools of the study.

٣. Judging the validity and reliability of the tools of the study by jury members.

٤. Piloting the tools of the study.

٥. Modifying the tools of the study according to the modifications of jury members and the results of the pilot study.

٦. Selecting the sample of the study randomly from the second year EFL students at PAU.

٧. Administrating the pre-test of comprehension of written discourse.

٨. Teaching the suggested training program to the group of the study.

٩. Administrating the post-test of comprehension of written discourse.

١٠. Treating the results statistically.

١١. Discussing the results and providing conclusion, recommendations and suggestions for further research.

## Participants of Study

The study group chosen for the present study was ٢٦ (male and female) second year EFL students at PAU in Palestine. Their ages ranged between nineteen to twenty years old. They have the same social, political and economic background with very few single exceptions here and there. They also have been learning English since primary level and have nearly the same linguistic knowledge.

## Design of Study

To achieve the purpose of the present study, the quasi-experimental design was used to identify the effectiveness of using metacognitive strategies in developing the comprehension of written discourse among EFL students at PAU in Palestine. The one group pre-post-test design was used in this study. The participants were first pretested using the comprehension of written discourse test. After implementing the program, they were post tested using the same instruments.

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## Comprehension of Written Discourse Test

The main aim of the comprehension of written discourse test was to measure the effectiveness of using metacognitive language learning strategies in developing students' comprehension of written discourse.

### - Construction of the Test

The test was constructed according to the following procedures:

a. Reviewing the literature related to the construction of achievement tests.

b. Indicating the skills to be included in the test.

c. Preparing the table of specifications related to the test.

d. Writing the first draft of the test.

e. Submitting the test to a jury of TEFL and linguistics specialists to indicate the validity, the suitability for the comprehension of written discourse, accuracy of items and suggestions for improvement.

f. Modifying the test based on the jury members' feedback.

g. Deciding the validity and reliability of the test.

### - Validity of the Test

To determine the validity of the comprehension of written discourse test, it was submitted to a jury of TEFL and linguistics specialists. They were requested to judge the linguistic stating of the

questions and how far these questions measure the objectives. The jury confirmed the applicability and suitability of the test. The jury also affirmed the relevance of the test to the objectives of the study. The validity of the test was determined by internal consistency. The correlation between the test items and the total score was acceptable (p<.٠١).

### - Reliability of the Test

Piloting the program was carried out about a week before the implementation of the program to estimate the validity and reliability of the test. The researcher administrated the test and a part of the training program (unit one) on a group of students who were not included in the study group. The reliability of the test was determined by the test-retest method. The test was administered again to the same group after ten days. The researcher used Alpha Cronbach (test-retest) in indicating the test reliability. The internal reliability of the comprehension of written discourse was ٠.٨٩٩; which was considered a high value that indicates the consistency of the test. So this value was significant at ٠.٠١.

## Results

The question of the research was "To what extent does the use of metacognitive language learning strategies affect EFL students' comprehension of written discourse?

To answer this question, the hypothesis of this research predicted that "There is a statistically significant difference at ٠.٠٥ level between means of scores of the study group in the pre and post administration of the comprehension of written discourse test, in favor of the post administration."

