



Original article

## Adopting Cognitive Linguistics in Selecting the Prepositions 'Among, Beneath and Through' in the English Language

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### ABSTRACT

Mastering English language requires a lot of efforts. One of these efforts is the application of cognitive linguistics that studies language depending on its relation to human experiences. This study aims to improve the Iraqi learners' capacity in analyzing and using English prepositions in spite of their polysemantic nature via cognitive linguistic (CL) approach. Tyler and Evans' (2003) Principled Polysemy Model is adopted for analyzing the data. Accordingly, 90 participants from the Department of English, second year, University of Baghdad have been the sample for the study. A group of prepositions have been selected to be studied via CL approach. A mixed method approach has been relied upon to collect the data using observations, focus group discussion sessions and tests. The results not only have confirmed the CL approach effectiveness in explaining the multi-meanings of prepositions and their relations, but also approved CL flexibility and accuracy.

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**Keywords:** Cognitive linguistics, English prepositions, Iraqi Learners, Spatial relations

## اعتماد اللسانيات الادراكية في اختيار حروف الجر "بين، و تحت، ومن خلال" باللغة الانكليزية

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## المُستخلص

يتطلب إتقان اللغة الإنجليزية الكثير من الجهود. أحد هذه الجهود هو تطبيق اللغويات المعرفية التي تتمثل في تطبيق منهجية اللغويات المعرفية التي تدرس اللغة من جهة علاقتها بالتجارب الإنسانية. تهدف هذه الدراسة إلى تحسين قدرة المتعلمين العراقيين على تحليل واستخدام حروف الجر الإنجليزية على الرغم من طبيعتها متعددة المعاني من خلال النهج اللغوي المعرفي (CL). تم اعتماد نموذج تعدد المعاني المبدئي لتايلر وإيفانز (2003) لتحليل البيانات. وبناءً على ذلك، كان 90 مشاركاً من قسم اللغة الإنجليزية، المرحلة الثانية، جامعة بغداد هم عينة الدراسة. تم اختيار مجموعة من حروف الجر لدراستها من خلال النهج اللغوي المعرفي. تم الاعتماد على نهج مختلط لجمع البيانات باستخدام الملاحظات وجلسات مناقشة مجموعات التركيز والاختبارات. لم تؤكد النتائج فعالية النهج اللغوي المعرفي في شرح المعاني المتعددة لحروف الجر وعلاقتها فحسب، بل أكدت أيضاً مرونة ودقة النهج اللغوي المعرفي.

**الكلمات المفتاحية:** اللغويات المعرفية، حروف الجر الإنجليزية، المتعلمون العراقيون، العلاقات المكانية

## 1. Introduction

Mastering a foreign language with its rules and conventions is extremely important for language learners. English language is a language of global importance, and learning it poses great challenges and obstacles, especially for foreign learners. Learning and mastering prepositions is one of the most prominent obstacles, considering it a real challenge for foreign learners of the English language, as confirmed by several studies as (Aajami & Gholami, 2025; Fadel, 2024; Saravanan, 2014; Takahaski, as cited in Yousefi, Soori, & Janfaza, 2014; Islami, 2015; Swan, 2005). Prepositions are defined as function words in the Merriam Webster dictionary. Although learners' proficiency is increasing, they still face difficulties in using them due to their multiple meanings and functions. What further complicates the learning process is the lack of clear guidelines for selecting appropriate prepositions in different contexts (Saravanan, 2014).

In the Iraqi context, English language learners, like other learners, face challenges and difficulties resulting from the difference in the systems of using prepositions between the mother tongue and the target language. Therefore, they often face difficulties in dealing with prepositions, such as the lack of idiomatic expressions and making mistakes (Ahmed, 2023, Alayesh, 2012) Despite the tireless efforts to alleviate these difficulties and their effects, significant challenges persist. Therefore, the need to provide effective teaching methodologies and proposals to meet the English language learning needs in Iraq requires continuous efforts and a high level of focus.

In the context of learning English as a foreign language (EFL, hereafter), the importance of writing as one of the most basic and difficult language skills can be overstated. Along with other skills, writing, listening, reading, and speaking are essential foundations for an effective communication (Huddleston, 2008). Constructing sentences as a part of grammar and language acquisition is essential for clearer and coherent written communications (Ronald & Michael, 2006). The English language curricula in Iraq are clearly designed to enhance understanding and effective communications and raise learners' competence (Saravanan, 2014). Writing has a pivotal and essential role due to the variety of means of communication on which it relies, including writings and articles. Thus, it is a complex skill of utmost importance (Saravanan, 2014).

