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COGNITIVE APPROACHES TO TEACHING LANGUAGE: MOTIVATION OF LEXICAL AND SYNTACTICAL CONSTRUCTIONS

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Introduction. Today, the indisputable influence and positive contribution of cognitive linguistics to foreign language teaching are determined by the "variety of presentation methods and differences between students, which can significantly affect the effectiveness of pedagogical methods" [5, p. 66]. The process of mental cognition, along with sociocultural and spatial experience, are embodied in language phenomena and, therefore, are integral aspects of language learning. Modern approaches to teaching a foreign language emphasize the inseparability of this process from such aspects of language acquisition as translation studies, cultural studies, psychology and cognitive approach [10].

Traditionally, foreign language classes are organized according to the student's needs and involve the mastery of professional terminology. However, in order to acquire vocabulary outside the classroom, given that the student is in an environment where the first language is used, there is a need to use additional educational techniques [6, p. 13]. At the same time, it should be taken into account that the process of learning a foreign language is different from other types of learning. For some reason, mastering a foreign language involves the development of an additional representational verbal system and the establishment of a connection between it and the general conceptual system that already exists in the native language. Cognitive-oriented teaching is designed to help students understand language more deeply, remember more words and phrases, and make connections between language and culture. Complementary to vocabulary retention will be a characteristic emphasis on mental associations based on experience and background knowledge [8].

F. Boers and S. Lindstromberg claim that such a complex approach to learning foreign vocabulary can contribute to the effective learning of words not only during the lesson, which is often limited by time frames, but also outside of it [6, p. 13]. And the cognitive interpretation of the linguistic phenomenon, as such, which is motivated, is designed to solve the problem of motivating the student to learn a foreign language inside and outside the educational environment [7, p. 211]. Z. Kövecses [15] emphasises that the theory of Cognitive Linguistics and the characterization of various language aspects proposed by it can be useful in teaching a foreign language, since they operate with the concept of motivated meaning: "the assumption concerning the potential usefulness of cognitive linguistics is predicated on the common belief that motivation always facilitates learning" [15]. Most of the research on conceptual motivation is focused on meaning-meaning connections, which are mainly traced in polysemantic and idiomatic expressions [6, p. 19].

The implementation of extra-linguistic motivation in the educational process consists of an attempt to familiarize the student with the basic or prototypical meaning of the word and to demonstrate the systematic expansion of the basic meaning to additional meanings through mental structures [25, p. 192]. Depending on the available time resource and level of perception, students can be offered to interpret such "chains of meaning" or simply point to them [6, p. 21]. In any case, such motivation will be effective for learning the meaning of lexical units, taking into account the semantic nature of extralinguistic motivation [6, p. 40].

Cognitive grammar examines the motivational relationship that exists between the meaning and form of linguistic constructions, considering their cognitive and communicative basis. Traditionally, in cognitive grammar, the concept of autonomy of language and syntax is rejected and, accordingly, the existence of clear boundaries between syntax and vocabulary is denied, and

various general cognitive abilities and cognitive models are used to interpret linguistic organization [3, p. 23]. However, quite often, during the consideration of syntactic constructions as relatively voluminous language patterns, it is quite appropriate to resort to analysis according to analytical levels of grammar. Such a kind of level approach is proposed by the Lexical Constructional Model [30, p. 26], which considers the construction of meaning with the involvement of constructional and inferential mechanisms implemented at four levels of description and explanation of meaning.