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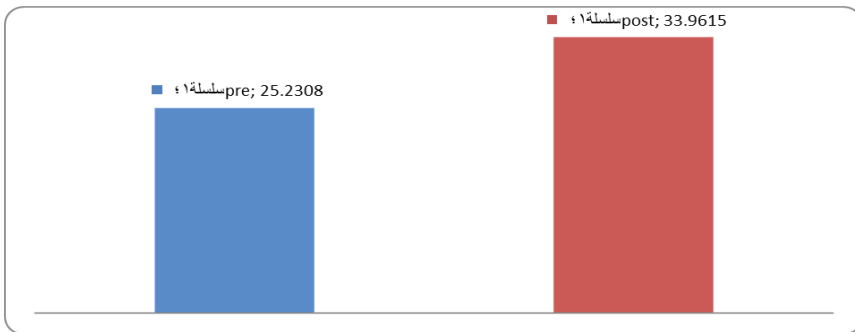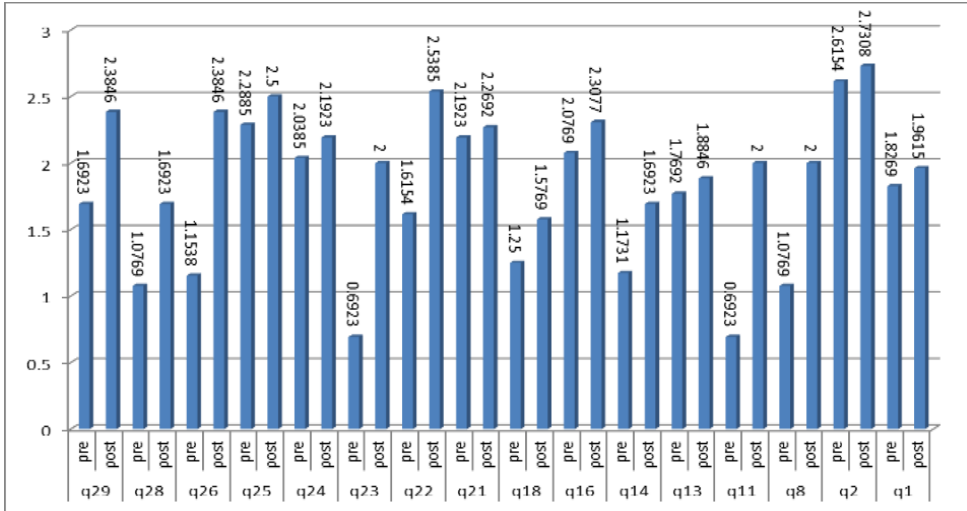
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**Table (١)**

**The "t" Value, Standard Deviations and Means of Scores of the**

**Participants in the Comprehension of Written Discourse Pre-Post**

**Test**

| Metacognitive Strategies | test | Mean | Std. Deviation | t-value | sig. | $\eta^2$ |
|---|---|---|---|---|---|---|
| | pre | ٢٥.٢٣ | ٨.٨٨٥ | ٤.٥٤ | ٠.٠٥ | |
| | post | ٣٣.٩٦ | ٤.١٤٢ | ٠.٥٢ | | |

Table (١) above shows that there is a statistically significant difference between means of scores obtained by participants in the comprehension of written discourse pre-posttest in favor of post testing. The study group got a higher mean (٣٣.٩٦) in the post test than that obtained in the pretest (٢٥.٢٣). The result of the t-test shows that t-value is (٤.٥٤) which is significant at ٠.٠٥ level. This supports the hypothesis of the research and affirms that students' comprehension of written discourse underwent considerable improvement as a result of being taught by the suggested training program based on metacognitive language learning strategies and it can be concluded that the program highly affected the participants' comprehension of written discourse. Figures (١) shows the differences in means of scores.

**Figure (١) Means of Scores of the Participants in the Comprehension of Written Discourse Pre/Post Test**





## Conclusion

Findings and results of the present study were positive and encouraging since the program based on metacognitive learning strategies helped to develop second year EFL students' comprehension of written discourse. These findings and results showed statistically differences between the means of scores of participants in comprehension of written discourse pre-post test in favor of the post administration.

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Generally, the results presented revealed that the program had significant effect on the development of the skills of comprehension of written discourse. When the researcher analyzed the data of the comprehension of written discourse test, it was found that the study group got a higher mean (٣٣.٩٦) in the post test than that obtained in the pretest (٢٥.٢٣).