Learners often face challenges and difficulties when learning a language, including errors in the use of the language. Therefore, seeking correction to avoid committing these mistakes and correcting them is necessary to enhance the linguistic proficiency of learners, but some difficulties remain due to the absence of feedback and reinforcement (Al-Bayati, 2013). One of the most important things to address these challenges is to ensure the effective communication of language learning through cooperation between teachers and learners. Therefore, teachers have a pivotal role in designing curricula to meet learners' needs after understanding and identifying the difficulties they face, creating ultimately an appropriate educational environment (Abdullah & Ainon, 2002). It is necessary to understand the factors influencing language acquisition, including error patterns and perspectives, and thus realize the importance of teachers' and learners' cooperation in the language learning process (Schumann, et.al 1977; Al-Bayati, 2013).

Preparation and mastery challenges are still a major problem for Iraqi students who learn EFL. Linguists recognize the complications associated with the acquisition of prepositions, which are clear and documented in linguistic literature (Celce-Murcia & Larsen-Freman, 1999). Several studies dealt with prepositions and tried to clarify their accurate meanings and multiple meanings and their cognitive complications (Aajami, 2018a, 2018b, 2019; Al-Baharani & Al- Robuye, 2016). It was also noted that learners can understand prepositions and their meanings accurately and deeply when they rely on the cognitive linguistic approach established by Tyler and Evans (2003) in analyzing prepositions. This study relies on the cognitive linguistic approach in analyzing prepositions to understand their multiple meanings and also seeks to improve the participants' linguistic production and proficiency by highlighting effective strategies.

These prepositions were selected after consultation with colleagues who have a PhD degree in the English language and good experience with the level and abilities of the participants. The purpose behind selecting these prepositions is to diversify and expand the explanation and analysis of new prepositions to support the participants and to help those behind them to gain insight into the multiple meanings of prepositions depending on the spatial context. It also highlights the optimal situations in which the target prepositions can be used.

Thus, the resent work aims to analyze some of the prepositions according to the cognitive linguistic theory in order to measure to what extent the cognitive linguistic theory can improve the Iraqi learners' understanding of the multiple meanings of the prepositions and the spatial relationships determined by the prepositions between the components. This is going to be done via seeking to answer the study question, to what extent can the cognitive linguistic approach assist the Iraqi learners in better understanding English prepositions? To answer the research question, a mixed-method methodology has been adopted to collect data quantitatively and qualitatively from 90 participants. SPSS has been used to analyze the quantitative data. The pre-test and post-tests are to measure the improvement of understanding and using English prepositions by the participants. A committee from three supervisors have been set to analyze the qualitative data.

The significance of this study lies in understanding the CL theory and its implication in providing comprehensive insights into the multiple meanings and how prepositions are used in different contexts. This study seeks to measure the participants' ability to use the multiple meanings of the target preposition and determine the relationships it creates. This will promote more effective communications between learners and the acquisition of language skills (Breivik & Richards, 1975; Miller, 1976).

It is worth to mention that this study is built on the Tyler and Evans' (2003) model for analyzing the English prepositions through the cognitive linguistic theory. This theory begins by highlighting the basic spatial meaning of the preposition as a starting point and then seeks to reveal the network of the encyclopedic meanings emerging from the basic meaning. Extended meanings are a systematic form of a conceptual metaphor and pragmatic inference. Through this model, this study will be able to study

the literal and figurative uses of the prepositions and also identify the challenges faced by the Iraqi learners in differentiating between these meanings and their causes.

## **2.Theoretical Background**

### **2.1 English Prepositions**

In general, prepositions are repetitive, polysemous words that link entities and present particular challenges for foreign language learners (Selce-Murica & Larsen-Freeman, 1999). As Tyler and Evans (2003, p. 6) emphasized, meanings do not exist in isolation or apart from their creators and users. They viewed the relationship between people and meanings as a primordial landscape. This landscape is an insight into language that emerges from repeated human experiences with the interpretations of spatial configurations between the entities in the world (Evans & Tyler, 2003).

