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## Mitigating Interlanguage Effects in Learning Prepositions through Using Cognitive Linguistic Approach

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### Abstract

*This study examines the challenges faced by Iraqi students and the impact of interlanguage when Iraqi learners use prepositions in English as a foreign language, especially interlanguage, via relying on the cognitive linguistic approach (CL). Ninety participants were involved in this experiment and studied English prepositions, which are part of grammar sessions, through CL to enhance their understanding of prepositions. Some English prepositions are analyzed according to CL and its principles to show their multi-meanings and the special relations between entities. Surveys, pre-test, and post-tests were designed as quantitative methods to collect data. This study found that the difficulties are due to the differences in the structural system of the mother tongue and the target language and the use of some prepositions in a single context, which means that the participants are not aware of the multiplicity of their connotations. The study emphasizes the importance of the cognitive linguistic approach in confronting these challenges. The results showed a significant change in participants' awareness of the influence of the mother tongue on the target language and the importance of the cognitive linguistic approach.*

**Keywords:** Cognitive Linguistics, English Prepositions, Interlanguage, Iraqi Learners, Quantitative Data.

### Introduction

Language is a linguistic system that organizes oral and written communication, including sounds, syntax, and uses. It is influenced by phonetics and phonology, morphology, and syntax, which vary between languages. Dialects in one language can lead to communication difficulties, as cultural influences can cause variations in dialects (Allison, 2016). Language and culture are interconnected, with culture shaping customs, values, and social interactions. Interlanguage, the language system used by learners to acquire a foreign or second language, is shaped by their mother tongue. This influence is evident in linguistic structures and vocabulary choices, such as the application of the definite article in titles (Alsharafi, 2017). Learning a foreign language is inherently influenced by one's interlanguage, affecting key aspects like pronunciation and writing. Interlanguage has a distinct grammar system, constructed by second-language learners, and is susceptible to external and internal factors. It is a transitional phase, where learners periodically revise the system by introducing or eliminating rules. Additionally, interlanguage can undergo a "fossilization" process where learners' mental frameworks cease to evolve before fully mastering the target language system (Foppoli, 2019). The grammatical system by which sentences are constructed correctly is syntax. Each language has its own system, so this system varies between languages (Fasold & Conner-Linton, 2013).

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The use of English prepositions represents an ongoing problem and challenge for non-native speakers in the field of language learning and intercultural communication. Non-native speakers often have difficulties mastering the complex use of English prepositions, especially those whose native languages have different prepositional systems (Trask, 2007). Because their native languages may lack equivalent prepositional structures or use them differently, non-native speakers usually struggle with the nuances of English prepositions. There is no doubt that variation in prepositional systems between languages leads to errors in usage. These errors at spoken and written communication levels may range from minor annoyances to severe misunderstandings (Carter & Nunan, 2001). These mistakes can affect how non-native speakers are perceived and hinder their integration into English-speaking communities (Crystal, 2010). Iraqi students are foreign learners of the English language; thus, they face the same problems as their counterparts in this field. In Iraq, several researchers focus on tackling this problem, such as (Ajami, 2022, 2019, 2018a, 2018b; Nasser, 2020; Almahameed, 2018; Al-Baharani, & Al-Robuye, 2016). Based on the research papers of the researchers, Iraqi English language learners face a set of challenges when it comes to using English prepositions. These challenges are the result of fundamental differences in the prepositional systems in Arabic, the official language of Iraqi learners, and English, the target language they seek to master. Arabic relies heavily on case markers and word order to convey spatial and relational information and uses limited prepositions. In contrast, English uses a wide range of prepositions with precise meanings, and their correct use is essential for accurate communication.

An important point that should not be overlooked is the over-generalization of prepositions, which poses a major challenge for Iraqi English language learners. In general, Iraqi learners tend to use a single preposition in English, such as “in” or “on,” which leads to imprecise and incorrect use of prepositions and impairs writing skills. The direct inequality between prepositions in both Arabic and English languages increase the consequences of this problem even more. This problem forces Iraqi learners to rely on literal translation away from the meanings through which the intended and appropriate preposition can be used. (Abdul Rahman, 1990). More than that, Nasser (2020) confirms that Iraqi learners experience confusion in understanding and using English prepositions in the appropriate context. The use of prepositions depends on the appropriate context, and their meanings change based on the specific relationships between the things to which the preposition connects. When learners struggle with identifying the appropriate preposition for a particular situation, this complexity can lead to confusion and misuse.

This study is considered of great importance in the field of foreign language acquisition, especially for Iraqi English language learners. This research addresses the crucial challenge of mastering English prepositions, which is considered a major challenge due to the fundamental differences between the Arabic and English prepositional systems. By employing a cognitive linguistic (CL) approach, the study presents an innovative way to enhance the understanding and use of English prepositions among Iraqi students. The importance of this study is multifaceted: it provides enhanced instructional strategies by helping learners understand the multiple meanings and relational functions of English prepositions, supported by strong empirical evidence from surveys, pre-tests, and post-tests that demonstrate the effectiveness of CL approaches. The focus on Iraqi learners addresses the unique linguistic challenges they face and provides tailored insights of particular interest to educators and educational policy makers. In addition, the study deepens the understanding of interlanguage and its impact on the learning of prepositions, contributing to the development of more effective teaching methods. The practical

implications are clear, as findings can inform curriculum design and instructional practices, ultimately improving learner outcomes. This study not only advances theoretical knowledge in cognitive linguistics and second language acquisition, but also provides practical solutions to the educational challenges faced by Arabic-speaking learners of English.

