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THE PROTOTYPE APPROACH TO TEACHING THE NEGATIVE PREFIXES DE- AND UN- TO KURDISH EFL STUDENTS

ZEKI **S**ABER **H**AMAWAND and **R**AMAN **Q**ALANDAR **H**USSIEN
Dept. of English, College of Education for Human Science, University of Kirkuk-Iraq
Dept. of English, College of languages, University of Sulaimani, Kurdistan Region-Iraq

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ABSTRACT

This paper explores the teaching of English negative prefixes de- and un- to Kurdish EFL college students, comparing two pedagogical models: traditional and modern. The traditional model relies on form-focused repetition, while the modern model, inspired by Cognitive Grammar, adopts a meaning-oriented approach, emphasizing the coherent category formed by various senses of a linguistic unit. The study highlights the significance of polysemy in grammar instruction, arguing that a negative prefix encompasses multiple senses beyond its morphological function. The study utilized an online-based classroom for both treatments, employing three tests and a questionnaire as data collection tools. The research concludes that the cognitive meaning-based approach proves more effective than the traditional form-focused method in teaching the selected negative prefixes. Furthermore, the study demonstrates the successful application of this approach in an online setting, as indicated by the questionnaire responses.

KEYWORDS*:* Cognitive Grammar, traditional approach, prototype and periphery, polysemy, negative prefix, online teaching, Kurdish EFL students

1.1 INTRODUCTION

The focus of this paper revolves around prefixal negation in English, specifically the use of the de- and un- prefixes. Brown & Miller (2013) define negation as the process of denying an asserted statement. Negation operates at the morpho-syntactic level, denying the truth of an expression. Hamawand (2011) explains prefixation as attaching a prefix to a root, where the prefix functions as a bound morpheme and the root as a free morpheme. The prefix used for derivation is termed a derivational morpheme. Langacker (1987; 1991) points out that frequently-used morphemes or lexical items possess various interconnected senses. Hamawand (2009) adds that a negative prefix forms a category with a central prototypical meaning, accompanied by other semantic extensions. To elucidate the polysemous meanings of the negative prefixes de- and un- to Kurdish EFL college students, the study compares two pedagogical models: traditional and modern approaches.

1.2 Theoretical Framework and Related Studies

1.2.1 Theoretical Framework

1.2.1.1 Traditional Pedagogical Model

The traditional pedagogical model (TRAD) is known as the *transmission model* or the *transmission-reception model*. It is based on the direct transmission of knowledge by the teacher, giving the students no chance to create their knowledge. The traditional pedagogical model has the following characteristics. The first major one is that rules are arbitrary because there are no principles to unite them (Tyler & Evans, 2004; Littlemore, 2009). The second feature is that the traditional account of instruction does not explain the conceptualization of the grammatical units. Grammatical units such as prefixes do not have a detailed analysis of meanings and their discourse and pragmatic features are almost neglected (Bielak & Pawlak, 2013). Thus, the teacher relies on memorization of a list of rules and functions in learning. Teachers, in the traditional account, are responsible for transmitting data, students are required to memorize them based on repetition. Relying solely on memory leads to a total absence of exploration and innovation in the educational process. The students are expected to memorize

the knowledge after receiving it from the teacher. To check if the students carried out the effort to memorize the knowledge, teachers use different form-focused activities and tests without the integration of pictorial and diagrammatic sketches. However, the traditional pedagogical model is inefficient as it neglects the development of fundamental aspects of learning such as curiosity, innovation, or discovery. In addition, most of the knowledge acquired by the students during the educational process is forgotten in a very short time by the students.

1.2.1.2 Cognitive Pedagogical Model

The Cognitive pedagogical model (COG) is based on linking educational content with issues that matter to learners in their lives. The Cognitive pedagogical model has the following characteristics. The first concerns the relationship between teacher and student. In this model, teachers and students work together. Teachers are knowledge facilitators, whereas students are active participants in the learning process. Learning is interactive and collaborative. The second concerns the importance of creativity in learning. Creativity is the fuel that sparks innovation. In this way, students are motivated to generate new ideas in the classroom and develop critical thinking, problem-solving, and decision-making skills. The third concerns leaning through argumentation. This helps students attend to contrasting ideas, which can deepen their learning. Teachers can trigger meaningful discussions in the classroom by encouraging students to ask open-ended questions. The fourth concerns learning in context. Context enables learners to interact with their surroundings and explore the world around them. Learning can be enriched by experiences from everyday life. The fifth concerns embodied learning. Embodied learning involves self-awareness of the body interacting with a real or simulated world to support the learning process.

1.2.1.3 The Cognitive Grammar Approach to Prototype in Teaching Negative Prefixes

The reason for choosing Cognitive Grammar, as Langacker (1987, 1991, 2008a, 2013) claims, language is not an encapsulated system but a system embedded within and inseparable from general cognitive processes. From this view, it follows that there are no clear-cut boundaries between lexicon, morphology, phonology, semantics, and syntax. Rather, they form a continuum of meaningful symbolic units of varying shapes and sizes. The continuum serves to structure conceptual content for expressive purposes. As an example of the interface between morphology and phonology, certain prefixes change the placement of stress in a word, as in *irony* [ˈʌɪrəni] and *ironic* [ʌɪˈrɒnɪk]. Language subsumes both literal and non-literal meanings. A literal meaning is a word's exact dictionary definition. A non-literal meaning is when a word means something other than the definitions in a dictionary. Non-literal meanings are used in writing as a way to make a comparison or an exaggerated statement about something. Literally, *crossroads* means "the point where two roads meet". Non-literally or figuratively, it means a situation or point where a choice or decision must be made. Under the Cognitive view, both literal and non-literal meanings are included. Thus, discourse and pragmatic factors are involved in teaching grammatical units. In addition, pictorial and diagrammatic figures are combined in instruction so as to not rely completely on memorization and minimize vagueness and imprecision.

The main reason for implementing Cognitive Grammar in this study is its prevailing assumption that most of the lexical or grammatical units are polysemous. Polysemy is the case when a single lexical item has a multiplicity of distinct yet related meanings. The meaning of a linguistic unit is not fixed but emerges from the dynamic and context-dependent relationships between the word and its referents. The meanings associated with a particular form are related and are stored in the speaker's mind as a structured network of relations. Take the word *spring* as an example. As a verb, *spring* means *to jump*, *arise from*, and *become split*. As a noun, it means *season*, *an elastic device*, *well*, and *source*. Under the Cognitive view, all the senses are subsumed in a complex network of relations (Hamawand, 2016).

The multiple senses of a linguistic unit, according to Langacker (2008c), are connected to one another and some meanings are more prototype than others. The prototype theory of categorization was proposed by Eleanor Rosch and her colleagues in the early 1970s. The theory is reported in Rosch's research (1977, 1978) and Rosch & Mervis (1975). In this view, a category is centered around an ideal example or prototype. As stated by Cruse (2006), the prototype for a category is the most typical or central example of

that category, and peripheral examples are less typical or extensions of that prototype. The extension of meaning is motivated by contextual factors of various kinds.

The third and most important reason for implementing Cognitive Grammar is Langacker's (1987) usage-based model. He suggests that the polysemous meanings of a linguistic element and their relationships are not arbitrary rather they are grounded in specific patterns of usage. These patterns, as Queller (2001) claims, are key to comprehending the nature of semantic polysemy networks. Being exposed to a series of multiple meanings of a linguistic element, Langacker (2008b) believes that a language user can abstract a stable linguistic structure which is well-known as schema. As a result, knowledge of a linguistic unit then will be entrenched in the mind of the language user. EFL teachers can rely on the aforementioned features of Cognitive Grammar in their instruction and material development and highlight the motivation behind certain semantic extensions (Achard, 2004; Langacker 2008b; Tyler, 2012; Wirag 2021). To investigate the usefulness of this theoretical account, the present research implements the insights of prototype theory and the usage-based approach of Langacker in teaching the negative prefixes **un-** and **de-**.

1.2.2 Related Studies

Applying Cognitive Grammar in the field of teaching EFL is a recent trend in language pedagogy. In the past decade, researchers have been trying to design new pedagogical programs that are based on Cognitive Grammar tenets. The major focus of the empirical research in this field so far has been on: tense and aspect (e.g., Bielak & Pawlak, 2013; Reif, 2012; Niemeier & Reif, 2008; Turewicz, 2010), active/ passive voice (e.g., Bielak et al, 2013; Chen & Oller, 2008), articles (e.g., Achard, 2004; Huong, 2005; Verspoor & Huong, 2008), prepositions (e.g., Tyler & Evans, 2004; Hung et al., 2018, Cho & Kawase, 2012; Wijaya & Ong, 2018; Tanaka, 2018), modal verbs (e.g., Tyler et al., 2011; Martinez, 2021), mood (e.g., Garcia, 2010) and conditionals (e.g., Jacobsen, 2012, 2016; Tsitoura, 2018).