Therefore, the Theory of Cognitive Grammar by R. Langacker [18; 17] and his vision of Constructional Grammar [19; 9] were adopted as the methodological basis of this work. A meaningful review of the mentioned theories and the practical application of the principles of cognitive grammar are taken into account, in particular, the analysis of syntactic constructions proposed in the work by C. Broccias "*Cognitive Grammar. Current Approaches to Syntax: A Comparative Handbook*" (2019). As part of the current study, the overview of current theories of syntax is enriched by taking into account the Lexical Constructional Model and the levels of description and explanation of meaning proposed in the works of F. Ruiz de Mendoza "*Levels of description and constraining factors in meaning construction: An introduction to the Lexical Constructional Model*" (2008) and "*Cognitive Modeling. A Linguistic Perspective*" (2014). A prominent place is given to the grammatical motivation of the meaning of syntactic constructions [20; 29]. The description of motivation was carried out taking into account the esteemed opinion of A. Barcelona, that emphasises the leading role of metonymy in motivating constructional meaning and conceptually guiding meaning inference in the study "*Motivation of construction meaning and form. The roles of metonymy and inference*" (2009).

1. Motivated Meaning

The Theory of Cognitive Linguistics considers language in its interaction with the surrounding world and operates with the concept of "motivated meaning" (in the form of physical and/or conceptual motivation) [7, p. 211; 3]. The focus is on the conceptual motivation underlying the linguistic expression [25, p. 189]. The term "extra-linguistic motivation" is used to denote motivation, when the meaning of a language form is motivated by the experience of language users in relation to their physical, social and cultural environment [6, p. 17–18]. In cases where the written form of a word motivates its meaning, the term "intra-linguistic motivation" is used [6, p. 18]. Both types of motivation are favourable for vocabulary retention and can be used in language teaching [6, p. 18].

Cognitologists offer a classification of linguistic motivation, according to the type of connections it involves: meaning-meaning (extra-linguistic motivation), form-meaning / meaning-form (extra- and intra-linguistic motivation), and form-form (intra-linguistic motivation) [6, p. 18–19]. Most studies of cognitive linguistics are focused on the type of meaning-meaning connection, which is best traced in polysemic expressions the peripheral senses of which "radially expands from the central or prototypical senses via general cognitive processes, such as image-schema transformations, metonymy and metaphor" [6, p. 19]. The form-meaning / meaning-form connection is embodied in expressions, the general meaning of which is to a certain extent motivated by their form, or vice versa – the content motivates the form (imitative iconicity – for example, onomatopoeia, or expressions in which the order of words reflects the chronology of events) [6, p. 22]. The category of form-form connections includes phonetic repetitions (alliteration, rhyme, etc.), which are especially susceptible to certain formulaic phrases and fixed comparisons [6, p. 23; 2, p. 218].

2. Mental Dimensions and Analytical Levels of Description

The creator of the Theory of Cognitive Grammar, R. Langacker uses the concept "Constructional Grammar" to denote a certain non-derivative system that describes constructions (a combination of meaning and form) rather than rules, where vocabulary and grammar form a continuum [19]. Cognitive and Constructional Grammars [9] share key assumptions, such as the mentioned continuum of grammar and vocabulary, and the importance of such cognitive

abilities as profiling and categorization, which means that there is no clear division between language and general cognition [3, p. 44]. Vocabulary, morphology and syntax are not seen as autonomous linguistic components, but are considered identical in nature, as they are all symbolic, consisting of pairs of form and meaning [3, p. 24]. Endowed with meaning in cognitive science, grammar seeks to offer a conceptual characterization of word classes, syntactic functions, and syntactic constructions [3, p. 31]. In this broad sense, grammatical constructions include lexemes, phrasal units and sentences, as all these structures are systematizations of forms conventionally combined with one or more meanings [2, p. 365]. In general, the Lexical Constructional Model (LCM) shares this understanding of construction as pairs of meaning and form [28]. The main task of LCM is to develop a meaningful theory of meaning construction, which is based on the use of language and aims to provide an explanation of how all aspects of meaning, including those that go beyond the so-called basic grammar, interact with each other [30, p. 2].