To summarize the points mentioned in the introduction, this research seeks to contribute to solving the problem of Iraqi students' use of prepositions in the English language. The main focus in this research is on the point why Iraqi EFL learners depend mostly on simple prepositions such as “in, on, at, of, from, to, about, under, above, between”; while using compound prepositions such as “amongst, amidst, above, around, along, across, about, below, beneath, besides, between, beyond, outside, within, without, because of” is rare. The second point is that Iraqi students are foreign learners of the English language. They have their mother tongue, Arabic, which is completely different from the English language, which results in a difference in culture and an influence of the mother tongue on the target language, or what is called the interlanguage effect. The researchers rely on Cognitive Linguistic Theory (CL) to solve this problem. The following research questions are proposed to meet the objectives of this study:

RQ1: Does the application of the cognitive linguistic approach significantly impact Iraqi learners' recognition and use of English prepositions?

RQ2: How does the asymmetry between Arabic and English prepositions affect Iraqi learners' acquisition of English prepositions?

## **Literature Review**

First, this section examines the theory of cognitive linguistics, interlanguage, and its effects, as well as previous studies that dealt with prepositions and their difficulties as a problem faced by Iraqi EFL learners.

### **The Cognitive Linguistic Theory (CL)**

This theory was developed by linguists such as Lakoff, Langacker, and Talmy in the 1980s. Its aim is to treat prepositions and understand their multiple connotations and meanings, and it is of great benefit, especially for learners of English as a foreign language. This theory is based on natural language analysis and has an important role in organizing and communicating information. This theory has several features, such as the comprehensive nature of meaning, the relative nature of meaning, and the fundamental role of semantics. Conceptual phenomena such as prototypes, metaphors and metonymy can be captured through cognitive linguistics. Cognitive theories are characterized by their call for understanding language in the context of its use (Geeraerts & Cuyckens, 2012).

CL theory focuses on two main aspects: the conceptual structure or so-called semantics, and the grammar and organization of language. It also focuses on our human experiences of using language (Ungerer & Schmid, 2001). Using CL to address the difficulties and challenges faced by Iraqi learners of the English language in the multiple meanings of prepositions seems logical and appropriate since it simplifies the semantics of prepositions by focusing on spatial views, relationships, and metaphorical senses. According to Tyler, Mueller, and Ho (2011), prepositions create a spatial relationship between the parts of a sentence. Prepositional meanings are systematically connected within a motivating semantic system based on the landscape. Example: “He stopped under a tree to protect himself from the snow.” This scene includes a relationship

between the man, the tree, and the snow. These are called locative English prepositions that create spatial relations among entities.

Interpretation of a scene varies depending on the speaker's or viewer's focus. This difference in focus leads to a different understanding and interpretation of the same scene. It can be said that different perspectives lead to different perceptions of the interaction between entities (Evans, 2012). Systematic expansions occur within each central scene due to the spatial relationships shown by the prepositions. Prepositions describing contact relationships generate interchangeable senses. Example: The ball is on the court, the ball is in the net, the ball is in the basket, the players are on the court, the referee is on the court. Although the preposition represents a spatial arrangement of entities, it also represents metaphorical meanings, namely that the playground is the place where other entities go to conduct an activity. Also, the ball in the net means there is a goal (Boers & Demecheleer, 1998).

### **Interlanguage**

Interlanguage is the linguistic system that learners use to learn and gain proficiency in a second or foreign language. This system is formed because of the interference of the mother tongue with the target language. This system, which is shaped by the influences of the native language, target language input, and the tendency to generalize newly acquired rules, reflects the learner's evolving grammatical system (Nordquist, 2020). Interprismatic describes the way in which individuals use, acquire, and understand linguistic patterns or speech acts in a foreign language. It also shows learners' progress in building their language skills, the influences their mother tongue and target language have on them, and the application of newly acquired information (Nordquist, 2020).

Adults with difficulty learning a new language use various strategies, including language transfer (Selinker, 2013). Transfer is the effect of the learner's mother tongue on the acquisition of the target language, whether positive or negative. Language transfer is called linguistic crosstalk when it leads to errors. The language transfer factor remains important in the learners' language exchange system, although other processes are involved (Ellis, 2015). Language learners may incorporate elements of their native language when using the target language because they often attribute similar elements to different linguistic elements across three systems: native language, target language, and interlanguage (Selinker, 2013).