Prepositions have a deliberate semantic network of meanings, where prepositions shape the spatial relationship between forms and backgrounds in English. Tyler et al. (2011) reinforced this argument by arguing that the multiple meanings associated with English prepositions can be represented as systematically interconnected within a motivated semantic network. The meaning of the same preposition varies contextually, and each use of the preposition may be attributed to a specific meaning (Rice, 1992; Bores, 1996). Different spatial relationships extend from a central or paradigmatic meaning in systematic ways. For example, prepositions that describe a connecting relationship are likely to develop "circular" meanings; cases in point are the following:

1. **"The plate on the shelf..."**
2. **"The glass on the shelf..."**
3. **"The toy under the table..."**
4. **"The cat under the table."**

In contrast, disjunctive relationships cannot develop "circular" meanings.

The multiple meanings of prepositions are linked within a systematically motivated semantic system through cognitive linguistics. Example (5) conveys a metaphorical meaning that transcends the semantic system of spatial relationships.

5. **"The vase on the table..."**.

It evokes a metaphorical meaning based on an organized spatial structure, namely that "the vase is above and the table is below" (Bores & Demecheleer, 1998). By studying prepositions and relying on their spatial connections and conceptual foundations, cognitive linguistics provides a more precise and deeper understanding of language use, leading to a more effective language acquisition. For Iraqi students who are considered foreign learners of the English language, this approach is very useful because they face challenges in understanding the precise meanings of prepositions (Celce-Murcia & Larsen-Freeman, 1999). Learners can provide insights into prepositions and their semantic complexities through cognitive linguistics, enhancing as a result, their communication skills and linguistic proficiency.

### **2.2 Cognitive Linguistics as an Approach**

In the early 1980s, George Lakoff, Ron Langacker, and Lynn Talmy developed the cognitive linguistic approach, which addresses language as a tool through which information is processed, organized, and transmitted (Geeraerts & Kuikins, 2010).

The study of language, mind, and social and cultural experience is what Evans (2012) called the cognitive linguistic approach. He argued that language must be studied in the context of its use because

language reflects general aspects of cognition. Meaning and form are inseparable entities in the study of language when using a cognitive linguistic approach. There are two main areas of cognitive linguistics: the first is the cognitive linguistic approach, which focuses on the grammatical aspect of language; and the second is concerned with the study of the conceptual structure of language and is known as cognitive semantics. Ungerer and Schmid explained that “the cognitive linguistic approach is based on our experience of the world and how we perceive and conceptualize it” (Ungerer & Schmid, 2001, p. 36). Cognitive semantics provides a framework for analyzing a figurative and metaphorical language into the areas of conceptual inputs, organizational relationships, linking elements, and methodological implications. It also helps understand the processes involved in evoking images, integrating visual and linguistic references, and drawing inferences in a conceptual integration, also called complex metaphors (Rodriguez, 2006). In a metaphor, an abstract concept is experienced and understood based on a concrete concept. That is, a metaphor refers to the relationship between two semantic domains, one of which is expressed through the other (Hazrati et al., 2016).

According to Verspoor and Boers (2013), the dynamic interaction between humans and languages, which language users seek to develop as a system for communication and expression of meaning, is the primary focus of the cognitive language approach. Each language has its own communicative system that organizes the spatial relationships and structures of objects. These relationships, in turn, generate a natural need for communication between humans. Since humans seek deeper understanding, they do not perceive objects and their connections within a flat visual matrix alone. The mechanisms of connection between the spatial scene, spatial relationships, and different spatial configurations can be distinguished through the language approach. Within the spatial scene, the concepts of form and background emerge because perception includes both physical and abstract views that help interpret spatial scenes and absorb metaphorical cues (as cited in Tyler et al. 2011).

### 2.3 Related Studies

By reviewing the specific literature related to this study, it appears that there were many studies that investigated prepositions from a cognitive-semantic perspective. In Laos, English was learned as a foreign language, just as in the Iraqi context. In this regard, Ajami and Gholami (2025) conducted an experimental study on the challenges faced by Iraqi learners when using prepositions. To overcome these challenges, the models of Lakoff, Langacker, Talmy, Taylor, and Evans were adopted. With the participation of 90 female students from the College of Education for Women at the University of Baghdad, a mixed-methods approach was used for data collection. Data were collected through surveys, tests, and questionnaires. The data were analyzed using SPSS statistical editor. The study concluded: First, due to the interference of the mother tongue with the target language, Iraqi learners faced difficulties in using prepositions. Second, there is an overuse of simple prepositions while avoiding the complex ones. Third, the cognitive linguistic approach proved its effectiveness in mitigating these challenges, improving their understanding of prepositions, and vocabularies acquisition. Finally, there was an improvement in learners' attitudes towards the cognitive linguistic approach through their awareness of the negative influence of the mother tongue.