In the study, "*Concept, Image, and Symbol: The Cognitive Basis of Grammar*", R. Langacker emphasizes that it is conventional images that are important for semantic structures as an inherent feature of the meaning of a linguistic expression [18, p. 5]. Addressing such images, the author of the theory refers to the obvious human ability to structure or construct the content of the domain in various ways [18, p. 5]. In 1987, R. Langacker proposed a threefold classification of mental operations (construal), then known as focal adjustment: Selection, Perspective and Abstraction [37, p. 53]. The Selection category refers to the ability of language users to select certain aspects of conceptualization and ignore others. Perspective at the time was divided into four subtypes – Figure-Ground alignment, Viewpoint, Deixis, and Subjectivity/Objectivity – and reflected the linguistic position from which an object or situation was examined. The category of Abstraction provides for the possibility of establishing a commonality between distinct phenomena, abstracting from differences of phenomena and, accordingly, the organization of concepts in a category [37, p. 53].

In 1991, the researcher proposed five types of mental operations, which he positioned as dimensions of imagery [18, p. 5–12]: 1) "imposition of a profile on a base", or better to say base profiling; 2) the "level of specificity" at which the situation is constructed; 3) the scale of the semantic structure and "scope of predication", where the scope of the predication is the length of its coverage of the relevant domains; 4) "salience of a predication's substructures", the descriptive meaning of which depends on our ability to isolate various favourable factors, the relative importance of the participants in the relationship, and the increased prominence of explicitly specified elements; 5) "perspective", which includes such specific factors as orientation, assumed vantage point, directionality and how objectively the situation is constructed.

Since that time, R. Langacker has repeatedly revised his classification. As noted by A. Verhagen in 2007, it looked as follows: Specificity, Prominence, Perspective, and Dynamicity. As we can see, a new category of Dynamicity appeared, which provided for the development of conceptualization through processual time rather than that which can be mentally comprehended [37, p. 52–53]. The category of Prominence then included the Figure-Ground phenomenon and phenomena that, according to the 1987 classification, belonged to Selection.

However, in 2008 in his book "*Cognitive Grammar: A Basic Introduction*" [17, p. 55–89] the researcher identifies four terms for a wide class of "construal phenomena" (mental operations): Specificity (the second dimension of imagery), Prominence (unites the first and fourth dimensions of imagery), Focusing (corresponding to the third dimension of imagery) and Perspective (the fifth measure of imagery).

The imaging systems proposed by L. Talmy (1988) included four main classes of mental operations – Schematization, Perspective, Attention and Force Dynamics – certain components of which he reviewed later, thus obtaining – Configurational Structure, Perspective, Distribution of Attention and Force Dynamics, respectively [Talmy]. So, Schematization (Configuration Structure) corresponds, to some extent, to the category of Specificity; the Perspective category practically coincides; and the Attention category corresponds to the Prominence category [37, p. 53].

The Theory of Cognitive Grammar created the methodological background for a number of modern linguistic studies. One of the key positions is assigned to it among current approaches to the study of syntax [3]. Considerable attention of researchers is focused on the role of such a dimension of imagery as Prominence, in particular its subspecies – profiling [13] and figure-ground alignment [32; 12].

When we view a certain scene, what we see depends on how closely we examine it, what exactly we look at, which element we pay the most attention to, and from where we perceive it [17, p. 55]. The same will apply to certain elements of the discourse, which are defined as more important or salient compared to others [32, p. 14]. This cognitive ability to direct and switch attention from one aspect to another is based not only on human mental abilities, but also on the prominence of the phenomenon [12, p. 44], which, despite the high coefficient of subjectivity, will still depend on the linguistic features of the text [32, p. 14].

Prominence as one of the dimensions of imagery becomes clear with the help of the term "salience", which R. Langacker uses interchangeably [17, p. 66]. Two exceptional types of Prominence are Figure-Ground alignment (in the terminology of R. Langacker, "*trajector-landmark alignment*" [17, p. 66]) and profiling.