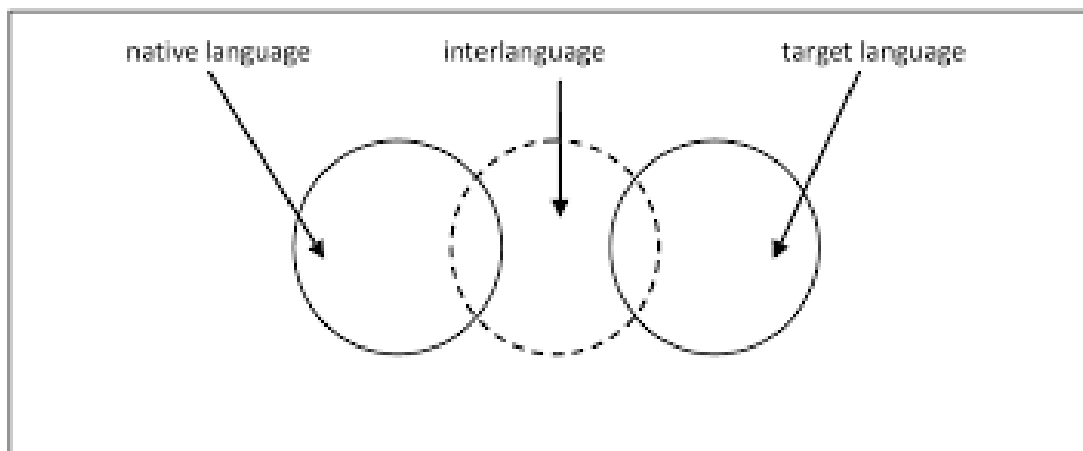


Figure 1. The Notion of Interlanguage (Adopted from Corder, 1981)

Interlanguage undeniably impacts learners' acquisition of a foreign language, and this appears in the learner's understanding of the target language and in his verbal and written expressions. Linguists have addressed the role of interlanguage in acquiring a new language and its emergence in speaking and writing skills. The influence of the mother tongue is clearly visible in grammar, vocabulary, and pronunciation. The influence of the mother tongue results in the form of pronunciation and writing errors and poses a clear challenge to fluency and accuracy when communicating in the target language. Basically, the mother tongue has an impact on an individual's proficiency in the target language (Selinker, 2013).

Many studies have focused on exploring the cognitive-semantic aspects of prepositions in literature reviews. Aajami (2022) conducted a comparative analytical study to understand the cognitive differences of the prepositions “over,” “on,” and “above.” This study came to address the cognitive difficulties in using these prepositions in context and because they constitute a challenge for Iraqi learners who study English as a foreign language. The researchers adopted a cognitive linguistics (CL) approach guided by the insights of Tyler and Evans (2003). About sixty second-year students in the English Department at the University of Baghdad participated in the experiment. The results showed significant progress for the participants and a noteworthy shift in their attitudes towards the learning approach to analyzing the meanings and use of prepositions. The results highlighted the participants' enhanced understanding of prepositions, which significantly improved their performance. The results of the study confirm the effectiveness of the cognitive linguistic approach in acquiring the connotations and meanings of prepositions in the English language.

Nasser (2020) conducted a study on prepositions in the English language and applied the cognitive linguistic approach. This study was quantitative and descriptive, and its aim is to help Iraqi English language learners, as foreign learners, overcome the challenges they face in the multiple uses of prepositions, especially the preposition “on.” This study discussed the reasons that result in these challenges and confirmed that the similar functions of different prepositions is the primary reason for the difficulty in dealing with prepositions and thus leads to confusion among learners in using prepositions. The study revealed the diverse uses of prepositions and confirmed the effectiveness of the cognitive linguistic approach in treating prepositions.

Mori (2019) carefully studied the semantics of the preposition “over” by relying on a cognitive linguistic approach. The study showed the multiple meanings of the preposition "over" and confirmed that the diagrams it creates have a three-dimensional structure. This study yielded valuable insights into the multiple meanings of the preposition “over” and provides an alternative analysis that can simplify cognitive linguistic assessments. The study's focus on the three-dimensional and topological nature of image schemas for paths and landmarks has played a crucial role in enhancing our understanding of the semantics of spatial language, especially in relation to prepositions.

In (2019), Aajami conducted a study to address the multiple meanings of the preposition “in” by relying on the cognitive linguistic perspective and the approach of Evans and Tyler (2003) in addressing the multiple meanings of prepositions. The challenges faced by Iraqi learners encouraged the researchers to conduct this study. The aim of this study is to analyze the different meanings and connotations of the preposition “in” considering cognitive linguistic theory. 76 second-year students at the University of Baghdad, Department of English, participated in this experiment. The results of the study were positive after analyzing quantitative data. The study

showed that the preposition “in” has many uses and connotations. The participants also responded positively to the cognitive linguistic theory in understanding prepositions and their connotations. The study also enhanced students' self-confidence when dealing with prepositions, making it easier to acquire new concepts when analyzing context. The study also confirms the effectiveness of cognitive linguistic theory in understanding prepositions.

Almahameed (2018) conducted a study comparing the contextual use of prepositions in both Arabic and English. The study revealed differences between the two languages resulting from the fundamental differences in each of their language families. The study focuses on the forms, functions, and uses, highlighting the differences in the types of prepositions and their various functions and applications. In the English language, there are simple prepositions (for example, under and in) and complex ones (for example, according to and in relation to). Prepositions serve to connect nouns and adjectives and define relationships between them. For example, the chair is under the table. If we replace the nouns, we get a completely different meaning, such as the table under the chair. Prepositions are used in the English language in circumstances of time, place, causality, support or objection, concession, and respect. While the Arabic language lacks complex prepositions, they are replaced by temporal and spatial adverbs and tools of emphasis and simile. There are two types of prepositions in the Arabic language, separate and connected, and they have almost the same functions as English. Despite some compatibility in the functions of prepositions in both languages, the structural and numerical differences and some aspects of use remain an important obstacle in being able to use prepositions in the English language proficiently or getting rid of the influence of the Arabic language on the use of prepositions in the English language.