However, in the field of morphology, specifically teaching negative affixes, no research has been conducted on applying Cognitive Grammar insights. Most of the traditional pedagogical endeavors (Stotsky,1977; Graves et al., 2012; Baumann et al., 2003) implemented a structural approach to teach the grammatical features and concrete meaning of the negative prefixes. In addition, Hamawand (2009) analyzed and explored the semantics of English negative prefixes within the Cognitive Grammar theoretical framework, yet this study investigates the practical effectiveness of that theoretical analysis and the semantic extensions of **de-** and **un-** within an online classroom setting.

1.3 Research Problem, Aim, and Significance

1.3.1 Research problems and questions

The use of the negative prefixes **de-** and **un-** poses a serious problem in general. As for Kurdish learners of English, the problem resides in the use of one prefix for another without abiding by any semantic considerations. At this juncture, it is hypothesized that the difficulty encountered by Kurdish learners of English lies in the inadequate analyses provided by most traditional grammars, on which they rely in the learning process. We have observed that morphology and vocabulary teaching based on the traditional model involves presenting the concrete meaning of a negative prefix. One of the problems that Kurdish students are facing is that their knowledge about negative prefixes is restricted. Accordingly, it could be assumed that Kurdish EFL learners are not familiar with the multiple meanings which the negative prefixes **de-** and **un-** express in language.

Having identified the nature of the problem concerning **de-** and **un-**, two questions are posed before developing a solution.

- Is there a significant difference between traditional and cognitive approaches to teaching negative prefixes?
- Can the experiment be delivered in an online-based classroom?

1.3.2 Research Aims

To address the issue and find a solution, the research has two aims: theoretical and practical. The theoretical goal is to emphasize the cognitive model's role in teaching English as a foreign language, specifically showcasing the effectiveness of Cognitive Grammar in classrooms. The practical objective is to apply Cognitive Grammar insights to teach the polysemous meanings of negative prefixes like **de-** and **un-**. This approach considers the cognitive aspects of these prefixes, beyond their morphological functions, providing valuable insights into their distinct yet related senses. To achieve these aims, the study employs Langacker's

Cognitive Grammar approach to polysemy and prototype, designing COG-based instruction and material.

1.3.3 Research Significance

The study's significance lies in adopting Cognitive Grammar insights to improve teaching selected English negative prefixes. By showcasing the effectiveness of Cognitive Grammar tenets and implementing a cognitive approach to instruct polysemous meanings, it enriches language education, empowering educators with innovative techniques for enhanced language proficiency.

1.4 METHODOLOGY

1.4.1 Research Design

The research utilized materials from Evans (2019), Hamawand (2009), and Langacker (1987, 1991, 2013) to design Cognitive-based slides. The content in appendices 1, 2, and 3 contains COG and TRAD slides. Since this study is limited to teaching the categorization of **de-** and **un-**, other negative affixes are excluded. The categorization lessons (prototype and periphery) for negative affixes in the COG group spanned four weeks; lessons from weeks 2 and 3 used included teaching negative prefixes **de-** and **un-**. Each COG lesson lasted 55-60 minutes, while TRAD lessons were shorter, lasting 40-45 minutes. The reason for the longer time in the COG lesson is that the students were exposed to the notion of categorization and polysemy first because they have never encountered or been introduced to these cognitive skills. In addition. the detailed presentations of the prototype and peripheral meanings of the negative prefixes needed more time to be explained. Furthermore, the COG tasks (see Appendix 1, Figures 7, 8, and 9) were more demanding and involved critical thinking skills. The matching exercise required applying critical thinking and ticking the right meaning to the right context to practice the prototype and peripheral uses of **de-** and **un-**. The diagram task required ordering the meanings from the most prototype or prominent to the least prototype. The solid line in the diagram presents the prototype usage and the dashed lines are representing the peripheral usage. Instead of just relying on meaningful description, these types of tasks as suggested by Holm (2009) and Taraszka-Drożdż (2020) will aid to present the content of the lesson in a different and more learner-friendly way.

Taking a longer time in presenting COG-based material was also a challenge for other experiments (e.g. Bielak & Pawlak, 2013). Broccias (2008) and Tyler (2012) highlighted this criticism of Cognitive based explanations and analysis and the amount of time they take. The teacher in the current paper faced the same difficulties yet the teaching content and the tasks were more engaging and may open windows for more creative tasks and lesson designs. For example, in the COG group, before being exposed to the semantic network of the negative prefix **un-** and -**de**, the students were first introduced to the categorization theory (see Appendix 1, Figure 1). The teacher explained and highlighted mainly in this slide that each linguistic unit whether it is a morpheme, a word, or a sentence, does not have a single meaning, rather, it forms a network of meanings that behave differently yet each meaning is related to another. Then the teacher moved to explain polysemy (see Appendix 1, Figure 2) as a phenomenon in which a linguistic unit holds multiple distinct yet related meanings. Students' attention is drawn to the fact that not just words in English are polysemous, rather, morphemes, prepositions, and other grammatical units hold multiple meanings.

In the COG group, the teacher and the students worked together on the dependent task. They searched several authentic materials from webpages, posts on Facebook and Instagram, and videos on YouTube to analyze and categorize the meanings of the negative prefixes **de-** and **un-**. The idea of this dependent task with authentic material was inspired by the call Wirag et al. (2022) did for integrating authentic material in the field of foreign language teaching. Langacker (2013) highlighted that "language use is never truly acontextual; an expression's manifestation is always subject to influence from the physical, linguistic, social, and psychological circumstances" (p.50). The teacher presented for the COG group authentic materials that contained the prototype and peripheral usages of **de-** and **un-** by highlighting some lines or short paragraphs that had prefixed words with **de-** and **un-** from various web pages. The students guessed the meanings of **de-** and shared their answers on the Zoom chat box and followed the same procedure for **un-**. After guessing, the teacher explained that for example the meaning of 'getting off the vehicle',

in *detrain*, is one of the peripheral meanings that **de-** has (see Appendix 1, Figure 4).

Langacker (2008b) suggests that the linguistic knowledge of language users is obtained from being exposed to a series of "usage events" in other words "actual instances of language use" (p.81) in discourse. The COG students' attention was drawn toward analyzing the meanings of the highlighted words and then they were asked what **de-** for example meant in each of the given words. Long-term exposure to the targeted materials in authentic contexts is believed by Langacker (2008b) will lead to native-like knowledge of the conventional range of usage. The former technique, searching through authentic materials, as it is believed by the teacher, will create a lifelong learning strategy. The students had several hours of exposure even after the lessons to the multiple meanings and usage of **de**- and **un-** in online contexts to accomplish the assigned independent tasks.

This procedure is believed to foster students' *attention* toward the peripheral usages of the negative prefixes. The teacher followed an explicit explanation of the semantic extensions of the negative prefixes **de-** and **un-**, as it is suggested by Csabi (2004) that the teacher should facilitate and make students *notice* the peripheral meanings of the linguistics unit. "Students may acquire new meanings of polysemous units by being exposed to them indirectly as they read or practice guided conversations, or even directly when connections are pointed out by the instructor" (Winters & Nathan 2020, p.70). Students will learn how to create and link a network of related usages from the polysemous meanings (Broccias 2008, p.83-84).

On the other hand, the information about **de-** and **un-** was easier for the TRAD group, and the tasks (see Appendix 2, figures 11, 14, and 15) were less demanding. The exercises in the TRAD lessons are the most frequently used techniques in the TRAD materials: Quirk et al. (1985), Biber et al. (2002), Plag (2003); Leiber (2009), Huddlestone & Pullum (2005); and Katamba & Stonham (2006). Instead of polysemy, the TRAD material counted on Homonymy, Allomorph, and Homophones in explaining the grammatical features and the concrete meanings since there are homonyms and allomorph cases of some negative prefixes in the aforementioned TRAD materials.

The teaching procedure for the TRAD and COG groups was delivered in the Zoom meeting application. The reason for shifting to online teaching was that the university halls were all closed, and the students of UOS were on strike from 20th September to 20th November 2022. To conduct the experiment according to the planned schedule and not delay it, the students and the researchers agreed on shifting to online classes. Because of Covid-19, the students and the teacher have almost three years of experience in online learning and teaching. Thus, neither the students nor the researcher faced serious technical issues with online classes. On the other hand, electricity was a problem for some students since the Kurdistan Region of Iraq suffers from a power shortage. As a medium of learning and instruction, the experiment depended mainly on Google-classroom and Zoom applications. For posting the instructions and the materials, Google-classroom was the main platform. Facebook Messenger, WhatsApp, and Viber applications were used for communicating at the students' request. Zoom was chosen because it can be installed on various devices, and it is more convenient for those who do not have laptops. Most of the students used their smartphones to attend the sessions and did not face any difficulties. The treatments of both groups relied on sharing the PowerPoint presentations on the Zoom app. The teacher used Microsoft Word, as an additional aid, to explain things whenever the students needed extra help.