In Egypt, Fadel (2024) conducted a descriptive analytical study about English prepositions. Its objective was to check to what extent the cognitive semantic approach can support in understanding prepositions in English. Fadel focused on three main aspects in her study: Prototype theory, conceptual metaphors, and image schemas. The study was based on a set of literature, theoretical concepts and previous experimental studies on prepositions, their formal plans, prototypes and metaphors. The study demonstrated that language is rooted in human cognition and that prepositions have a central, typical meaning from which other meanings can be derived depending on the context. Further, when conceptual metaphors were linked to concrete concepts, they facilitated the understanding and use of figurative meanings and abstract concepts. Prepositions reflected conceptual images in our minds by

reflecting the meanings shown in the mental imagery diagram. Therefore, it was found that prepositions are essential components of human perception, not just grammatical tools.

In Iraq, relying on the cognitive linguistic approach, Nasser (2020) conducted a descriptive quantitative study on prepositions in the English language. The objective of the study was to help Iraqi learners solve the problems they faced in distinguishing between prepositions and using them correctly in the English language. A number of 30 first-year female students from the English Department, College of Education for Women, University of Baghdad, participated in this experiment and its pre- and post-tests. The study addressed the preposition "on" and the reasons for the difficulties associated with its use, including its overlap with other prepositions. The results showed that there are similar uses for different prepositions, which leads to a lack of mastery and errors in their use. As a result of applying the cognitive linguistic approach, the results clearly showed that the preposition "on" has different uses and meanings, and also demonstrated the effectiveness of the cognitive linguistic approach in analyzing the preposition "on".

To conduct an analytical study of the preposition "over," Mori (2019) relied on the cognitive linguistic approach and image schema theory. The aim of the study was to analyze the cognitive semantics of the preposition "over" and to trace its meanings, patterns, and spatial extensions. After analyzing the preposition "over," Mori argued that the image schema is organized in three-dimensional images and that the spatial referent, in its size, shape, and trajectory, is topologically reducible and expandable. Mori found that the multiple meanings of the preposition "over" change with the context. He also discovered that by analyzing a widely studied phenomenon, cognitive linguistic analysis can be improved and simplified.

Sultan (2014) conducted a study to investigate the spatial landscapes of the spatial prepositions "behind" and "behind." The researcher relied on the cognitive linguistic approach as a theoretical framework for his study. Depending on previous studies and a set of different examples and uses of these prepositions, the researcher collected the data for his cognitive analysis. These prepositions were characterized by their metaphorical extensions and their forward, backward, and horizontal axes. These metaphorical extensions can be facilitated by examples of graded levels of abstraction: *a. There is a cat behind the table, b. The political influencer is behind the problems.* To refer to unknown actors or those, who may wish to remain anonymous, the word "behind" was used metaphorically, or when a physical landmark obscures the actor. *c. There was a restaurant beyond the restaurant, d. His behavior beyond all expectations.* "Behind" means: far from, on the other side, beyond the bounds. He found that not all prepositions have a spatial landscape, and spatial landscapes are created when the preposition provides a physical vantage point that determines how one perceives the scene, according to Sultan. Each vantage point offers a unique perspective that distinguishes it from others.

To further understand the metaphorical and spatial dimensions and differences of the prepositions "behind" and "beyond," Lindstromberg (2010) illustrated this through simple real-life examples depending on cognitive linguistic approach. "Behind" is a preposition whose well-known meaning refers to a place, person, animal, or a thing behind or to the other side, e.g., "the car is behind the tree." It also refers to a flat or low landmark, as in the example: "Stay behind the mark." Lindstromberg discussed the empirical and substantive perspectives that shape our understanding of the spatial relationships. The preposition "behind" indicates the meaning of concealment or support, as in "We do not know the reasons behind their travel" or "What is behind their amazing success." Whereas the preposition "beyond" refers to a remote location, "away on the other side of a landmark." For example, "the industrial city beyond the city." Accordingly, beyond refers to three points: the location of the landmark, the location of the object, and the implied viewpoint. Lindstromberg also discussed the metaphorical meaning of the preposition beyond, as in: "The war may continue beyond next winter.