Profiling consists in imposing a profile on a base/domain, during which the meaning of a linguistic expression becomes available due to the selection of a specific substructure within the domain for achieving the prominence of the profile [18, p. 5]. From a linguistic point of view, profiling provides a number of lexical units and grammatical constructions that decode different aspects or perspectives of a given situation [12, p. 48]. The profile of a language expression stands out as the focus of attention in its immediate scope [17, p. 66]. Such a mental dimension of imagery as Focusing is also responsible for the selection of conceptual content for linguistic representation, composition, and organization of information according to the principle of foregrounding or grounding [17, p. 57–62]. The focus is obvious when considering how the lexical unit was actually perceived in the context where it was used [17, p. 57], since it is the context where the language unit is being foregrounded – a phenomenon also known as actualization.

Focusing attention as a stable type of foregrounding [17, p. 66] consists of alignment according to the figure-ground principle. The figure-ground relationship conveys the relationship between the element of experience that is reflected most strongly and the formal means of expression in the text [32, p. 14–15]. In R. Langacker's theory, the concepts of figure and ground are presented as a trajector and a landmark, where the most prominent participant is the trajector, the essence of the primary focus in profile relations; while the landmark is the essence of the secondary focus of attention [17, p. 70]. Bringing an element to the fore in the text, which can be achieved in various ways (creative syntactic arrangement, play on words, alliteration, use of metaphor or metonymy and, especially, personification), is considered as a deviation from linguistic norms, which, in fact, causes increased attention to element [32, p. 14].

Before moving on to the review of the analytical levels of cognitive grammar and the levels of description and explanation of meaning proposed in the frame of the Lexical Constructional Model, it is worth briefly outlining certain differences that exist in this regard between different theories of grammar. While cognitive grammar does not consider syntactic functions as basic units of description, but simply as convenient descriptive labels for various conceptual operations [3, p. 31], Functional Grammar emphasizes not only the structure of sentences, but also, in particular, their elements' functions. Functional Grammar assigns three types of functions to different elements of sentence structure: syntactic (subject/object), semantic (agent/patient, etc.), and pragmatic (topic/focus) [28]. Discourse Functional Grammar consists of four levels of description: phonological, morpho-syntactic, semantic and pragmatic [28]. Cognitive grammar, on the other hand, rejects the notion of the autonomy of syntax and the traditional hierarchical constitution represented in syntactic trees [3, p. 30] and assumes only hierarchies of constructions as symbolic pairs of meaning and form [19]. The Lexical Constructional Model seeks to find regularities

in the connection of meaning-form at all levels and in all areas of linguistic description, so constructions can be encountered at any significant formal level (morphemes, words and phrases, clauses and clause complexes) [28]. In LCM, the process of creating a structure of meaning at one level or another is considered a construction in a sense very close to the one that exists in Cognitive Linguistics, namely in the sense of a fixed form-meaning pairing, regardless of its formal or functional complexity. Thus, grammar is seen as a list of constructions that are related to each other through various extension mechanisms [28].

Thus, Cognitive Grammar rejects the traditional dichotomy between lexicon and grammar, and grammatical models/rules are seen as schematic abstractions over specific instances of language use and are symbolically more complex than lexemes and morphemes [3, p. 26]. Such notions of conceptual operations as schematicity, prominence, and perspective are of greater importance to Cognitive Grammar than the analytical levels of description [18; 17; 3, p. 25]. The interpretation of prominence is impossible without considering the focus of attention, since this dimension is manifested in connections where one of the participants (the trajector) gains more prominence than the other (landmark) [17, p. 70; 3, p. 27]. Providing participants with primary and secondary focal meaning is related to perspective [3, p. 27]. So, for example, a sentence, which is considered from the perspective of speaker-listener interaction and functions as a speech act, will be considered a trajector, and a speech event will be considered a landmark [28]. Cognitive Grammar also offers cognitive models of linguistic organization, one example of which is the so-called stage model, in which a distinction is made between an "*offstage region"* (includes the background to which the speaker and listener belong and their immediate interaction), and an "*onstage region"* (includes information that is considered in the focus of attention) [3, p. 29].