1.4.2 Participants

A total of 76 university students participated voluntarily in the present study. They come from the two English Departments at the College of Languages and the College of Basic Education at the University of Sulaimani (UOS). Both departments have morning classes and evening classes. I announced the course by visiting the classes in both departments and asked for volunteers to participate. The heads of the departments were so cooperative and suggested creating an online network among the students on WhatsApp, Viber, and Facebook Messenger to assist their enrolment because the students were on strike and there were some challenges. The volunteered participant's average age was between 20-25 years. The students returned to college after the strike for one week and I immediately conducted the placement test to define the English level of the participants. Their English language

level is defined between B1 and B2 by the placement test (based on CEFR standard) of the Language and Culture Center of the University of Sulaimani. The purpose for selecting this level, as Achard (2004) suggests, Cognitive based teaching is associated with cognitive load, thus it will not be convenient for lower-level learners' capacity.

The participants were divided randomly into two intact groups: 38 students in the COG group and 38 students in the TRAD group. The male students in both departments form a small percentage. Due to this, 23 female students were in the COG group, and 30 female students were in the TRAD group. The participants' first language is Kurdish, and all of them learned and studied English as a Foreign Language in school for 12 years in the Kurdistan Region of Iraq. All the participants took morphology lectures in college and were familiar with English negative prefixes.

1.4.3 Data Collection and Testing Tools

As this paper aimed to figure out the effects of the traditional and Cognitive Grammar perspectives on EFL Kurdish students' knowledge of negative prefixes, direct pre-test, post-test, and a delayed test were used. A list of questionnaires, which was based on Likert Scale with 5 options, was the second tool to elicit opinions from the students about the treatments. The list of questionnaires contained 2 questions; each has five options (see Appendix 3). The tests and the questionnaire were conducted on Google Forms. The teacher shared the tests' links on Zoom and assigned 40 minutes to submit the form. The questionnaire was conducted by the same procedure but within 1 hour. The pre-test was conducted in the 1st week before the treatments, the post-test was conducted 4 days after the 12th week at the end of the treatments, and finally, the delayed test was held 5 weeks after the post-test.

Concerning the content validity and reliability of the tests, all the items were reviewed by 5 English native and near-native speakers from different nationalities, they were themselves specialists in the ELT and EFL fields, and a committee of 5 Kurdish experts in the field of EFL and ELT, and Cognitive Grammar. In addition, the targeted materials of the lessons were reviewed by some local and international professors in the field of applied linguistics and applied Cognitive Linguistics.

Four items in the multiple-choice questions, in the pre-test, aimed at measuring the students' receptive knowledge about the precise meanings and usages of the negative prefixes **de-** and **un-** in context. The students were presented with full sentences that contained a blank and four options from which they had to choose the more appropriate, or best prefix that reflects the suitable meaning in context. The second question (see Appendix 3) is about the polysemous nature of **un-**. Four full sentences are given with a negative prefix **un-** in each sentence. The prefixed words with **un-** in each sentence hold a different meaning; one is a prototype and the others are peripheral. In the instruction, 'main' and 'secondary' terminologies were used instead of 'prototype' and 'peripheral' respectively, to make it easier for the students to understand. The aim of the latter question is to check the receptive knowledge of the students and whether they are familiar with labeling the prototype and peripheral meanings of the given negative prefix with the right context.

Each item in the first and second questions is worth two points. The post-test aimed to determine whether the students could recognize or recall the targeted negative prefixes' form and meanings (Lado, 1961; Ingram, 1985; Farhady et al., 1994). Furthermore, in the post-test, students were supposed to apply the knowledge they acquired from the teaching materials. For example, in the posttest question two, labeling the polysemous meanings of **de-** in context is presented to check whether students can transfer the knowledge of prototype and periphery in a new context (Barnett & Ceci, 2002). The five-week delayed test aimed to measure the retention of newly learned knowledge about the targeted negative prefixes.

1.5 Data Analysis

The quantitative data in this study underwent statistical analysis, calculating means and standard deviations of the three tests for both groups. One-way ANOVA (analyses of variance) was employed to determine significant differences between the two teaching methods. For the second quantitative data elicitation method, a one-sample t-test was conducted on the questionnaires to assess whether the population mean would differ significantly from a known or hypothesized value. Specifically, a one-sample t-test was utilized to determine the statistical significance of the students' responses to each selected question, gauging the importance of the question content to the students.

Table (1)-: Means of the prototype and peripheral usages of the negative prefix **d-** for the multiple-choice question 1 of COG and TRAD.

Questions	Traditional			Cognitive		
	Pre-test **M**	Post-test **M**	Delayed test **M**	Pre-test **M**	Post-test **M**	Delayed test **M**
Q1./2 proto	0.9474	1.2632	0.9730	0.9474	1.3684	1.4211
Q.1/11 peri.	0.3158	0.7368	0.4865	0.4211	1.2105	1.1579

*prototype (proto) *peripheral (peri) *mean (M)

Table 1 displays the mean scores of the prototype and peripheral usages of the negative prefix **de-** for the multiple-choice question. According to the results, the COG group has the highest average score in the post-test with mean scores of 1.3684 and 1.2105 for the prototype (2) and peripheral (11) usages respectively. Furthermore, in the delayed test, the TRAD group has the lowest average scores of 0.9730 and 0.4865 for the prototype (2) and peripheral (11) usages respectively. However, the COG group performed better in the delayed test with mean scores of 1.4211 and 1.1579 for the prototype (2) and peripheral (11) usages respectively.

Table (2):- Means (M) and standard deviations (SD) for negative prefix **de-** overall in multiple choice question 1 for COG and TRAD.

Groups	No.	Pre-test	Post-test	Delayed test
Traditional	38	1.2632 **M** 1.2667 **SD**	2 **M** 1.3152 **SD**	1.4595 **M** 1.1990 **SD**
Cognitive	38	1.3684 **M** 1.4031 **SD**	2.5789 **M** 1.4636 **SD**	2.5789 **M** 1.4636 **SD**

Table (3):- one-way ANOVA for negative prefix **de-** overall in multiple choice question 1 for COG and TRAD.

Source	DF	Sum of Squares	Mean Square	F Ratio	p-value
Traditional Group	2	11.06617	5.53308	3.4786	**0.0343***
Error	111	176.55761	1.59061		
C. Total	113	187.62378			
Cognitive Group	2	37.12281	18.5614	8.9049	**0.0003***
Error	111	231.36842	2.0844		
C. Total	113	268.49123			

The data in Table 2 reveal that there is a difference in the TRAD's mean scores in the tests overall and it is statistically significant since the one-way ANOVA in Table 3 indicates that their p-value is 0.0343 which is less than 0.05. However, in the COG group, the students' knowledge of the prototype and peripheral meanings of **de-** showed higher improvement, the one-way ANOVA test in Table 3 shows a p-value of 0.0003 for all the tests which is less than 0.05. In more detail, the mean score of the pre-test in the COG group in Table 2 changed from 1.3684 to a mean score of 2.5789 in the post-test. As could be noticed, the difference between the latter means is significant since it is 1.210526 with a p-value of 0.0011 (according to a t-test analysis) which is less than 0.05. Fortunately, the students in the COG group did not deteriorate, the mean scores from the post-test to the delayed test did not change at all they are both 2.5789 with a standard deviation of 1.4636.

Table(4):- The mean scores of the prototype and peripheral usages of the negative prefix **un-** for the multiple-choice question of both COG and TRAD groups.

Groups	Traditional			Cognitive		
	Pre-test **M**	Post-test **M**	Delayed test **M**	Pre-test **M**	Post-test **M**	Delayed test **M**
Q1./6. proto	0.9474	1.3158	1.2973	0.7895	1.1053	1.3684
Q1./16. peri	0.6842	1.1579	0.8649	0.8947	1.4737	1.0526

*prototype (proto) *peripheral (peri) *mean (M)

According to the results in Table 4, in the post-test, the TRAD group had the highest average score of 1.3158 for the prototype usage of **un-** in Q1.6 compared to the COG group with the lowest mean score of 1.1053. The results of the peripheral usage in Q1.16 in the post-test were different. The COG group had the highest average score in the peripheral usage of **un-** for 1.4737 compared to the TRAD group score of 1.1579. Regarding the delayed test, the results were a bit different, the COG group has the highest average score of 1.3684 and 1.0526 for Q1.6 and Q1.16 (prototype and peripheral usages) respectively compared to the TRAD group's results.