This study focuses on the production of prepositions in the English language, with an emphasis on the cognitive linguistic framework, delving into the complexities of the language to create and

produce its components of sentences and phrases. The previous studies focused on assisting participants to recognize the negative effects of the mother tongue on the target language and on the basic contributions of the cognitive linguistic approach to analyze prepositions and discovering their multiple meanings. Therefore, this study aims to shift from recognition to production through the use of prepositions in different contexts to show the different objective meanings of prepositions. The study seeks to reveal the cognitive processes behind the production of English prepositions by adopting the cognitive linguistic approach, which emphasizes the interaction between language, thought, and perception.

### **3. Methodology of the Study**

#### **3.1 Research design**

This study relies on a mixed-methods approach to collect both the quantitative and qualitative data. In the quantitative approach, pre- and post-tests have been conducted and analyzed using the SPSS statistical software. Observations and focus group discussions have been used to collect the qualitative data, with the qualitative component exploring participants' experiences to reflect their perceptions and conceptual understanding of prepositions. The aim of the quantitative component is to measure the improvement in performance.

#### **3.2 Research approach**

This study is based on the Tyler and Evans' (2003) model, as well as the cognitive linguistic approach to the analysis of prepositions. This model involves analyzing the meanings of prepositions through their relationship to human cognition, the spatial relations they create between components, and the conceptual networks they build with the surrounding context. These three points are considered the fundamental pillars of this model. This approach explains the connection between meanings and forms and demonstrates how users employ conceptual frameworks to understand the meanings of the prepositions accurately and clearly.

#### **3.3 The model adopted in the analysis**

The model developed by Tyler and Evans (2003) for analyzing prepositions is adopted in this study. This model is based on the premise that prepositions have prototypical and extended meanings and form multiple semantic networks. This model will explain how the prepositions targeted in this study, "Among, Beneath, and through", function in spatial and metaphorical contexts and how learners understand, interpret, and produce them.

#### **3.4 Validity and reliability**

Validity is ensuring the accuracy and reliability of study results by measuring what can be measured (Taherdoost, 2016). Content validity was ensured by consulting experts in selecting prepositions and aligning test items with theoretical concepts. Moreover, individual and group data collection methods enhanced validity and reliability (Fetters & Frisch, 2015). Reliability is the stability and consistency of the study findings across time, evaluators, and instruments (Hill & Twycross, 2015). Analyzing the quantitative data using SPSS ensured the reliability of quantitative data. For the qualitative data, its reliability has been ensured through analysis by a committee of three members, including the researcher, to ensure transparency and reliability.

### 3.5 Participants

The participants in this study are a group of 90 female students from the University of Baghdad - College of Education for Women - Department of English Language. They are from the second year and the same sample that participated in the previous study on the same topic, but with a different sample of prepositions. Adopting the same sample is to measure the extent of awareness they obtained in the previous study and the extent of their ability to produce in this study. This group are foreign learners of the English language and differ in their academic level in the English language.

### 3.6 Data collection

Because it affects the quality of the study results and outcomes, the data collection phase is considered essential and crucial (Hamed, 2021). Therefore, the tools must be examined and verified for quality and suitability of the data to obtain real and accurate data, and the data collection phase must be given sufficient time (Kabir, 2016). Data collection must be well planned because it is a sensitive phase and is directly affected by the surrounding conditions. Data are divided into quantitative and qualitative (Chanie et al., 2024). Quantitative data include questionnaires and tests while the qualitative data include interviews, observations, and case studies. The researcher has relied on an integrated approach to data collection that includes both quantitative and qualitative data.

The researcher has further relied on the SPSS program to analyze the qualitative data and derive the findings. The researcher has analyzed the qualitative data by analyzing the responses and opinions and identifying similarities, differences, agreement, and opposition.

### 3.7 Procedures of the study

In the first stage, a comprehensive review of the theory of cognitive linguistics has been conducted. Discussions has been held with the participants about the difficulties they face with prepositions, and about their abilities to distinguish the different meanings of prepositions. Why cognitive linguistics is that because this approach, as stated by Brone, Feyaerts & Veale (2006, as cited in Azeez & Al-Bahrani, 2019) conceptualizes language as a mental product. Besides, cognitive linguistics involves, as Brandimonte, Bruno and Collina stated (2006, p. 3, as cited in Al-Fatlawi & Al-Bahrani, 2019), “a range of functions, such as comprehension, memory coding, perception, recalling, attention, decision making, imaging, reasoning, problem-solving... etc.” (p. 424). It further involves, as Cuyckens’ (2007, as cited in Qasim & Al-Bahrani, 2024) elaborated “cognitive functions and abilities .... the “intermediate information structures in world” (p. 551). Moreover, Cognitive linguistics focuses as an approach and as stated by Tariq and Al-Bahrani (2024) on “the points of difference and similarity among the participants. It has helped to reveal their various conceptualizations, their different mapping of the figures, their different points of emphasis, and some other exact details” (p. 2392). In addition, in this stage, participants do a pre-test in order to be compared with the post-test during the data analysis phase.