In the Lexical Constructional Model, four broad levels of description and explanation are distinguished [28]:

1) the first level is represented by lexical and argument-structure patterns of constructions, and activity at this level generates semantically and/or inferentially enriched ideas about the structure of events, which are ready to interact with representations from other levels;

2) the second level refers to the situational implicit meaning, which can sometimes acquire a conventional connection with a given linguistic form, thus giving rise to the so-called implicit constructions;

3) illocutionary interpretation at the third level is based on providing access to high-level situational models;

4) the fourth, the highest, level refers to discursive relations, which are embodied through inferential mechanisms (coherence) and constructional resources (cohesion). Such relations are conceptual and can materialize in various situations of syntactic (in)dependency.

Elements from each level of description, which may vary in complexity and nature, are combined in a prescribed manner, or act as a key to inferential processes, thus yielding fully developed representations of meaning [28]. Since this Model is based on the use of language, its purpose is to account for regularities based on the systematic search for natural language utterances in the context of their production [28]. In fact, linguistic elements are inseparable from actual cases of language use, which, according to proponents of the Theory of Cognitive Grammar, include at least four axes (the individual axis, the interactive axis, the descriptive axis and the discursive axis [3, p. 34]), which in a certain way reflect the levels of description and explanation.

3. Vocabulary and Metaphoric Competence

Conventionally, the study of conceptual motivation is focused on the "meaning-meaning" connections [6, p. 19], characteristic of polysemantic and idiomatic expressions. Such motivation is extra-linguistic and is based on the conceptual metaphorical principle according to which linguistic units form radially structured categories (coming from a basic concept) [25, p. 192]. That is, the extension of the main meaning is motivated by such basic conceptual structures as image schemes, metonymies or metaphors [25, p. 192].

Cognitive Linguistics considers language as an important component of cognition as a whole, where the linguistic phenomenon reflects general cognitive processes, in particular, figurative thinking [6, p. 17]. F. Boers emphasizes the expediency of applying the Conceptual Metaphor Theory not only in the analysis of traditional figurative expressions in various genres of text, but also in a number of specialized target areas, including language teaching [6, p. 21]. After all, the metaphorical transfer of meaning is not just an artistic tool, but an important mechanism of how we think and how we express our thoughts [25, p. 190]. For example, the outstanding linguist Z. Kövecses substantiates the benefits of using the achievements of the theory of cognitive linguistics, in particular the Conceptual Metaphor Theory, in foreign language teaching [15]. According to M. Beréndi, S. Csábi, and Z. Kövecses [5], awareness of the conceptual metaphor principle can help with vocabulary acquisition. However, as noted by researchers F. Boers and S. Lindstromberg [6], the implementation of the ideas of cognitivism should be carried out separately from a detailed consideration of the features of the vocabulary of the studied language [7, p. 208]. Under such conditions, the cognitive approach can be an excellent supplement to teaching and learning new words, respectively [6, p. 13]. So, for example, according to the results of the research of M. Beréndi, S. Csábi, and Z. Kövecses, it was proved that students who understand how conceptual metaphors and metonymy structure the meaning of idiomatic expressions, perceive and learn such expressions better [5, p. 65–66].

J. Littlemore, determines that metaphorical competence is a relatively stable variable of individual differences, which can partially explain differences in students' behaviour and their success in foreign language classes [23, p. 306]. Analysing the development of metaphorical competence in a bilingual lexicon, J. Littlemore establishes a relationship between the ability to interpret and create metaphors in the native language and the corresponding competence in a foreign language. The researcher's attention is focused on such four dimensions of metaphorical competence as the tendency to find meaning in metaphor, speed in finding meaning in metaphor, the ability to establish multiple interpretations of a given metaphor and the production of new metaphors. J. Littlemore and G. Low claim that metaphorical competence actually plays an important role in all areas of communicative competence, and its importance for teaching and learning a foreign language is undeniable, starting from the earliest and ending with the most advanced stages of learning [21, p. 268]. The researcher also assigns an important place in EFL teaching to metonymy [22, p. 186].