Table (5):-Means (M) and standard deviations (SD) for negative prefix **un-** overall in multiple-choice question 1 for COG and TRAD.

Groups	No.	Pre-test	Post-test	Delayed test
Traditional	38	1.6316 **M** 1.4597 **SD**	2.4737 **M** 1.3504 **SD**	2.1621 **M** 1.1744 **SD**
Cognitive	38	1.6842 **M** 1.5787 **SD**	2.5789 **M** 1.3076 **SD**	2.4211 **M** 1.6213 **SD**

Table (6) :-One-way ANOVA for negative prefix **un-** overall in multiple choice question 1 for COG and TRAD.

Source	DF	Sum of Squares	Mean Square	F Ratio	p-value
Traditional Group	2	13.77729	6.88865	3.8747	**0.0236***
Error	111	197.34282	1.77786		
C. Total	113	211.12011			
Cognitive Group	2	17.33333	8.66667	3.8063	**0.0252***
Error	**111**	**252.73684**	**2.27691**		
C. Total	**113**	**270.07018**			

The results of the one-way ANOVA in Table 6 suggest that the students' knowledge of the negative prefix **un-** changed significantly in the TRAD and COG since their p-values of 0.0236 and 0.0252 are less than 0.05 respectively. However, taking the detailed results of the prototype and peripheral usages of **un-** separately, the mean scores in Table 4 show that COG students outperformed TRAD students in the peripheral usages as well as in the retention of knowledge.

Table (7) :-Means (M) and standard deviations (SD) for COG and TRAD in question 2 (matching the polysemous meanings of **un-** and **de- in context**)

Groups	No.	Pre-test	Post-test	Delayed test
Traditional	**38**	**3.0526 M** **1.9583 SD**	**3.3684 M** **2.2351 SD**	**2.5945 M** **1.3040 SD**
Cognitive	**38**	**2.8947 M** **1.5903 SD**	**5.2105 M** **2.3034 SD**	**4.1579 M** **2.4772 SD**

Table 7 presents the mean scores of question 2 in the three tests for both the COG and TRAD groups. According to the results, the TRAD group scored the highest mean score of 3.0526 with a standard deviation of 1.9583 in the pre-test. However, the COG group outperformed the TRAD group in the post-test and delayed test with the highest mean scores of 5.2105 and 4.1579 and standard deviations of 2.3034 and 2.4772 respectively.

Table (8):-One-way ANOVA for the pre-test, post-test, and delayed test of COG and TRAD for question 2. (matching the polysemous meanings of **un-** and **de- in context**)

Source	DF	Sum of Squares	Mean Square	F Ratio	p-value
Traditional Group	2	11.50926	5.75463	1.6393	0.1988
Error	111	389.65578	3.51041		
C. Total	113	401.16505			
Cognitive Group	2	102.17544	51.0877	10.9697	0.0001*
Error	111	516.94737	4.6572		
C. Total	113	619.12281			

Table(9):-Ordered Differences Report of Pre-test, Post-test, and delayed test for TRAD and COG

groups	Tests		Difference	p-Value
Trad	Pre-test	Post-test	0.3158	0.7435
	Post-test	Delayed Test	0.7739	0.1741
	Pre-test	Delayed Test	0.4582	0.5372
COG	Pre-test	Post-test	2.3158	0.0001*
	Post-test	Delayed Test	1.0526	0.0892
	Pre-test	Delayed Test	1.2632	0.0322*

As the results of the one-way ANOVA in Table 8 suggest, there is no significant difference in the three tests of the TRAD group since the p-value of 0.1988 is greater than 0.05. In Table 9, the ordered difference report displays that students in the TRAD group did not experience significant gains between the pre-test and post-test, and post-test and delayed test since the p-values are 0.7435 and 0.1741 respectively, which are more than 0.05. On the other hand, the results of the one-way ANOVA in Table 8 indicate that the COG group performed better in question 2 as the p-value of 0.0001 is less than 0.05. The COG students' performance changed by 2.3158 with a p-value of 0.0001 from the pre-test to the post. The students did not deteriorate greatly in the COG's delayed test and retained information since the p-value in Table 9 of 0.0892 is less than 0.05.

Table(10):- Descriptive statistics and a one-sample t-test for three questions in the TRAD group

Sections	Responses scale					Statistical Indicators				
	1s	2s	3s	4s	5s	Mean	Standard Deviation	t-values	P-value	Ranks
1. how interesting and creative would you rate the contents of the lessons? 1. They are NOT interesting and creative at all. 2. They are slightly interesting and creative. 3. They are moderately interesting and creative. 4. They are very interesting and creative. 5. They are extremely interesting and creative.	0	0	14	22	2	3.68	0.574	39.534	0.0001*	7
2. how easy and engaging would you rate the tasks/exercises of this course's lessons? 1. They are NOT easy and engaging at all. 2. They are slightly easy and engaging. 3. They are moderately easy and engaging. 4. They are very easy and engaging. 5. They are extremely easy and engaging.	0	1	6	25	6	3.95	0.655	37.126	0.0001*	4
3. how would you rate your understanding of the HOMOPHONES, ALLOMORPH, and HOMONYMS of the English negative affixes? 1. I do not understand at all 2. I slightly understand. 3. I moderately understand 4. I understand in a very good way 5. I understand everything.	0	2	4	28	4	3.89	0.649	37	0.0001*	6

Table 10 shows the t-test results of the TRAD's questionnaires 1, 2, and 3. A one-sample t-test was conducted to show whether the students' responses would be statistically significant for each question. The weighted mean of question one "*how interesting and creative would you rate the contents of the lessons?"* is 3.68 with a standard deviation of 0.655. Its p-value is less than 0.05, and it is in rank 7, indicating that the students considered the lessons to be interesting and creative. However, 14 (36 %) students found TRAD's lessons to be moderately interesting and creative. In addition, the weighted mean of question two *"how easy and engaging would you rate the tasks/exercises of this course's lessons?"* is 3.95 with a standard deviation of 0.822. Its p-value is less than 0.05, and it is in rank 4 indicating that the students found the tasks very easy and undemanding. In addition, the students understood the Homophones, Allomorph, and Homonyms lesson very well as the mean of this question is 3.89 and its p-value is 0.0001whcih is less than 0.05.

Sections	Responses scale					Statistical Indicators				
	1s	2s	3s	4s	5s	Mean	Standard Deviation	t-values	P-value	Ranks
1. how interesting and creative would you rate the contents of the lessons? 1. They are NOT interesting and creative at all. 2. They are slightly interesting and creative. 3. They are moderately interesting and creative. 4. They are very interesting and creative. 5. They are extremely interesting and creative	0	4	6	22	6	3.79	0.843	27.699	0.0001*	6
2. how easy and engaging would you rate the tasks/exercises of this course's lessons? 1. They are NOT easy and engaging at all. 2. They are slightly easy and engaging. 3. They are moderately easy and engaging. 4. They are very easy and engaging. 5. They are extremely easy and engaging	4	1	15	15	3	3.32	1.042	19.607	0.0001*	11
3. how would you rate your understanding of the categorization/ the prototype and peripheral meanings of the negative affixes? 1. I do not understand at all 2. I slightly understand. 3. I moderately understand 4. I understand in a very good way 5. I understand everything.	0	2	13	21	2	3.61	0.679	32.711	0.0001*	10

Table 11 displays the t-test results for the COG's questionnaires 1, 2, and 3. Question 1, "*how interesting and creative would you rate the contents of the lessons?"* is in rank 6 with a weighted mean of 3.79 and a p-value of 0.0001 which is less than 0.05, thus, indicating that the students found the COG lessons to be very interesting and creative. Although the latter p-value and ranking are promising, nearly 10 (26 %) of the responses for question 1, in general, found the COG lessons to be a bit challenging since they selected '*slightly'* and '*moderately'* options. The mean score for question 2 *"how easy and engaging would you rate the tasks/exercises of this course's lessons?"* is 3.32 and its p-value is 0.0001, yet 15 (39%) responses found the tasks to be moderately easy and engaging and nearly 5 (14%) responses found the COG tasks to be demanding. The responses to question 3 *"how would you rate your understanding of the categorization/ the prototype and peripheral meanings of the negative affixes"* are promising as the mean score is 3.61 with a p-value of 0.0001. Fortunately, no one chose *'did not understand*

at all', and only 15 (39%) students found the categorization lesson to be competitive.

1.6- DISCUSSION

The statistical results confirmed the hypothesis that the Cognitive Grammar approach to teaching polysemous meanings of the negative prefixes **de-** and **un-** to Kurdish EFL college students is more effective than the traditional approach. Apparently, providing the prototype and peripheral explanations of the negative prefixes to create a network between the related senses could help the students understand the peripheral usages and meanings. The TRAD group made gains as well but did not surpass the COG group in recognizing the negative prefixes' peripheral meanings since the TRAD treatment focused on the grammatical features of **de-** and **un-** and only their concrete meanings.