This study aims to mitigate the negative effects of interlanguage using Cognitive Linguistic Theory (CL) and support to understand the different meanings of prepositions. It also improves Iraqi learners' abilities to use prepositions in the English language more widely and accurately.

## **Method**

This research relies on quantitative data through appropriate tools, pre and post questionnaires and pretest and posttest, for each data type. The researchers conducted a comprehensive investigation into the difficulties and obstacles faced by Iraqi EFL learners. The study aims to shed more light on this issue by returning to the roots of the problem, which is the influence of the mother tongue on the target language, or what is called the interlanguage. The research provides a cognitive linguistic analysis of a sample of prepositions and an in-depth exploration of the cognitive aspects of the conceptual structures, semantics and rules related to prepositions by relying on cognitive linguistic theory. Quantitative data is collected and analyzed statistically to evaluate the impact of the cognitive linguistic approach in raising the efficiency of Iraqi learners in using English prepositions.

## **Participants**

1. The participants in this research are a group of female students at the University of Baghdad, College of Education for Women. The participants are from the English Department from the second year, and they number 90 participants. The number at the beginning of the experiment was 95, which is the number of students in the second year. Five participants were excluded because they did not participate in the final exam. These students face difficulty using prepositions in the English language due to the different prepositional systems in both Arabic and English.

## Data Collection

Data collection stage is crucial as it directly influences the quality of the research outcomes (Taherdoost, 2021). Therefore, the data collection stage must be given sufficient time, while checking the tools and verifying their quality and suitability to the quality of the data to obtain true and accurate data (Kabir, 2016). It is worth noting that good planning does not guarantee success for the research project, even though the method is appropriate for collecting data (Olsen, 2012). There are different methods of collecting data, such as surveys, focus groups, interviews, observation, surveys, case studies, and experimental methods such as tests (Taherdoost, 2021). The researchers set the following sections to determine data collection types and tools and identify data analysis methods.

Pre and post questionnaire were also relied upon to know the participants' opinions about the cognitive linguistic approach and its effectiveness in explaining English prepositions. Pre- and post-tests were the main tools through which quantitative data were collected and are designed to measure participants' proficiency in using prepositions before and after applying the cognitive linguistic approach.

The questionnaire data were analyzed with Excel, while the pre- and post-test results were examined using the SPSS statistical tool. Quantitative data is essential for assessing the experiment's impact on participants, accurately determining any improvements in preposition usage and the degree of these improvements.

The research adhered to ethical principles and guidelines, ensuring informed consent, confidentiality, respect for participants' rights, and voluntary participation. The consent of the university and the participants was obtained before implementing the experiment and the data collection process from the university's Research Ethics Committee, where this study was conducted.

To sum up, quantitative approaches were relied upon in the research methodology to obtain a comprehensive understanding of the challenges faced by Iraqi learners in using English prepositions. The cognitive linguistic approach aims to enhance the competence of Iraqi learners and provide logical solutions to the influence between languages. This study aims to help Iraqi learners overcome difficulties in understanding prepositions, using them in the appropriate context, and creating a more positive and effective learning environment.

## Procedure

After conducting the survey and initial testing and collecting important basic information for the research, the second phase of the experiment begins, which is considered the backbone of the experiment. At this stage, the researchers rely on analyzing a group of prepositions that were repeatedly used by students in the initial test but had one meaning. This means that there are multiple meanings for these prepositions, but they appear to have one meaning in the participants' writings. These prepositions are *about*, *after*, *before*, *between*. Also, there are simple prepositions such as *on*, *in*, and *at*, which participants can use in different situations.

A. To start with “*about*”, it has several meanings:

1. It identifies topics such as:
  - a. *This book is about short stories.*
  - b. *She gave me advice about my job.*

When looking at these examples, the reader can easily understand the conversation. The first entity knows and identifies the second entity. In the first sentences, the speaker talks about and identifies the topic of the book.

2. The second meaning is that about means approximately or almost, as in the following examples:

- a. It is about 11:00 am.
- b. He has about 100\$.
- c. They are about to reach.
- d. They are about ready.

In these examples, “about” means that something is near to reach a specific level, amount, or place.

3. The third meaning is that it means in all directions as in the following:

- a. The cat walks about the room.
- b. They wandered about the farm.



Figure 2. Is Taken from Google Images

In these examples, the first entity, subjects, are moving in all directions in the base, which are ‘the room’, and ‘the farm’. They also mean the first entity is inside the second.

B. the second preposition is “after”. It also has many different meanings.

1. The first meaning of after is “later than” as in the following:

- a. After I finish my homework, I go shopping.
- b. The teacher left after I came in.
- c. The wedding is after the reception.