Before the implementation of the program, the mean scores of the participants were unsatisfactory. When they had been trained through the program based on metacognitive language learning strategies, they developed their comprehension of written discourse. It has become evident that the strategies, techniques and activities used in the program were effective in developing the students' comprehension of written discourse.

The program based on metacognitive language learning strategies proved to have a significant effect on developing the students' comprehension of written discourse. These skills included :building background knowledge and building vocabulary, identifying types of discourse genre, recognizing the elements of cohesion in written discourse, identifying  the elements of coherence in written discourse, and identifying the pragmatic value attached to examples of written discourse.

These results were commensurate with the argument of Aijmer & Stenström (٢٠٠٤), who indicated that written comprehension is essentially reliant upon cognitive and metacognitive language learning strategies, as these strategies help the reader in achieving coherence and cohesion in order to form what is known as "clause relation" through which the reader makes interpretations of the meanings of sentences in a certain paragraph based on the meanings conveyed by the adjoining sentences.

The importance of teaching cognitive and metacognitive language strategies to EFL students was also empathized by Follmer et al. (٢٠١٨) who found that cognitive strategies are effective in developing comprehension of written discourse skills, as these strategies help the reader make inferences about the ideas contained in the written content. In addition, these strategies help in developing inductive thinking skills, thereby leading to further improving the written discourse comprehension skills among learners, as inductive thinking is an essential requirement for correct comprehension of written discourse.

The findings of the present study were also congruent with the findings obtained by Ofodu& Adedipe (٢٠١١), which showed that the use of metacognitive strategies is associated with improved use of reading strategies. The study of Wichadee (٢٠١١) also support the finding, showing that metacognitive strategies lead to improve the performance in reading comprehension among students with various levels of reading skills.

Overall, the program emphasized the role of metacognitive language learning strategies in developing the students' comprehension of written discourse. By using the aforementioned strategies, students became more aware of their learning.

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## Recommendations

In light of the study results, the researcher suggests the following:

١. EFL students' awareness of using cognitive and metacognitive language learning strategies in classroom should be increased.

٢. EFL students should pay more attention towards the skills of comprehension of written discourse in order to become proficient readers.

٣. Sufficient time should be devoted to students' practice of reading in the EFL classroom in order to become more capable of using their cognitive abilities while reading.

٤. EFL instructor s' use of cognitive and metacognitive language learning strategies should be encouraged.

٥. EFL instructors should refrain from traditional instructional techniques and adopt new ones that make effective use of students' cognitive and metacognitive abilities.

٦. EFL instructors should keep a balance in focusing on both fluency and accuracy of their students' reading performance.

٧. The time allocated to the teaching of reading per week should be increased.

٨. Instructors should select various educational materials in order to expand students' exposure to English language written discourse.

٩. Cognitive and metacognitive language learning strategies should be used in teaching reading in the different educational level.

١٠.   Encouraging EFL course designers to devise reading textbook to be used by EFL learners based on cognitive and metacognitive language learning strategies.

## Suggestions for Further Research

In the light of the present study results, the researcher would suggest the following studies:

١. An analysis of the relationships between cognitive and metacognitive strategy use and second language acquisition.

٢. The effectiveness of using cognitive and metacognitive strategies on second language grammar and writing performance.

٣. Investigating EFL learners' awareness of cognitive and metacognitive learning strategies of students in different disciplines.

٤. Investigating the effectiveness of using interactive teaching and learning strategies on  promoting text comprehension and content learning for students with learning disabilities.

٥. Studying the effect of cognitive and meta-cognitive learning strategies on academic performance.

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٦. Exploring the use of cognitive and meta-cognitive strategies in developing students' writing skills.

٧. Exploring the impact of cognitive and metacognitive strategies on EFL learners' listening comprehension.

٨. Investigating the effectiveness of cognitive and metacognitive learning strategies on enhancing teaching competency of graduate teacher trainees.

٩. Identifying the cognitive and metacognitive learning strategies used by adult learners of Arabic as a foreign language.

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