In the second stage, work has been done on analyzing a group of Germanic letters, lectures, and educational activities. The first focus has been on the multiple meanings of prepositions and the spatial and metaphorical relationships they create. In the third stage, the participants set for post-test. The post-test is very similar to the pre-test, but they are not identical. The aim of conducting the pre- and post-tests is to measure the improvement in the participants’ ability to understand and use English prepositions more accurately.

The last stage is the focus group discussions (FGDs) and observation stage at the end of the experiment. It focuses on the participants. It also provides them with a positive environment to hear their opinions

and ask them about theory and prepositions. The aim of conducting FGDs is to get the participants' feedback, opinions, and suggestions about the whole experiment and CL approach in particular.

### 3.8 Limitations

Finally, it should be noted that the results of this study are specific to the participating group under the conditions of the experiment. To generalize the results, they require replication in different conditions and settings. Furthermore, differences among participants are considered external factors that may affect the results.

### 3.9 Data Analysis

In this section of the study, the researcher analyzes the collected data via pre- and post-tests, FGDs, and observation. The analysis has been done via SPSS for the quantitative data and a committee of three supervisors for the qualitative data. The importance of this paragraph lies in finding an answer to the research question.

#### A. Among

1. The preposition 'among' can mean surrounded by, as in:

6. **“They build a house in the forest among the trees.”**



This image is taken from Google search

The preposition “Among” identifies the location of the house and the number of trees surrounding it.

7. Among can mean with each other as in:

7. **“The cats quarrel among themselves.”**



This image is taken from Google search

Among means that these cats are fighting each other about a piece of cheese. The cheese is the landmark, and the cats are the entities that have an action.

8. “Among” can mean to the individual in the group as in:

8. **“We distribute the cake among us”.**

This means that there is one landmark and several subjects who take their share from the cake.

9. “Among” can mean included in a group as in:

9. **“Your friends are among those infected with COVID-19”.**

Among identifies a small group from a larger one (Yates, 2020).

### B. Beneath

1. “Beneath” can mean under and concealed by as in:

10. **“The flowers grew beneath the snow”;**



This image is taken from Google search

11. **“My pencil was beneath the books”.**

Beneath provide the meaning that there was one entity that covered another one.

2. “Beneath” can mean less worthy than as in:

12. **“He feels that he is better than his companions”.**

Beneath gives a sense of self-comparison of one entity over others.

3. “Beneath” can mean unlike, because of goodness or pride as in:

13. **“There was a humility that set her apart from others beneath her confident appearance”.**

Beneath confirms that there is something hidden in one entity unlike its appearance (Yates, 2020).

### C. Through

1. “Through” can mean passage within something as in:

14. **“They want to pass through the city, but the road was highly crowded”;**

15. **“I will walk you through the document”.**

It gives a sense of facilitation. Through creates a relation between entities where one entity will pass through another.

2. “Through” can mean a limit or obstacle as in:

16. **“They come through the fence”.**

Through show that one entity stopped the another. It gives the sense of confrontation.



This image is taken from Google search

3. “Through” can indicate vision beyond something as in:

17. **“The car’s window is so dirty, so we cannot see through them”.**

There is one entity that prevents another one from doing something. It gives a sense of blockage.

4. “Through” can mean finishing something needs more effort.

18. **“I must go through a comprehensive training, before the match”.**

“Through” in this sense refers to a staging arrangement where one entity passes through other entities in order (Yates, 2020).

To sum up, the cognitive analysis of the prepositions among, beneath, through focuses on the subtle differences in the meanings that each creates depending on the context used. The study aims to check the feasibility of cognitive linguistics as an approach in order to enhance the participants’ understanding of spatial relationships and the appropriate situations for using prepositions through cognitive linguistic analysis.

