COGNITIVE LINGUISTICS AND MODERN LANGUAGE PEDAGOGY

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Abstract: In recent years, modern pedagogical science has seen increased interest in the educational potential of cognitive linguistics and its pedagogical effects in foreign language learning. The main method in the study is the experimental method. Analysis and synthesis are used to analyze the theoretical material throughout the pedagogical experiment; the use of observation methods, questioning. The research hypothesizes that the possibilities and conceptual apparatus of cognitive linguistics can be effectively used in language pedagogy while studying foreign languages. The result is a series of findings that a comparison of the students' performance results shows an increase in academic performance and overall satisfaction with the application of new techniques using the tools and characteristics of cognitive linguistics.

Keywords: applied cognitive linguistics, instructed second language learning, prepositions, English prepositions, semantics.

1 Introduction

Teachers and linguists have long discussed the most difficult grammatical and semantic categories to be mastered when learning foreign languages, such as the use of prepositions (Hung et al., 2018a), figures of thought (Ahmad, Samad, 2018), verb tenses, declension of noun forms, learning phraseology and proverbs (Barcelona, 2010) – especially for second language learners (Bruin et al., 2014). One reason for these difficulties is that certain grammatical parameters are simply absent in native languages (e.g., or similar categories are very difficult to define and characterize, such as the semantics of prepositions. In general, the language service parts in English and many others tend to expand and transform forms and meanings that may not be related semantically.

Linguistic research over the last 20 years has argued that the natural ability of the service parts of language to create complex and multi-valued networks, networks of meaning and presence to form temporal, spatial, modal markers, etc. (Ellis, 2015). But the search for methods aimed at facilitating and accelerating the process of learning foreign languages remains relevant. Such techniques, taking into account the research apparatus of cognitive linguistics, should become part of the modern educational space, where quality and speed are valued most of all. It determines the relevance of such research in the language pedagogy space.

Until now, most of the educational and reference literature presents the semantics of prepositions, particles, verb forms, (etc.) quite arbitrarily, without tracing any systematic or semantic connections. Classical linguistic studies have also represented the semantic categories of the service parts of language arbitrarily and insufficiently systematically (Hung, 2019b). As a result, many modern pedagogies for teaching foreign languages suggest memorization as the best strategy. Many researches define this problem even more acutely (Kobayashi, 2018). The results of such developments show the inefficiency of memorization, which learners try to learn last and even with a high level of foreign language proficiency cannot compare with native speakers (Leong, Ahmadi, 2017). Moreover, this is a promising research goal: to develop such techniques, taking into account the possibilities of cognitive linguistics.

Over the last 20 years, the quantitative and qualitative growth of research has contributed to the emergence of a separate field of applied cognitive linguistics (ACL). As a result, a broad research field has emerged in the related field of applied cognitive

linguistics and foreign language teaching. The operational capabilities of cognitive linguistics could contribute to quality language teaching and help many dilemmas or problems that are encountered in language learning. Such a hypothesis requires the activation of both theoretical and empirical research concerning such central concepts of cognitive linguistics as radial categories, conceptual metaphor, and conceptual metonymy, semantic prototype, etc. These programs are related primarily to the problems of vocabulary growth, the study of phraseology and tropoeism, phonology and speech, writing, and reading. Attempts are emerging to create pedagogical practices that take advantage of cognitive linguistics (Diessel, 2015; Dzvinchuk et al., 2020).

The modern prospect is a further development of such integrated methods of learning a foreign language also with the involvement of the conceptual apparatus and characteristics of cognitive linguistics, conducting pedagogical experiments under the precepts of new research.

Aims. This research aims to establish the effectiveness of using the learning potential of cognitive linguistics in the teaching of a foreign (English) language.

The aim implies performing the following tasks:

- to establish the level of appropriateness of the use of teaching methodology involving the application of the characteristics of cognitive linguistics in complex cases of learning a foreign language;
- to analyze the results of the experiment to improve the effectiveness of learning foreign languages;
- to establish students' assessment of the difficulties of teaching techniques to improve the effectiveness of foreign language learning.