The mean scores in the multiple-choice question 1 for the negative prefix **de-** highlighted that students gained benefits from the Cognitive Grammar based instruction to teach the prototype and peripheral meanings. Although the TRAD group improved in the post-test of the multiple-choice question 1 for recognizing the prototype usage of the negative prefix **de-**, the COG group outperformed in the post-test. The mean results of the prototype and peripheral usages of the negative prefix **de-** in Table 1 prove the claims of the benefits of teaching peripheral meanings of linguistic units. In addition, the results of the ANOVA test in Table 3 show the improvement of the COG students' receptive knowledge about the prototype and peripheral meanings of **de-** in general over the three tests.

In the pre-test's multiple-choice, in Q1. 2, **de-** has the prototype usage 'reversing the action' and in Q.1 11 it has the peripheral meaning 'getting off the vehicle'. The TRAD and COG group performed well in guessing the prototype usage of **de-** in Q1.2 in the post-test which means 'reversing the action described by the nominal base'. The students in the COG group outperformed the TRAD significantly in guessing the peripheral usage of **de-** in the post-test because they have been taught that one of the peripheral meanings of **de-** is 'getting off the vehicle described by the nominal base' or having the notion of 'disembarkation'. This could be a piece of evidence that it is beneficial for the students to provide further instantiations of the detected schema (Taraszka-Drożdż, 2020)

The same significant finding could be noticed for the peripheral usage of **un-** in Table 4 in the COG's post-test. In the pre-test, the negative prefix **un-** in Q.1.6 holds the prototype meaning 'the opposite of what is specified by the adjectival base' and in Q.1.16 **un-** peripherally is used to mean 'taking away what is specified by the nominal base'. In the post-test, the TRAD students outperformed the COG students in guessing the prototype meaning of **un-** 'the opposite of what is specified by the adjectival base and it denotes quality'. However, the COG group scored significantly higher in guessing the peripheral usage of **un-** in Q.1.16 which means 'taking away what is specified by the nominal base'. This finding could support Taraszka-Drożdż's (2020) claim that students can recognize peripheral meanings in new contexts.

In terms of retention, the statistical results of Q.1 2, 12, 6, and 16 illustrate that implementing a usage-based prototype and periphery approach in teaching could maintain the knowledge of the negative prefixes **de-** and **un-**. Tables 1 and 4 show in detail how COG students retained their knowledge about the prototype and peripheral meanings of **de-** and **un-**. In Table 1, COG students scored a higher average of 1.4211 in Q.1.2 in the delayed test compared to 1.3684 in the post-test. Taking the average of Q1. 2 and 12 in general, Table 2 shows that the mean of the COG's delayed test is the same as the post. This statistical evidence illustrates that the students retained their knowledge about the prototype and peripheral meanings of **de-**

from the post-test to the delayed test. Deep processing and awareness raising of peripheral meanings improve retention (Boers, 2004). However, the TRAD faced deterioration in their knowledge about **de-** in the delayed test but it is not significant.

Maintained knowledge of the prefix **un-** could be seen as well in Table 4 in the COG's delayed test. Taking prototype knowledge and peripheral knowledge separately, the case of **un-** in the delayed test is different from **de-**. The COG students performed better in Q.1.6 in maintaining and improving their knowledge of the prototype usage of **un-** since the mean of the pos-test is 1.1053 and in the delayed test it is 1.3684. However, the results are not the same for peripheral usage since the mean, in Q.1. 16, is 1.4737 but in the delayed test it is 1.0526. Taking the average of Q1. 6 and 16 in general together, Table 5 shows that the COG and TRAD groups did not deteriorate significantly in the delayed test. The mean difference between the post-test and delayed test for the TRAD group is 0.3115789 and the p-value is 0.5, for the COG group the difference is 0.1579 and the p-value is 0.8918.

The significant improvement of the COG group in the knowledge of the prototype and peripheral meanings of the negative prefixes **de-** and **un-** could be supported further by the questionnaire's results in Table 11. In the COG group, students were introduced first to the categorization and polysemy notions in short (see Appendix 1, Figures 1 and 2) before teaching and practicing the negative prefixes. In Table 11, 23 COG students (60 %), in general (question 3, options 4 and 5), understood the categorization lesson in a very good way, yet 15 (39%) students, in general (question 3, options 2 and 3) faced few challenges in understanding the theory of categorization since it is new and they have not encountered cognitive topics before. On the other hand, in the TRAD group, the topics of homophones, allomorphs, and homonyms were explained before introducing the students to the negative prefixes, since in the TRAD material the former topics are highlighted in presenting the English negative prefixes. For example, students were taught to differentiate between the **de-** in **de**ject, **de**fecate, and the **de-** in **de**couple and **de**code. Table 10 presents that, 27 (71%) responses in general (question 3, options 4 and 5) from the TRAD group, understood the aforementioned topics in a very good way. The statistical results of the TRAD group revealed that explaining the aforementioned notions does not have a significant effect on students' knowledge of the extended meanings of the negative prefixes **de-** and **un-**.

One of the encouraging findings of this paper is that teaching a diagrammatic network (Holme, 2009) and critical thinking-based activities of the negative prefixes **de-** and **un-** are effective. The overall statistical results of the one-way ANOVA test in Table 8 reveal that the COG group experienced significant gains from their pre-test to the post-test. The students in the COG group were exposed to Cognitive Grammar based activities such as diagrams and critical thinking such as matching the meanings to the right context (see Appendix 1 Figures 7 and 8). After being exposed to these exercises Table 7 displays that COG's mean score increased to 5.2105 and the difference from the pre-test to the post-test, as reported in Table 9, is 2.3158 with a p-value of 0.0001 which means the students experienced a significant change. However, the TRAD group did not change significantly because the statistical results in Table 9 show that the difference between the pre-test and post-test is only 0.3158 with a p-value of 0.7. The reason for this low difference in the TRAD is that the students were not exposed to peripheral meanings and how these meanings compete, thus, one meaning is closer to the prototype and others are less close and more peripheral. The TRAD's students were fair at recognizing and finding the prototype meaning of the negative prefixes since they have been presented with only the most frequent meanings.

Regarding deterioration and the maintenance of knowledge, the aforementioned Cognitive-based exercise helped the COG group maintain the knowledge of polysemous meanings of the negative prefixes **de-** and **un-**. The results in Table 9 indicate that the COG group did not experience significant deterioration as the mean difference between the post-test to the delayed test is just 1.0526 with a p-value of 0.0892. In the pre-test the polysemous meanings of **un-** are presented, in the post-test the polysemous meanings of **de-** are presented, and in the delayed test again **un-** is presented. In the post-test, the teacher did not use **un-** so as to test the students' understanding of the matching knowledge and recognition of the polysemous meanings. In other words, the teacher wanted to check whether the students will apply the technique of matching and recognizing the right meaning in context on other negative prefixes.

The matching task in Figure 7 (see Appendix 1) was used in one guided/dependent task for explaining the polysemous meanings of the negative prefix **un-**, yet it was not used for **de-**. The teacher used the COG lessons' examples in the TRAD's lesson as well but did not use the same type of activities and depended on the TRAD material's activities as well as structural and form-focused tasks that are well-known in the mentioned departments of the students. The questionnaire's result, in Table 11, revealed that 18 (47%) responses (question 2, options 4 and 5) from the COG group found the tasks to be engaging yet 15 (39%) responses found it a little bit demanding. Although 5 students (13%), in Table 11, found the COG tasks to be difficult, according to the promising statistical results in Tables 7, 8, and 9, COG students applied and retained the technique they learned from the exercises in the post-test and delayed test successfully.

As could be noticed, the teacher facilitated the learning process of the peripheral usages of the negative prefixes **de-** and **un-.** The reason for applying this facilitated teaching procedure, as Wong et al., (2018) did, is that the polysemous nature of the other negative prefixes for example **un-** will compete with polysemes of **de-** and these interwoven meanings in the categorization system requires an implicit and explicit procedure to facilitate learning. In the questionnaire, 28 (73%) responses in general (in question 1, responses 4 and 5) reported that the content of the COG lessons was interesting and creative. In spite of that, 10 (26 %) students of the COG group found the content of the COG lessons to be a bit challenging, 15 (39%) responses found the tasks to be moderately easy and engaging, and only 5 (14%) responses reported that the COG tasks are demanding. The teacher observed these results in the online sessions while teaching since the students have never encountered such types of activities before.