3.1. Polysemy and Idiomatic Expressions. Mastering a foreign language can depend on various factors. However, the key factor of language skills is determined by the amount of vocabulary [7, p. 208]. Quite often, given the limited time frame of the lesson, when students encounter new vocabulary, the teacher has to use additional mnemonic techniques [6, p. 13]. Along with the problem of time resources, there is an additional challenge in the assimilation of vocabulary due to the polysemic vocabulary [7, p. 209]. The cognitivist-inspired method of teaching polysemic units involves shifting the focus from teaching basic words to explaining basic conceptual structures [25, p. 191–192]. Researchers believe that if such a presentation of vocabulary succeeds in convincing the student that foreign language vocabulary is more systematized than they previously realized, then this will give them confidence [7, p. 213–214].

So, as has already been mentioned, the cognitive method is most often used when teaching vocabulary, in particular polysemic expressions. Polysemy can be found everywhere, but high-frequency words such as prepositions and auxiliary verbs make up a segment of the vocabulary where it is particularly common [7, p. 209]. The explanation of the extra-linguistic motivation of such words is intended to solve the difficulties in studying a large volume of vocabulary, because, despite a large number of derivatives of one word, the number of derived words can increase, taking into account their polysemic nature.

The cognitive method of teaching polysemantic vocabulary consists of an attempt to acquaint students with its central ("main" or "prototypical") meaning and show how additional meanings

of the word are extended from it [6, p. 21]. Such extensions of meaning can be literal, but the most common are figurative meanings, especially metaphorical and metonymic ones [6, p. 21]. According to F. Boers [7, p. 212–213] to further stimulate cognitive interaction, students can be offered to guess the meaning of a metaphorically used word, make a comparison with the native language and determine whether metaphors are common, think about the reasons why this or that source domain is relatively often used in a foreign language, group figurative expressions under the headings of conceptual metaphors or independently determine their source domain. And then students should be given the means to confirm/refute their hypotheses [6, p. 21].

Idiomatic Expressions. Quite often, the interpretation of semantic motivation is used when teaching foreign idiomatic expressions [6, p. 21; 3]. Misunderstanding idioms can affect communicative competence, because they (idioms) perform important socio-pragmatic functions [7, p. 218]. The content of an idiom includes three aspects: general, specific and connotative meaning [15]. Of course, it cannot be claimed that all idioms are figurative, but most idioms have a conventionalized meaning, which becomes available through the interpretation of conceptual metaphors and/or metonymy at their core [6, p. 21]. The idiomatic principle is manifested in numerous collocations and phrasal units (various clichés, phrasal verbs, etc.), the skilful use of which indicates the student's language proficiency [7, p. 209]. As for the teaching of idioms, the most common ones, namely those based on conceptual metaphors related to the human body, have priority in the study [15]. Idioms can also be classified according to their source domain, that is, the field of experience in which they are used/were used in their literal sense [7, p. 213]. In dictionaries developed for learning a foreign language, it is recommended to present idioms according to their conceptual organization [15].

Therefore, the emphasis on extralinguistic motivation in teaching consists of an attempt to explain or at least demonstrate the systematic expansion of the main meaning of the word to additional meanings through mental structures [25, p. 192]. Given the fact that the majority of studies within this approach are focused on studying the semantic motivation of figurative idiomatic expressions [6, p. 21], the development of their meaning should be considered in more detail.