2 Materials and reseach methods

To conduct research and analyze its results, the descriptive method, analysis, and synthesis were applied. It allowed using theoretical research as a source of information. The main method in the study was the method of the experiment; the survey method was also used. The statistical method was applied to operate the data, to describe and present the survey results through the description of statistics.

42 students of humanitarian specialties, studying a second foreign language (English) were involved in the experiment. All participants in the experiment were combined into 2 groups. These groups used teaching methods that used the characteristics and achievements of cognitive linguistics in foreign language learning. For each group, performance was measured at each stage of the experiment.

All respondents voluntarily agreed to participate in the experiment. Data were provided by participants in the experiment with consent. The research team guaranteed confidentiality, personal information would not go outside the experiment, and anonymity was maintained.

Data collection was conducted from September 2020 to December 2020 at the Kharkiv State Academy of Culture and the Lviv National University named after Ivan Franko, Faculty of Culture and Arts (Ukraine).
The research is planned to be conducted in the III stage. In the first (organizational stage), preliminary testing is conducted to determine the level of knowledge and topics requiring additional consideration, as well as questionnaires and personal data are collected.

At the II stage, the educational process is implemented. The method of learning a foreign language using the possibilities of cognitive linguistics is used. At the end of the II stage, the

control testing is also carried out. The research group collects and analyzes the data, which are subsequently used as a guide in the further formation of the learning process. A search for answers to the research questions continues.

At the III (final) stage, students' final control work is carried out and a questionnaire is administered to assess difficulties in the learning process. The data obtained are processed and used in such a way that they can be useful in answering the problematic research questions.

3 Literature review

The possibilities of cognitive linguistics in language pedagogy are the subject of consideration by several contemporary scholars (Kiki-Papadakis, Chaimala, 2016; Chen et al., 2018). Methods for teaching successful speech activities using the arsenal of cognitive and communicative linguistics are being explored (Bayram-Jacobs, 2015; Patil, 2008).

A separate area of research is to determine the role of cognitive grammar in the formation of learning strategies based on the natural approach to foreign language acquisition (Gilakjani, 2016), the role of social networks as part of comprehensive foreign language learning techniques (Dzvinchuk et al., 2020); digital technologies as a supportive component of actualizing the potential of cognitive linguistics in the process of improving communication skills in a foreign language (Sim, Pop, 2014; Rababah, 2020).

Separately, metonymy as a figure of thought and foreign language acquisition processes are explored (Barcelona, 2010), the role of rhetorical mastery in the plane of application of cognitive linguistics capabilities (Bruin et al., 2014; Ko et al., 2013), and ways of learning foreign language phraseology a separate learning technology (Boers, 2001).

The use of methods based on the concept of communicative linguistics has recently been popular in language pedagogy, thus exploring many ways to effectively and quickly master a foreign language at a high level (Holme, 2010; Hapsari, Wirawan, 2018). All these things also allow people to learn how to express their ideas, thoughts, and even emotions.

4 Results

In the course of the research quasi-experiment, several teaching methods related to the possibilities of cognitive linguistics were introduced into the process of foreign language learning. Their effectiveness had to be assessed at the end of the experiment by the students themselves. The control was conducted in 3 stages; the tests and tasks were changed. They were presented gradually, according to the completion of the study of the topic (Table 1).

Table 1 – Methods with a cognitive approach

Groups 1, 2	Test 1	Test 2	Test 3
Methods with a cognitive approach	5-minute guidance with the teacher, 30 minutes of paired work and 10 minutes of testing	5-minute guidance with the teacher, 30 minutes of paired work and 10 minutes of testing	5-minute guidance with the teacher, 30 minutes of text work, 10 minutes of testing

Source: Developed by the authors.