The promising results of the statistical data about the retention of knowledge of the peripheral meanings of the negative prefixes **de-** and **un-** could support the advantage of implementing prototype and peripheral usage-based teaching. The same effective results of teaching peripheral usage are noticed by Verspoor & Lowie (2003); Csábi (2004) Cho (2010); Tyler & Mueller (2011); Wong et al., (2018); and Wirag (2021). Furthermore, the advantages of applying prototype theory in teaching polysemous linguistic units are found in Masuda (2018). However, the main aim of the teaching materials in this paper, especially the teaching of particular peripheral meaning, as emphasized by Taraszka-Drozdz (2020), is to expose learners to a broader network of senses that a linguistic unit holds. Introducing categorization and the notion of polysemy may aid learners to develop a more nuanced and comprehensive understanding of the linguistic unit's meaning. In this way, a more robust mental representation of the linguistic unit could be created in the learner's mind, facilitating their ability to comprehend and use the linguistic unit in various contexts.

1.7 –CONCLUSIONS

This research demonstrates a moderate commonality with previous studies, endorsing the efficacy of incorporating Cognitive Grammar insights to teach the negative prefixes **de-** and **un-**to Kurdish EFL college students. The study concludes that the application of cognitive-based instructions and activities significantly improves the learning of peripheral meanings associated with these prefixes. Moreover, the positive effects persist even after a four-week instruction period, surpassing the effectiveness of traditional teaching approaches. Consequently, the enduring impact of Cognitive Grammar-based material and activities becomes evident in the long term. It is noteworthy that this study is the first to utilize Cognitive Grammar insights in an online-based classroom setting. As a result, this paper contributes to the existing literature by providing empirical evidence supporting explicit instruction of the multiple meanings of **de-**, and **un-** and outlining successful strategies for online delivery, allowing access to authentic materials and extensive usage exposure.

1.8- Recommendations

The discovered results and the proposed instructional materials and exercises in this study have practical applications in teaching morphological aspects and vocabulary to EFL students. Moreover, the outcomes have the potential to motivate further research and EFL educators to adopt innovative Cognitive Grammar-based approache when teaching various language components.