In these examples, after clearly means latter than. It indicates time arrangements where there is one action after another.

2. The second meaning of after is “lower in value or rank” as the following:

- a. Silver is after gold in prices.
- b. Our team is after FC Barcelona.
- c. Maher is after Noha in grade 10.

The above examples clearly show the value and rank of one entity in comparison to another.

3. The third meaning of after is “in pursuit of” as in:

- a. The dog ran after the cat.
- b. The policemen were after the thief.

In these two examples, one entity is chasing the another. The relation between them based on the appearance of the first entity entitled the disappearance of the second one.

4. The fourth meaning of after is “because of”:

- a. They got mad at her after her behavior at school.
- b. After he separated from his wife, he lost his relationship with his friends.

After in the above examples show a result after doing an action. The relations in these examples are cause and effect.

5. The fifth meaning of after is “continuously” as in

- a. Life becomes harder year after year.
- b. His father asks him to give up smoking time after time.

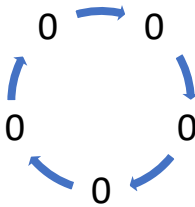


Figure 3. Is Done by the Researchers.

In these examples, after gives a repetitive sense of something overtime.

C. The Third preposition is “between”. It also has several meanings.

- 1. The first meaning of between is “separation of two things.”
  - a. My brother and I build a wall between the yards.
  - b. Berlin Wall was built between West and East Germany.
- 2. The second meaning of between is “connection of two things”.
  - a. Rasheed Street is between Karkh and Rousafa.

b. The nose is between the two eyes.

These examples have two opposite meanings in the first meaning. In the first meaning, one entity is separated by a wall or line. Here, the two entities have a street or something in common. Although they seem to have the same meaning, it depends on the speaker's point of view.

3. The third meaning of between is "a choice of" as in:

a. You can only choose between bananas or strawberries.

This meaning of between limits the choices of something for someone. Thus, according to the speaker, the addressee can only one thing or more.

4. The fourth meaning of between is a "range" as in:

a. My dad wins between 1000\$ and 2000\$.

b. I will visit you between 3:00 and 4:00 pm.

c. The distance is between 5 to 7 km.

Between identifies a range of value, time, or space between two limits according to the speaker's estimation.

5. The fifth meaning of between is "shared by" as in

a. We have only one sandwich between us.

Between means shared by us. The sandwich is a shared property between us as a group.

### **The Experiment**

The experiment was conducted in several stages: The first stage is the stage of conducting the pre-test and pre-survey. During this stage, priority data was collected, on which the researchers relied on analyzing a sample of prepositions according to the insights of cognitive linguistic theory. The second stage is the stage of explaining the theory through lectures and hand-out. Analysis of a sample of prepositions according to the insights of cognitive linguistic theory. At this stage, the researchers focused mainly on analyzing the multiple meanings of each targeted preposition. Also, the spatial meanings that the preposition creates between the samples in the sentence were highlighted. The samples are explained in different sentences and contexts to highlight their multiple meanings. The third stage is the post-test and post-survey stage. The importance of this stage is highlighted by collecting data after the end of the experiment to compare it with the tribal data and measure the impact of the experiment on the participants.

### **Results**

After collecting quantitative data from ninety participants, it is time to analyze it and obtain results. Starting with the survey, then the tests, then the focused discussion groups, and finally the observations. The participants completed the same survey to assess their opinions before and after the experiment. The researchers depend on two questions only:

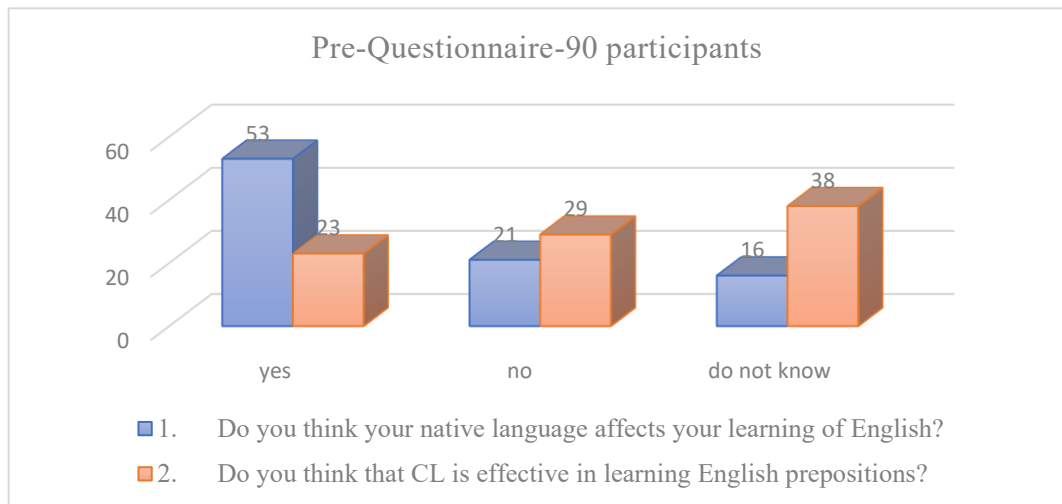
#### **Questionnaire**

1. Do you think your native language affects your learning of English?

2.  
English prepositions?

Do you think that CL is effective in learning

In chart (1), the first question, the data of which is shown in blue, is about the effect of the mother tongue on the target language. The results show that most participants (59%) believe that their Arabic language, their mother tongue, affects their English language acquisition. (23%) believe it has no effect. As for (18%) who are not sure, they remain in the gray area, which means that they do not have awareness regarding this effect.