Let's consider possible ways of implementing extralinguistic motivation in teaching idioms with the help of the following example. The series of lessons "*The Shakespeare Speaks*" offered by the website *www.bbc.co.uk/learningenglish/* was chosen as illustrative material, considering the digitization of the modern educational environment. The first of the 20 available lessons in the series contains an activity under the idiomatic title "*Trinculo is in a pickle*". In addition to the video with accompanying text, on the sidebar of the site, the developers of the series offer a handy dictionary with an explanation of a number of idiomatic expressions mentioned in the video, which also convey two possible connotations of the idiom "*to be in a pickle*":

- to be in a difficult situation – *"in a sticky situation"; "in a tight spot"; "in a bind"; "between a rock and a hard place (in a very difficult position, often facing a difficult decision)";*
- to be in a state of alcoholic intoxication – "*he's legless (he's completely drunk)"; "hammered (completely drunk)"; "tipsy (a little drunk)"; "merry (a little drunk and feeling happy)".*

However, the interpretation of the figurative meaning is more effective in the context, provided that the students were previously presented with the definition of the basic meaning of the expression, from which additional connotations developed [25, p. 192]. For this purpose, in the text accompanying the video, we find the possible examples of the situational application of the mentioned expressions and, what is more, the following comment from the narrator:

Pickles are a very messy food, made from fruit and vegetables, crushed and preserved in vinegar and spices – sometimes with alcohol too. When Trinculo says he is in a pickle, he's probably saying that he is very drunk – but he's also got himself into a mess – a very difficult situation. Nowadays, when someone has drunk a lot of alcohol, they can say: I'm pickled – and when they've got problems, they can say: I'm in a pickle.

In the given example, memorization of additional derivative meanings of an idiomatic expression is facilitated by establishing associations with its initial meaning. Establishing such a connection is best realized when the word that is part of the figurative expression is used in the educational text in its literal meaning [7, p. 212].

3.2. Professional Terminology. Despite the obvious advantages of teaching vocabulary with the consideration of structures associated with lexical units, a number of modern studies, in particular by G. Reda [25] emphasize the expediency of using an exclusively complementary cognitive approach in teaching [25, p. 193–197]. Given the difference in the perception of this approach, it is also believed that linguistic motivation will be more effective for students of linguistic specialties [6, p. 41]. In contrast, A. Roldán-Riejos emphasizes the intensive use of figurative metaphors in engineering and the inherent conceptual relationships (conceptual mappings), which are the basis of engineering language and shape the way engineers communicate [26, p. 173].

N. Carbajosa [8] asserting that teaching vocabulary is equivalent to teaching meaning, singles out the following components of ESP vocabulary: technical vocabulary (monosemic and used in a certain field); sub-technical vocabulary (polysemic – retains its original meaning and, at the same time, complements a certain context); general vocabulary (words from the general lexicon used in the professional field).

As noted, extralinguistic motivation will be most effective when considering polysemic expressions, "*the peripheral content of which is radially extended from the central or prototypical, through such mental operations as transformations of image-schemes, metonymy or metaphor*" [6, p. 19]. This makes it possible to interpret difficult concepts through more concrete ones. And mutual associations make it possible to quickly and effortlessly transmit and receive information, where words act as already-known metaphors or metonymies [7, p. 211]. However, conceptual metaphorical connections can be traced not only in polysemic sub-technical and general ESP vocabulary. They also play an important role in creating a terminological system (technical vocabulary).

When implementing this approach to teaching, it should be noted that the meaning of semantically motivated expressions is not predicted or inevitably determined by its components, but it is the semantic development of the meaning of such an expression that can be established based on certain principles [6, p. 19]. Therefore, when applying cognitive methods in teaching ESP, attention is focused more on the explanation of conceptual structures, or "conceptual projection involving mappings or correspondences holding between distinct conceptual domains" [11, p. 136]. The form of such projection is a conceptual metaphor, within which, together with the structure that the source domain transfers to the target domain, words and phrases associated with the source domain are transferred, acquiring at the same time a figurative meaning [7, p. 212]. The learner can grasp the general figurative meaning expressed in the foreign language through the mapping based on the expression with which the learner is familiar via the first language or learned mapping [15]. Such skills are defined as metaphorical competence [23, p. 300], and involve psychological associative processes.