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Appendices

Appendix 1

Cognitive Material

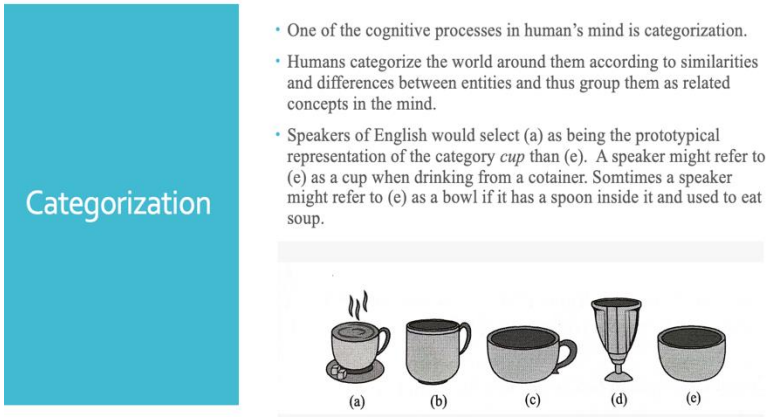

Fig. (1): Introduction to categorization

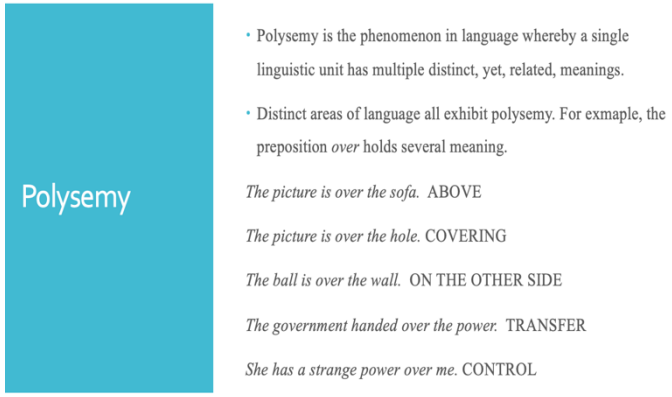

Fig. (2): Introduction to polysemy

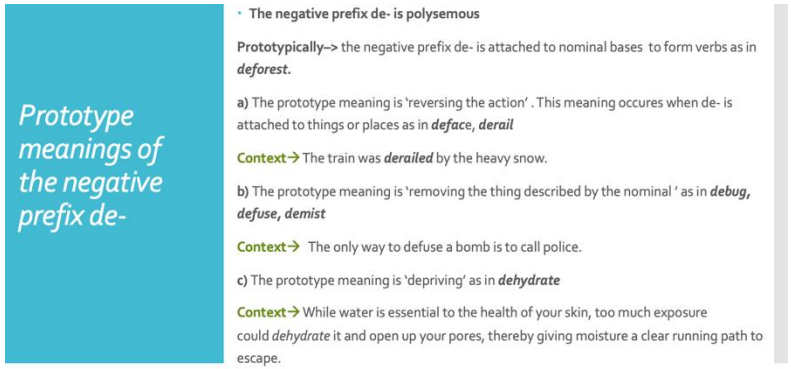

Fig. (3): the prototype meanings of the negative prefix de-

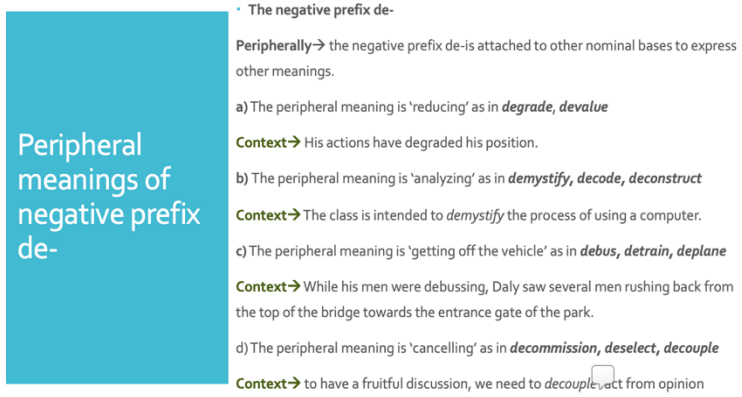

Fig. (4): the peripheral meanings of the negative prefix de-

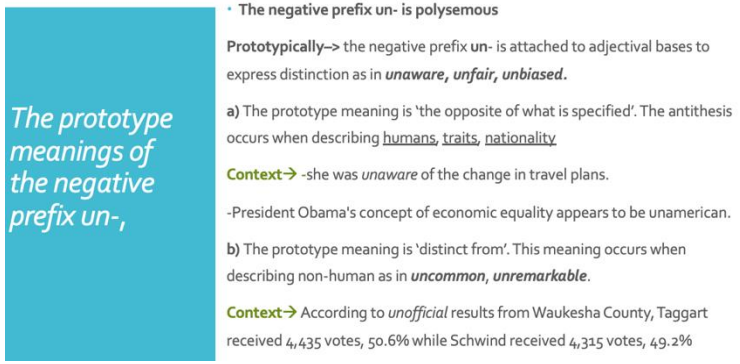

Fig. (5): the prototype meanings of the negative prefix un-

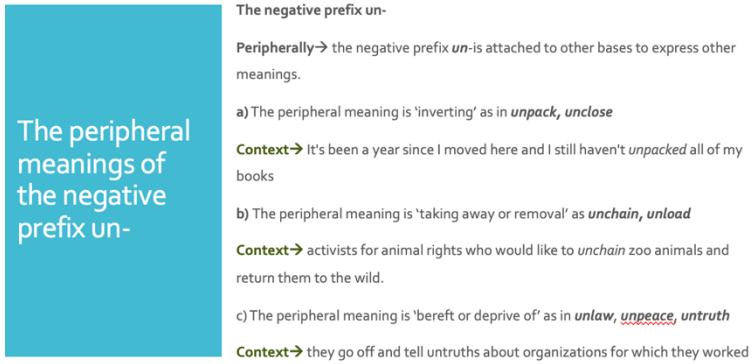

Fig. (6): the peripheral meanings of the negative prefix un-

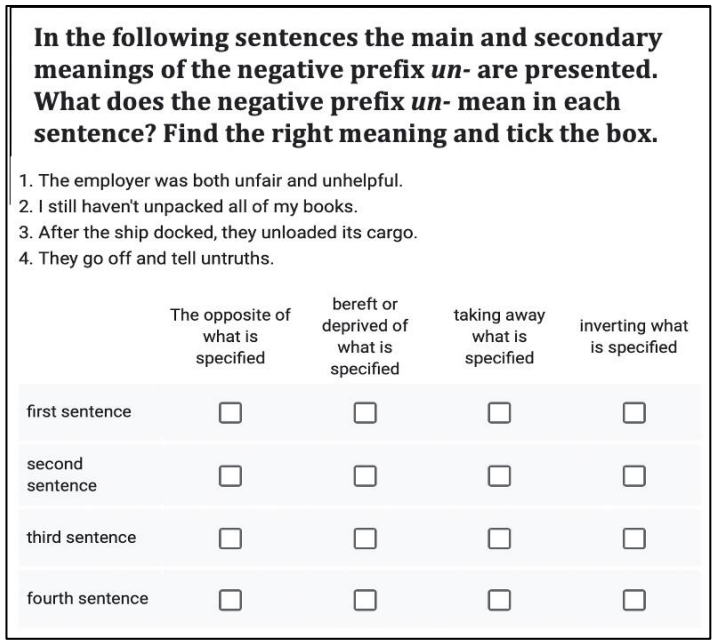

Fig. (7): Labeling meanings-dependent task for a categorization lesson

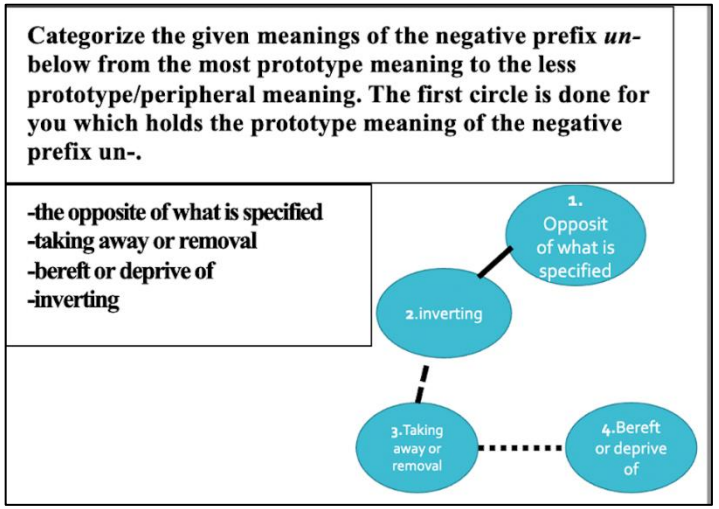

Fig. (8): diagram of categorizing meanings with full answer-dependent task for a categorization lesson

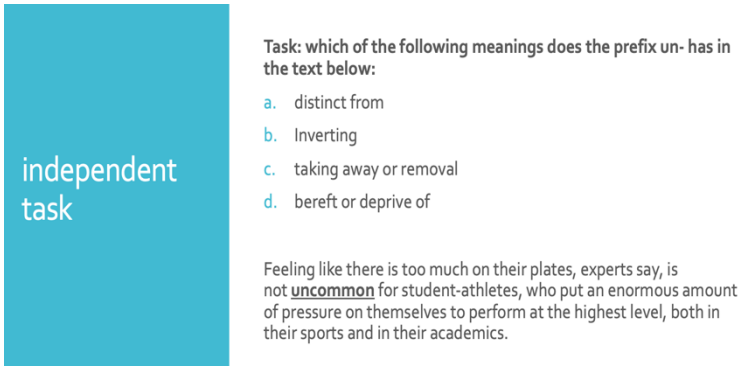

Fig. (9): Independent task to practice the polysemous meanings of **un-**.