Chat 1. Pre-questionnaire results

The second question is about the effectiveness of cognitive linguistic theory in studying and understanding prepositions in the English language. Twenty three percent, who represent a minority in the group believe that this theory is useful and influential in learning prepositions. Thirty two percent have a negative theory about cognitive linguistics in learning prepositions in the English language. Forty three percent of the participants, who represent the majority expressed their uncertainty about the effectiveness of this theory. This indicates a high level of ambiguity and differences in perceptions regarding the effectiveness of this approach among participants.

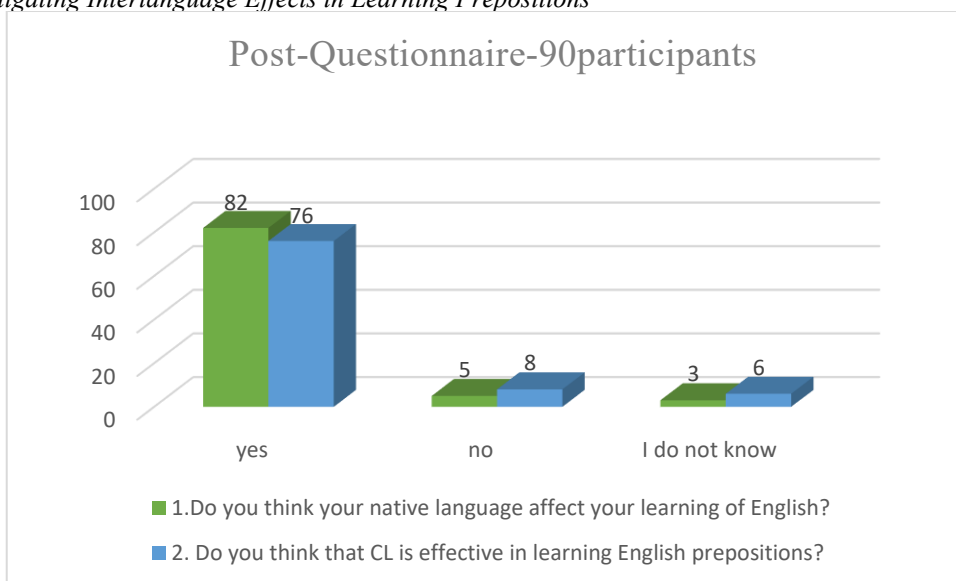


Chart 2. Post-Questionnaire Results

In the post-survey, there was a significant change in the participant's attitude toward the influence of the mother tongue on the target language. Most participants (over 91%) acknowledged the influence of the mother language on the target language. A few learners said that it had no effect, and some of them remained in the gray area and expressed uncertainty about the effect of the mother tongue on the target language.

Likewise, the responses in the post-survey on the effectiveness of cognitive linguistic theory in teaching prepositions were very positive. Most participants (84%) believed that the theory is effective for this purpose. This indicates a high level of positive attitudes and confidence towards CL theory and its adoption in teaching. As for the small number who expressed the negativity of this theory in teaching prepositions or uncertainty about its effectiveness, there were different viewpoints and experiences among the participants.

In short, the survey results, both pre-and post-test, indicate a significant change in the participants' attitudes between the beginning and the end of the experiment. After going through the experiment and learning about the multiple meanings of several prepositions and the relationships they create between the components, it was proven to the participants that the mother tongue influences the target language. It also proved to the participants the effectiveness of the theory. It is effective because it gives the necessary examples of prepositions and their different meanings. It also defines the relationships between the parties involved in the sentence.

### Pre-test & Posttest Results

As for the pre-and post-tests, the researchers depended on SPSS to analyze both tests. Table (1) from the SPSS analysis shows the average scores for the pre- and post-tests. The average score for the pre-test is 12.46, and the average score for the post-test is 14.01. The scores of the post-test are higher than those of the pre-test, which indicates an improvement in the level of the participants. (N) is the sample size, which is the same size in both tests, which is 90 participants. Also, the standard deviation between the two tests: pre-test: 5.97 and post-test: 5.51. Standard deviation measures the dispersion of scores around the mean. The standard error reflects the

accuracy of the tests. Constant sample size and standard errors indicate reliability when comparing the two tests.

| Paired Samples Statistics |           |       |    |                |                 |
|---------------------------|-----------|-------|----|----------------|-----------------|
|                           |           | Mean  | N  | Std. Deviation | Std. Error Mean |
| Pair 1                    | Pre-test  | 12.46 | 90 | 5.97           | .62953          |
|                           | Post-test | 14.01 | 90 | 5.51           | .58177          |