## 6.Data Analysis

### 6.1 Pre- and Post-tests analysis

In this section, SPSS Paired Samples Statistics has been used to analyze the data. A total of 90 participants has taken part in the study, and their scores were examined to see if the intervention works. A Paired Samples T-Test has been used to compare the average scores from the pre-test and post-test, in an attempt to see if there are any big changes in their performance. The results have been statistically verified at a 95% confidence level. The analysis of the results includes the basic summary statistics, a comparison between the pre-test and post-test results, and the differences between them.

T-TEST PAIRS= pre-test WITH post-test (PAIRED)

/CRITERIA=CI(.9500) /MISSING=ANALYSIS.

T-Test: [DataSet0]

**Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	10.3000	90	2.30510	.24298
	Posttest	13.1222	90	2.49416	.26291

**Paired Samples Correlations**

		N	Correlation	Sig.
Pair 1	pretest & posttest	90	.136	.200

**Paired Samples Test**

		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-test – Post-test	-2.82222	3.15722	.33280	-3.48349	-2.16096	-8.480	89	.000

The results of the paired-samples t-test indicate a significant improvement in the participants' performance from the pre-test to the post-test. The average score increased from 10.30 (standard deviation = 2.31) to 13.12 (standard deviation = 2.49), representing an average increase of 2.82 points. While the correlation between the pre-test and post-test scores is weak and not statistically significant ( $r = 0.136$ ,  $p = 0.200$ ), the paired-samples t-test confirmed a statistically significant difference between the two sets of scores ( $t(89) = -8.480$ ,  $p < 0.001$ ). The 95% confidence interval for the mean difference ranges between -3.48 to -2.48, confirming that the observed difference is not due to chance. The results suggest that the intervention positively impacted participants' learning outcomes, with a significant improvement in scores and a positive response in the post-test results. The confidence interval for the mean difference shows similar findings. The results indicate that the improvement is not random, suggesting a statistically significant effect of the intervention. The paired-samples t-test shows a statistically significant improvement, as evidenced by the increased mean scores and a statistically significant t-value. The results confirm the effectiveness of the intervention.

**6.2 Focus Group Discussion**

Focus group discussion session is a major tool in collecting the qualitative data by meeting with participants, discussing the experience, and learning about its outcomes through them. Nine group sessions have been conducted; each including 10 participants. Each session ranges from 30 to 60 minutes to allow sufficient time for discussion. The questions focus on two main axes: first, the effect of the mother tongue on acquiring the target language. Secondly, the effectiveness of cognitive linguistic theory in teaching prepositions.

Many participants have highlighted the negative influence of the mother tongue on learning the target language. Many participants believe that their Arabic language has an impact on their acquisition and use of the English language. An important part of them has shown that simple prepositions, such as: in, on, and at, can be used by participants with different meanings that they express, such as direction, time, place, and some specific uses according to some rules. This section favors the ability to use these prepositions because they are more grammatically regulated than others. Moreover, a large portion of the participants supports the cognitive linguistic approach in analyzing the meanings of prepositions,

especially since this theory focuses on the reflection of language on the human mind and the conceptual system, it has a great impact on teaching prepositions.

It should be noted that there have been a few participants who have a different opinion on the influence of the mother tongue on the target language. Another small section has said that the cognitive linguistic approach has been ineffective or perhaps incompatible with their educational experiences. Their point of view contradicts the point of view of the majority.

In summary, the results of the focus group discussions have revealed valuable insights into the Iraqi students' experiences and perceptions regarding the influence of their mother tongue, Arabic, on learning the target language, English. The positive results that support the cognitive linguistic approach have also been demonstrated.

### 6.3 Observation

The second tool is the researcher's observation during the experiment and collecting and analyzing of data. The researcher has noted several points: First, the learners are skilled in using simple prepositions, such as: in, on, and at. The researcher believes that this skill results from grammaticalizing these letters and determining their uses in various contexts.

Second, as for the limited use of some prepositions; the researcher has noted that some prepositions such as "among," "beneath," and "through" have been used repeatedly, but with the same meaning. This is clear evidence of a lack of conceptual awareness of prepositional clues.

Third, they have not used compound prepositions. In this vein, the researcher has noticed that there are many opportunities to use some prepositions, such as: "because," but the learners have not used them. This proves that learners are not able to use these prepositions because there are no equivalents in the Arabic language. Compound prepositions have their importance and suitability in using compound prepositions.