At the I stage, grammatical topics (complex cases of usage, the meaning of verbs and prepositions) were considered. First of all, the organization of conversation in pairs or a small group was made. An important condition was an active dialogue, constantly going on between the participants. Students were also asked to think about different uses of prepositions, to think about their multiple meanings, expand their ability to use the intercensal diatopic seme, and were also asked to consider the role of metaphors in expanding meaning. In our view, the cognitive

approach implements a new way of thinking about perceiving and grouping the meanings of prepositions, reasoning about how prepositions are used to make sense of the context. This is a fairly heavy cognitive requirement, but it makes it easier to consider the complexities of learning a foreign language this way.

At the end of Phase I, a test of knowledge and communication skills were administered. It was measured using a 100-point system, and the results were submitted as a ratio (Table 2).

Table 2 – Preliminary test results in the experimental groups (author's elaboration)

	Unsatisfactory	Satisfactory	Good	Excellent
Group 1	10%	38%	42%	10%
Group 2	7%	35%	40%	18%

Source: Developed by the authors.

The results of the preliminary test showed that, despite a fairly high level of English proficiency, the test revealed several difficult places, gaps in knowledge regarding the extended meanings of the use of prepositions, tenses, and verb forms. The respondents scored a total of 50.7 out of a possible 100 points (the range was from 11 to 32 points). There were especially many mistakes in the use of the extended meaning at and Future in the Past Perfect Continuous (an average of 18% of correct answers).

At the II stage of the experiment, the following elements were added to the learning process: teaching new material, the opportunity for students to form their own needs by identifying weaknesses, the opportunity for teachers to constantly rearrange the learning technology, to use the language elements they had learned.

At each lesson, the respondents received explanations and instructions from the teacher on how to work with the learning material. After that, there was work in pairs; everything was focused on the correct use of tenses and forms of verbs, as well as the use of prepositions in various speech scenarios.

At the end of the II stage, there was a control test: students were instructed on the content and rules of the test, worked in groups, and then after a 15-minute break, they performed the test (Table 3).

Table 3 – Test results in the experimental groups at the 2nd stage of the research (author's elaboration)

	Unsatisfactory	Satisfactory	Good	Excellent
Group 1	8%	38%	41%	13%
Group 2	7%	33%	40%	20%

Source: Developed by the authors.

The test results obtained at the II stage show better results than at the previous testing, in general, positive marks became more than 5.5%.

At this stage, topics devoted to speech situations of using phraseology were introduced into the curriculum, the field of meanings and speech scenarios, in which the introduction of phraseological expressions and proverbs is considered. Each session began with a 5-minute explanation and review of charts and tables of meanings, semantic and evaluative connotations, and terms of idioms, followed by work in pairs and groups. At the end of the second stage, there was testing (Table 4).

Table 4 – Testing results in the experimental groups at the 2nd stage of the research (author's elaboration)

	Unsatisfactory	Satisfactory	Good	Excellent
Group 1	5%	38%	40%	17%
Group 2	6%	29%	43%	22%

Source: Developed by the authors.

The final stage of the experiment summarizes the effectiveness of the characteristic's introduction of cognitive linguistics in foreign (English) language teaching. The participants in the experiment showed improvement between the previous tests and

the final test. Experiment participants' dexterity in the use of prepositions, verb forms, and English idioms improved, and performance increased by an average of 12%.

The students were tested and evaluated the new teaching methodology and determined the feasibility of continuing practical experiments to develop new instructional technologies involving cognitive linguistics. Answers to questions of the questionnaire – to help students give an informal assessment of their knowledge, priorities in learning a foreign language, the choice of teaching material, the right amount and nature of assistance and participation of the teacher, how it all contributes to improving the practical level of language skills and prospects for increasing the effectiveness of learning.

Responses to the questionnaire questions are presented as a percentage for each group (Table 5).

Table 5 – The final questionnaire of students to assess the implementation of foreign language learning techniques with the capabilities of cognitive linguistics (author's elaboration)

Question	G1	G2
English is a language that is good to learn by working in groups	45%	48%
English is a language that is good to learn by working in pairs	38%	43%
Learning English requires the obligatory participation of a teacher	52%	74%
The most difficult part was learning phraseology and paramiology	62%	58%
The biggest challenge for me was learning how to use prepositions	53%	38%
I had the biggest problem learning the rules of verb forms and tenses	28%	32%
Skills and knowledge in grammar, vocabulary, speaking, listening, reading, and writing affect my ability to engage in dialogue	17%	23%

Source: Developed by the authors.