Table 1. SPSS Analysis Results

In general, although there is a difference between the results of the two tests that is greater than the traditional alpha level of 0.05, this difference is significant. Further investigation may be warranted to understand the observed trend more comprehensively. Based on the results of quantitative data, the following conclusions can be drawn: First, according to the survey, there is a change in the participants' attitude towards the influence of the mother tongue in terms of its negative impact on learning the target language. Also, there is a positive change in their attitude towards the cognitive-linguistic approach. The difference between the scores of the two tests also supports this.

| Paired Samples Correlations |                      |  |    |             |      |
|-----------------------------|----------------------|--|----|-------------|------|
|                             |                      |  | N  | Correlation | Sig. |
| Pair 1                      | Pre-test & post-test |  | 90 | .042        | .691 |

Table 2. SPSS Analysis Results

The results revealed an increase in participants' awareness of the influence of their native language on the target language, especially in the use of prepositions. It was also found that the participants support the cognitive linguistic approach in explaining and teaching prepositions. Some participants had dissenting opinions that may indicate differences in perceptions, expertise, and experiences. The results also showed the participants' efficiency in using some simple prepositions and their limited use of others due to the absence of their counterparts in the mother tongue and lack of awareness of their multiple meanings. Participants were also unable to use compound prepositions. The latest results are the improvement in processing and using prepositions after reviewing the cognitive linguistic approach.

| Paired Samples Test |                      |                    |                |                 |   |        |        |    |                    |
|---------------------|----------------------|--------------------|----------------|-----------------|---|--------|--------|----|--------------------|
|                     |                      | Paired Differences |                |                 |   |        | t      | Df | Sig.<br>(2-tailed) |
|                     |                      | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |        |        |    |                    |
|                     |                      |                    |                |                 | Lower                                     | Upper  |        |    |                    |
| Pair 1              | Pre-test – post-test | -1.54444           | 7.95798        | .83884          | -3.21121                                  | .12232 | -1.841 | 89 | .069               |

## Discussion

The research question focuses on whether applying the cognitive linguistic approach significantly affects the understanding and use of English prepositions by Iraqi learners. The results of the study showed that the participants showed a noticeable shift in their attitudes towards their mother tongue and its impact on learning the English language, with their awareness of the influence of the Arabic language on their acquisition of English prepositions. Because they found it useful and effective, there was a positive attitude from the participants towards using the cognitive linguistic approach, which... However, the asymmetry between Arabic and English prepositions poses major challenges, especially with English prepositions lacking direct counterparts in Arabic. Participants demonstrated proficiency in using simple English prepositions, indicating a basic level of understanding despite these difficulties they encountered.

Based on the results of data analysis, the study reached several conclusions. Firstly, participants showed a shift in attitudes towards their native language and its impact on learning the target language. Secondly, there was a positive acceptance of the cognitive-linguistic approach to explaining and studying prepositions. Third, the asymmetry of prepositions between the native language system and the target language increases the difficulty of using prepositions that have no counterpart in the native language. Fourth, participants demonstrated proficiency in using simple prepositions. Fifthly, there were some dissenting opinions indicating diverse perceptions and experiences. Finally, after learning about the cognitive-linguistic approach, improvements were observed in participants' understanding and use of prepositions. Both the research conducted by Alwan and Yusof (2019) and Shakir and Yassin (2015) are similar in highlighting and examining the difficulties that Iraqi learners face in using English prepositions proficiently. Alwan and Yusof (2019) agree with the results of this research in that the national language, Arabic, has a negative impact on Iraqi learners in acquiring prepositions. Shakir and Yassin (2015) also agree with the results of this research in terms of committing errors in the use of prepositions as a result of the lack of symmetry in the two language systems or the imposition of Arabic language patterns on the English language, or what is known as the interlanguage. The current research confirms that the cognitive linguistic approach has positive effects in solving this problem, while the two studies, Alwan and Yusof (2019) and Shakir and Yassin (2015), did not provide any suggestions for solving this problem.

Moreover, comparing and discussing the results of this research with other research that focused on prepositions and teaching them to Iraqi students, such as Aajami (2022), Nasser (2020), Mori (2019), Aajami (2019), Almahameed (2018), and Raghad (2018a, 2018b). This comparison sheds light on different aspects of cognitive linguistic styles and the acquisition of prepositions. First, a change in direction and the cognitive linguistic approach: The research reveals a shift in the participants' views towards the influence of their mother tongue and the cognitive linguistic approach. This finding is supported by Aajami (2022) and Aajami (2019). Both studies agree with the current research results on the effectiveness of the cognitive linguistic approach and the positive outlook for this approach. Aajami (2018a, 2018b) also confirms that participants' opinions change positively when they are informed of the cognitive linguistic approach to processing prepositions, analyzing them, and understanding their connotations.

Second, awareness of the influence of the mother tongue on the target language: The results of focus group discussions in the current research and the research conducted by Almahameed

(2018) and Aajami (2018a, 2018b) confirm participants' awareness of the influence of their mother tongue on the target language, especially regarding prepositions. Almahameed (2018) shows the structural and functional differences of prepositions between both Arabic and English. Aajami (2018a, 2018b) explains that conceptual thinking is enhanced through cognitive linguistic models, enabling participants to analyze prepositions and discover their meanings more accurately. Third, the cognitive linguistic approach and its effectiveness in solving prepositional problems: Aajami (2022), Nasser (2020), and Aajami (2018a, 2018b) The research they conducted supports the effectiveness of the cognitive linguistic approach in improving understanding and use of the multiple connotations of prepositions. Nasser (2020) discussed the effectiveness of cognitive linguistic methods despite Iraqi learners' difficulties in acquiring prepositions.