Appendix 2
Traditional Material

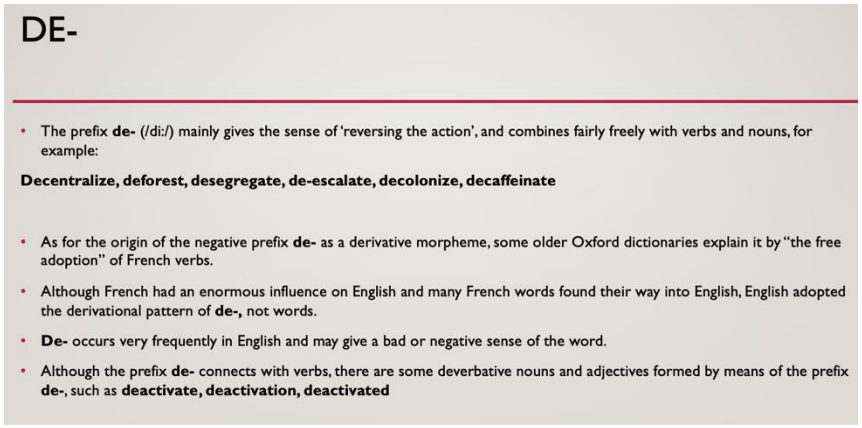

Fig. (10): Traditional grammatical and semantic features of **de-**

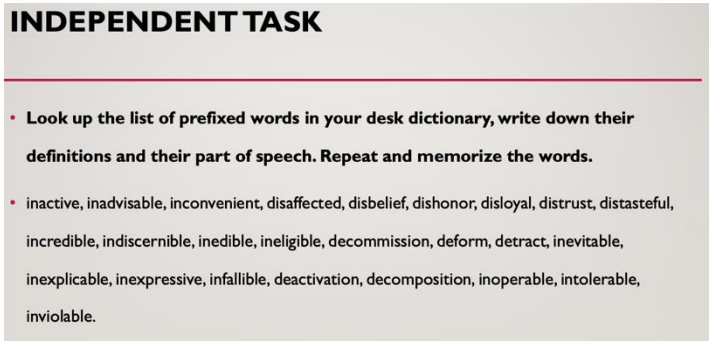

Fig. (11): Traditional independent task to practice and memorize **de-**

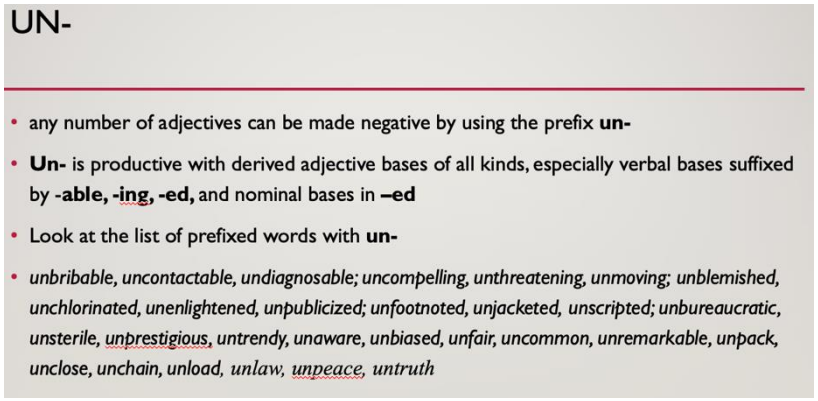

Fig. (12): Traditional grammatical and semantic features of **un-**

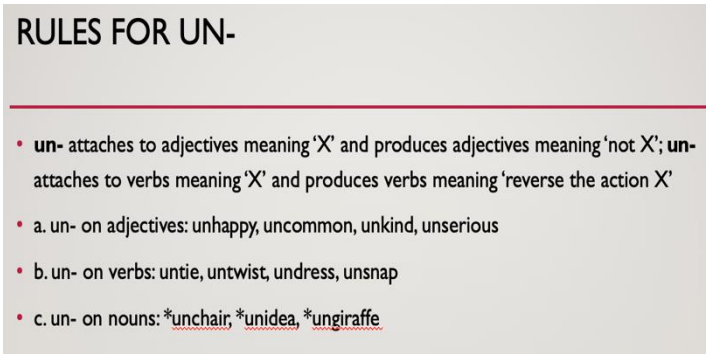

Fig. (13): Traditional grammatical and semantic features of **un-**

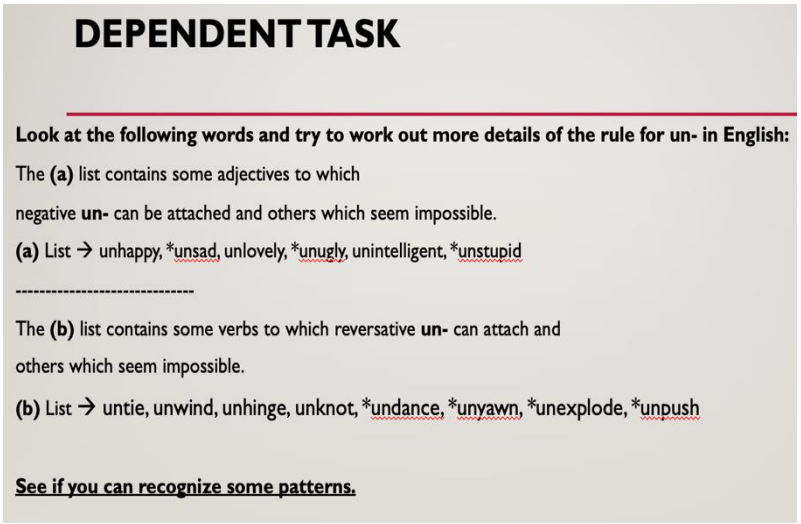

Fig. (14): A task to practice some rules about **un-**

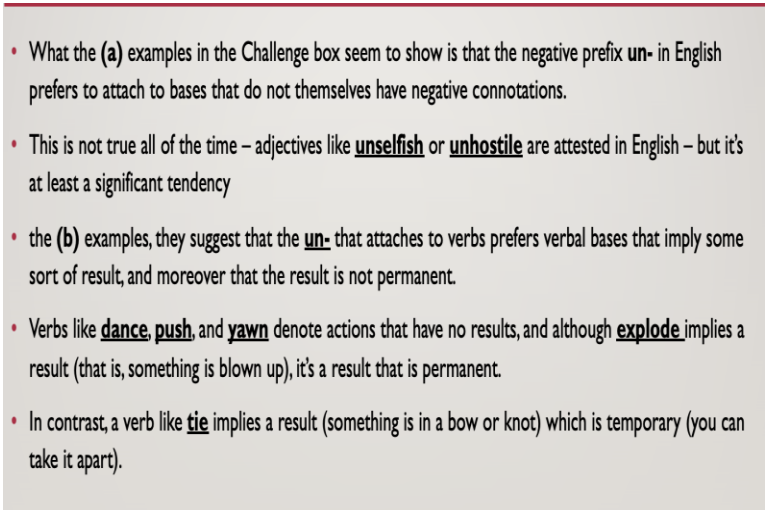

Fig. (15): answers for the previous task in **Figure 14** about **un-**

Appendix 3
Pre-test

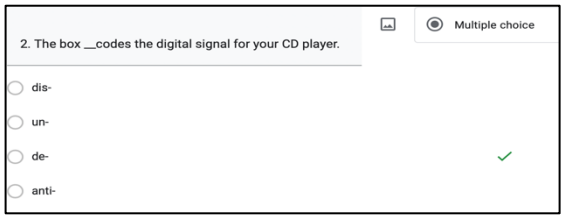

Fig. (16): pre-test-prototype meaning of **de-**

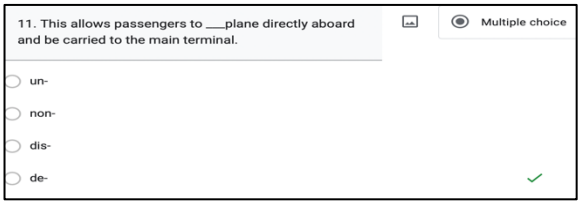

Fig. (17): pre-test-peripheral meaning of **de-**

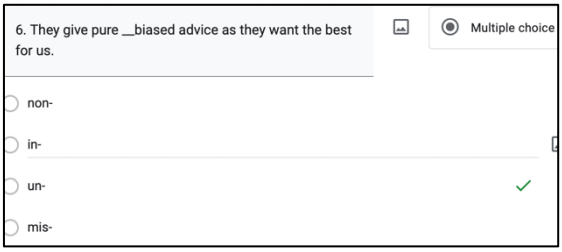

Fig.(18): pre-test-prototype meaning of **un-**

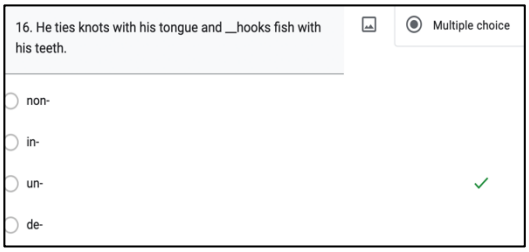

Fig. (19): pre-test-peripheral meaning of **un-**

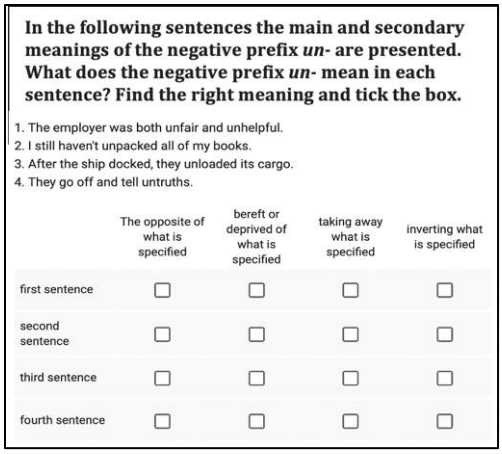

Fig. (20): pre-test-labeling the polysemous meanings of **un-** for the suitable context.

پوختە

ئەم توێژینەوەیە ڕۆشناییێکی نوێ دەخاتە سەر فێرکردنی پێشگرە نەرێنییەکانی ئینگلیزی *de-* و *un-* بۆ قوتابیانی کورد کە خوازیاری فێربوونی زمانی ئینگلیزین وەکو زمانێکی بیانی. بۆ ئەم کارە، توێژینەوەکە دوو مۆدێلی پیداگۆگیک (شیاندن) لە ڕێنماییەکانیدا سەنگ دەکات کە بریتین لە نەریتی و مۆدێرن. پێداگۆگیکی نەریتی جەخت دەکات لەسەر شێوازەڕوخسار وە پشت دەبەستێت بە دووبارەکردنەوە. پێداگۆگیکی مۆدێرن کە لە ڕێزمانی گۆگنەتڤەوە وەرگیراوە، کە جەخت دەکاتەوە لەسەر مانا جۆراوجۆرەکانی یەکەی زمانەوانی لە پۆلێنێکی یەکگرتوودا. توێژینەوەکە تیشک دەخاتە سەر سوودی فرەمانا لە ڕێزماندا. لەسەر بنەمای ئەمەش، پێشگرێکی نەرێنی دەوترێت کە تۆڕێکی فرەمانایی هەیە و تەنها ئەرکێکی مۆرفۆلۆژی نییە. ئامانجە پراکتیکییەکەی بریتییە لە جێبەجێکردنی ڕێبازێکی ڕێزمانی کۆگنەتڤ بۆ نموونەیبنەرەتی و فرەواتا لە فێرکردنی پێشگرەکانی نەرێنی *de-* و *un-* لە پۆلێکی ئۆنلایندا. توێژینەوەکە بەو ئەنجامە دەگا کە وانەوتنەوە لە ڕێگەی ڕێبازێکی کۆگنەتڤ لەسەر بنەمای مانا کاریگەرترە لە ڕێبازی نەریتی شێوازەڕوخسارانە وە دەتوانرێت تاقیکردنەوەکە بە سەرکەوتوویی لەسەر وانەیەکی ئۆنلایندا پێشکەش بکرێت.

ووشە سەرەکییەکان: ڕێزمانی کۆگنەتڤ، ڕێبازی نەریتی، نموونەیبنەرەتی وە فرەمانایی ، پێشگرە نەرێنییەکان ، فێربوونی ئۆنلاین، قوتابیانی کورد کە خوازیاری فێربوونی زمانی ئینگلیزین وەکو زمانێکی بیانی.

الخلاصة

يسلط هذا البحث ضوءاً جديداً على تعليم البادئات النافية *de-* و *un-* في اللغة الإنجليزية للطلاب الكورد المتعلمين اللغة الإنجليزية كلغة أجنبية. وللقيام بذلك، تزن الدراسة نموذجين تربويين في تعليمهما: أحدهما تقليدي والاخر حديث. فيركز النموذج التربوي التقليدي على التكوين النحوي للغة ويعتمد على التكرار. اما النموذج التربوي الحديث، المستوحى من مبادئ النحو العرفني للغة، فهو يركز على المعنى، ويؤكد على ان المعاني المختلفة للوحدة اللغوية في تصنيف موحد. حيث تسلط الدراسة الضوء على فائدة تعدد المعاني في تعليم القواعد اللغوية. وبناءً على ذلك، أُفتُرِضَ على انه ليس للبادئة النافية وظيفة صرفية فحسب وانما شبكة من المعاني المتعددة. ولهذا فأن الهدف العملي للبحث هو تطبيق نظريات النحو العرفني في النموذج الاصلي ومتعددة المعاني في تعليم البادئات النافية *de-* و *un-* في فصل دراسي عبر الانترنت. ويستنتج البحث بأن التعليم استناداً لقواعد النحو العرفني اكثر فعالية من النموذج التربوي التقليدي الذي يركز على التكوين النحوي وانه من الممكن ان يتم تنفيذ التجربة بنجاح عبر الانترنت.

الكلمات الدالة: النحو العرفني، المنهج التقليدي، المعاني الرئيسية و المعاني الثانوية/ الفلسفية، تعدد المعاني، البادئات النافية، التدريس عبر الإنترنت، الطلاب الاكراد المتعلمين اللغة الإنجليزية كلغة أجنبية.