To better understand how much the respondents are aware of their achievements and benefits of learning with the use of categories of cognitive linguistics, understanding of meanings and processes, such as the system of prepositional meanings, contexts of using idioms and proverbs, specifics of verb usage, this was the purpose of post-testing and questionnaires. Undoubtedly, the students of such a small group are not enough to draw general conclusions. Moreover, all the respondents and at the initial stage, most of the students had a rather high level of knowledge (8.5%), had a sufficient level of metalinguistic awareness, let us assume that this was what made them more ready to perceive semantic nuances and situations of using certain lexemes and idioms in implementing certain communicative situations.

The application of the possibilities of cognitive linguistics in the process of learning a foreign (English) language turned out to be a systematic synthetic process, where the system of meanings, knowledge of communicative communication scenarios, cultural component, and the ability to express correctly, to determine the features of meanings, genre and style are both important.

5 Discussion

In systematic researches (Tyler et al., 2011), the problems of applying the possibilities of cognitive linguistics in language pedagogy are given the following:

Firstly, a systematic motivated account of the range of propositional common meanings, a semantic network, the ability to operate with which greatly reduces the need to learn all variants of the use of, to, for) on memory (Tyler et al., 2011). Successful test scores, on average, improved from the initial phase to the final phase by 11.7%. The current study also had positive results (12% on average), indicating the effectiveness of implementing pedagogical models using cognitive linguistics capabilities.

Secondly, studies of this type (Sohrabi, Pirnajmuddin, 2017; Hung, 2019a) argue that this pedagogical model relies heavily on the experience and intuitive feelings of the speaker; they arise from observation, the speaker's own experience. Thus, it is necessary to rely on the motivational component and participants' assessment of the difficulties of using methods involving cognitive linguistics, the level of satisfaction with such a method within the toolbox of language pedagogy. As evidenced by the results obtained in this study, the greatest difficulties for the respondents arose with the study of the idiomatic level of language, and good practice students see the introduction of cognitive linguistics capabilities when working with the rules of the use of prepositions, forms, and verb tenses. Moreover, in traditional grammar, the whole unordered set of semes can be represented as Gestalt-like concepts of situations, roles, scenarios of linguistic behavior. All meanings are systematically connected, rather than being a series of separate dictionary-type definitions represented by a list.

6 Conclusion

The presented research presents one of many pedagogical experiments, which is another positive step in considering the usefulness of cognitive linguistics-based instructional approaches in language pedagogy. The proposed methods facilitate the teaching of semantic and grammatical features of a foreign (English) language using the apparatus of cognitive linguistics.

The results of the research quasi-experiment indicate that the participants felt progress and positive effects on the application of the features of cognitive linguistics. Even though none of the groups achieved high results or 100%, it can be stated that there was an improvement in academic performance (Group 1 by 11% and Group 2 by 13%) all the more it should be taken into account the limited duration of the experimental method – the academic load is 4 hours per week.

The students were constantly guided by the teachers to explain the difficult points in the study of the foreign language. All respondents had to be exposed to new concepts of cognitive linguistics.

The use of such techniques requires the involvement of professional teachers who work in the education industry and regularly use a foreign (English) language. Their methodological savvy about the means of implicit learning was also part of the successful completion of the experiment and shows that explaining difficult cases and topics in foreign language learning can enable the majority of the students in the group to improve their knowledge.

Also, an important finding is that explanations based on cognitive linguistics in language pedagogy can be a valuable contribution to understanding the use of complex language learning cases in practice, opening up several significant advantages for pedagogically oriented teaching aids over traditional approaches. Further experimental learning projects with respondents who have different levels of foreign language proficiency and linguistic backgrounds (this also applies to English) are to continue to test the reliability of the implementation of methods involving the cognitive linguistics potential.

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