Fourth, enhancing performance and understanding: research conducted by Aajami (2022), (2018a, 2018b) shows a significant improvement in participants' understanding and performance with prepositions after learning about linguistic and cognitive theories. Aajami (2018a, 2018b) focused on the prepositions "at," "behind," and "after," which shows that participants gain new knowledge and concepts that enable them to analyze and understand prepositions and express positive attitudes toward the cognitive linguistic approach.

This research differs from previous ones in that it discussed the influence of interlanguage. It highlighted that some prepositions are used in one context and with one meaning despite the possibility of multiple uses. The research concluded that it was due to the lack of symmetry in prepositions between the two languages, the mother tongue and the target language. The results indicate that the cognitive linguistic approach plays a crucial role in improving Iraqi learners' understanding of prepositions and their uses. All studies confirm the effectiveness of teaching methods that adopt the cognitive linguistic approach in learning outcomes.

## **Conclusion**

Based on the results of quantitative data analysis, the study reached several conclusions. First, participants showed a shift in attitudes toward the influence of their native language on learning the target language, with a positive reception of the cognitive-linguistic approach evident in questionnaire answers and test scores. Second, Iraqi learners have difficulty using English prepositions that have no counterpart in Arabic, indicating the negative impact of cross-linguistic interaction. Third, these results highlight the importance and effectiveness of the cognitive-linguistic approach in teaching prepositions in English. It is important to note that this study is limited to this specific group of participants. Going forward, future research should focus on the production stage of English preposition use based on the cognitive-linguistic approach and its principles in teaching.

The studies conducted by researchers such as Aajami (2022), Nasser (2020), Mori (2019), and Almahameed (2018) confirm the effectiveness of the cognitive linguistic approach in supporting and improving Iraqi learners' abilities to understand and analyze prepositions in the English language. More than that, current research focuses on the complexities of interlanguage, and the nuances of prepositions due to structural differences between languages. The research also confirms the strategic importance of the cognitive linguistic approach in filling the gaps and enhancing language acquisition more clearly and easily.

The results of this research apply to the participating group, and generalizing the results requires applying the experience in different places and circumstances. Also, individual differences are considered external factors that may affect the results of the experiment.

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### Appendix A

1-1. Choose the best word or words for each blank.

1. This \_\_\_\_\_ is about dogs. airplane- house- story- car
2. There was a \_\_\_\_\_ about my report. complaint - traffic accident- secretary police-officer
3. He always \_\_\_\_\_ about his problems. drives- runs- jokes- studies
4. We need to \_\_\_\_\_ about the law. try- learn- work- study
5. They \_\_\_\_\_ us about the accident. learned- finished- told- arrested
6. Her sister was \_\_\_\_\_ about my mistake. crazy- unkind- silly- ridiculous
7. The students are \_\_\_\_\_ about the field trip. good- bad- silly- excited
8. I have about \_\_\_\_\_ in my pocket. my lesson- my keys- twenty dollars- nothing
9. We are about \_\_\_\_\_. learning- the trip- finished- read
10. Her clothes were \_\_\_\_\_ about the bedroom. ironed- scattered- washed- bought

**4-2. Use an expression with *after* to express the following:**

1. This course is very difficult, but when we are finished, we will be happy.
2. Even though David didn't study for the test, he got a good grade.

**4-3. Use *after* in a phrasal verb to express the following:**

1. She looks a lot like her dad.
2. The baby's name is Susan. Her grandmother's name is Susan.
3. The babysitter takes care of the children on Thursday afternoons.

### Appendix B

**1. Choose the best word or words for each blank.**

1. The tired traveler was resting against his \_\_\_\_\_. wallet- suitcase- handkerchief - money
2. It was hard, because we had to swim against the \_\_\_\_\_. current- beach- pool - fish
3. That dog always runs after \_\_\_\_\_. the school- the school- bus-morning meetings
4. After \_\_\_\_\_ Spanish in Mexico for six weeks, she still doesn't speak it. studies- studied- studying- was studying

5. She works day after \_\_\_\_\_ in order to pay her bills.                      year- month- hour- day

**2. Use an expression with *after* to express the following:**

1. This course is very difficult, but when we are finished, we will be happy.
2. Even though David didn't study for the test, he got a good grade.

**3. Use a phrasal verb with *along* to express the following:**

1. It's important to have a good relationship with your classmates.

**3. Use an expression with *around* to express the following:**

1. Drive to the back of the building.
2. You are going in the wrong direction.
3. He keeps asking her out, and she keeps saying she is too busy.

**4. Use a phrasal verb with *at* to express the following:**

1. The child scratched the scab on his knee, trying to take it off.

**5. Use an expression with *beyond* to express the following:**

1. His behavior was totally unacceptable.

**6. Use a phrasal verb with *by* to express the following:**

1. He supported me when I needed help.
2. Could you tell me that story again?
3. She lives with difficulty.
4. Can we visit you this afternoon?