Fourth, performance has improved after the experiment ended; the researcher has noticed that there is a significant improvement in the use of prepositions in contexts with the multiple meanings for a single preposition. This improvement is due to familiarizing the learners with the cognitive linguistic approach. This theory can support learners with insights into the conceptual foundations of prepositions and proficiency in their uses.

## 7. Results

After analyzing the data, the results have shown several conclusions: First, there is a prominent progress in participants from 10.3 in the pre-test to 13.1 in post-test. This is a clear proof that producing English prepositions by the Iraqi students is improved via the cognitive linguistic approach. Second, the difficulties faced by the participants are due to the difference in the prepositional system between the Arabic and English languages. Participants attribute that weakness in studying this aspect of the language, prepositions, as a main reason for their inability to use it more professionally. The participants have also mentioned that the lack of an environment similar to the mother environment delays the process of effectively acquiring the language and prepositions. Moreover, there are many prepositions in the English language, and they are sometimes used as adverbs, which creates additional difficulty in distinguishing them as prepositions.

Participants have been able to use some of the multiple meanings of prepositions they had studied before. With simple prepositions or those that have an equivalent in the Arabic language, the participants have shown a very good skill in using them.

Even though the participants have reported that their native language, or inter-language, has a negative impact on how they use the target language, including prepositions, they are impressed and satisfied with the cognitive linguistic approach when analyzing the various meanings of the prepositions in question and in comprehending the connections they create in various contexts.

## 8. Discussion

The increase in the participants' average scores, from 10.3 in the pre-test to 13.1 in the post-test, a difference of 2.8, indicates that the participants have made a significant progress in their mastery of English prepositions as a result of this study. This improvement in a deeper and more accurate understanding of the meanings, connotations, and uses of prepositions is an important indicator of the effectiveness of the cognitive linguistic approach. The finding that the multiple meanings of the English prepositions and their semantic networks can be well understood through the cognitive linguistic approach of this research aligns with the findings of Ajami and Gholami (2025), Nasser (2020), and Mori (2019).

In terms of challenges, this study considers inter-language, the learners' first language, and the linguistic and cultural differences major factors contributing to the Iraqi learners' errors, thus agreeing with the study by Ajami and Gholami (2025). The results have further indicated difficulty in the accurate use of prepositions by the participants, attributing this to the differences between the systems of the first language, Arabic, and the second one, English.

The study by Ajami and Gholami (2025) supported the findings of this study by emphasizing the importance of vocabulary in the correct use of prepositions, and considering prepositions as part of vocabulary. The study further showed that Iraqi participants face difficulties in using prepositions as adverbs and in understanding their multiple uses.

This study supports the cognitive linguistic approach in analyzing prepositions, their cognitive semantic networks, and their multiple meanings, and is in agreement with Fadhil (2024), Nasser (2020), Sultan (2014), and Stasinaité (2016). The participants have expressed their satisfaction with the cognitive linguistic approach because it contributes to enhancing their understanding of prepositions and analyzing their multiple meanings and semantic networks.

In summary, the cognitive linguistic approach is effective in analyzing and processing prepositions, but this is not enough, as we need to address and overcome the environmental, linguistic, and technological barriers that hinder the improvement of English language teaching.

## 9. Conclusions

Improving Iraqi students' use of prepositions through the application of a cognitive linguistic approach is the primary objective of this study. The study addresses the challenges faced by the Iraqi students as learners of English as a foreign language, particularly in their use of prepositions and their various complexities. The study also investigates the advantages of this approach. Therefore, this study aims to improve the Iraqi learners' ability to use prepositions and consequently enhance their English language proficiency.

Due to their multiple meanings and variations, the study has found that the Iraqi learners possess a fairly good competence in using simple prepositions, but they are unaware of their other meanings. There are difficulties faced by the Iraqi learners that can be overcome by adopting more modern and contextually appropriate methods for the Iraqi context. In conclusion, this study is one of the several efforts aimed at improving English language learning in the Iraqi context.

The study achieves its objective in proving that the cognitive linguistic approach is effective in assisting the Iraqi learners to better understand the English prepositions. CL approach is so useful in many areas, since it can foster learners to think, conceptualize, create meanings, and develop meanings networks. However, in this study, it is limited to English prepositions. Actually, limitations can be summarized in the small sample of participants, concentrating only on few English prepositions. Finally, the difference between the participants' levels may affect the results. Further research papers could target other areas, such as: phrasal verbs, articles, or figurative language.

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