In ESP classes, the process of acquiring vocabulary differs from the conditions of real life, in which mental structures and numerous connections are established from repeated experience, so learning often occurs with the help of visual images. Literal analogies can be explained verbally, but learning their meaning can be simplified by acting out or using pictures and drawings [7, p. 212]. Given the frequent use of various images related to the professional activity (schemes, diagrams), it is considered [26, p. 189] that for students of engineering specialties, figurative metaphors will be the most familiar.

According to G. Lakoff [16], the images involved in mapping are subconsciously and automatically acquired by members of the cultural community over the years [16, p. 220]. Actually, trying to stimulate cognitive interaction with the target vocabulary and promote its retention

involves "deep processing of information" [7, p. 213] – semantic processing involving mental images. That is, the presence of such an image in the student's conceptual system makes it possible to master ESP vocabulary even without actual visualization.

More specific examples of figurative metaphors used in ESP classes for engineering students should be considered. Therefore, in order to reveal a metaphorical connection between two mental images, both must be structured relative to the general form of the same kind [16, p. 220]. Consequently, it is expected that students, who are familiar with the basic principles of metaphorical connections, are able to quickly grasp and retain in memory such expressions as "*brush feed mechanism*" [31, p. 2] and "*star wheel mechanism*" [31, p. 2]. It is also interesting that the given examples of image metaphors demonstrate the possibility of perceiving the meaning of technical vocabulary through connections that are established with the meaning of general vocabulary due to the similarity in the form of the images they present.

In the textbook "*Professional English in Use Engineering*" by M. Ibbotson, we observe noteworthy examples of image metaphors in which, in view of common formal features, a conceptual connection is established between *"structural sections*" and letters, the outlines of which are taken as a characteristic feature:

*"universal beam (UB) – an **I-section** with a depth greater than its width";*

*"universal column (UC) – an **I-section** whose outside dimensions are roughly square";*

*"rolled steel joist (RSJ) – a term sometimes used to refer to **I-sections** generally";*

*"rolled steel channel (RSC) – a **C-section**";*

*"rolled steel angle (RSA) – an **L-section**";*

*"structural tee – a **T-section**";*

*"**circular hollow section** (CHS) – a circular tube";*

*"**rectangular hollow section** (RHS) – a square or rectangular tube".*

In general, G. Lakoff [16] emphasizes that although image metaphors should be distinguished from conceptual metaphors, nevertheless they establish structural connections at the conceptual level and can interact with conceptual metaphors, conveying not only an image but also information about it, as, for example, in such metaphors as "*shoe type furrow opener*" [31, p. 3], and "*boot for seed and fertilizer*" [31, p. 3], or "*ninety-degree elbow*" [14, p. 111], "*forty five degree elbow*" [14, p. 111], "*cap (fits over the outside of the end of a pipe to close it)*" [14, p. 111]. At the same time, students should understand that the literal and figurative aspects of the category can be mixed, forming a complex meaning [25, p. 194].

Considering the indisputable role of body experience in the creation of mental categories, one of the most frequent metaphorical expressions will be those, the comprehension of the target content which will be achieved through the associative establishment of a connection with body parts purely by formal features (1), or by their inherent characteristics (2.1), or behaviour (2.2).

As for the first instance, the following examples can be considered:

(1) "***screw heads***"*;*

(2) *"The ridge on the pipe slots into this groove to form a tongue-and-groove joint (**the ridge is the tongue**). When the two are slotted together there is a **cavity***".

The second type of metaphorical expression implies a more complex connection and a more complex meaning, respectively, e.g.:

(2.1) *"the holes in the pipe wall are **blind holes** – they do not go all the way through"*;

(2.2) "***the screw** has a round **head, which is** raised or **proud**".*

In addition to identifying metaphorical expressions, students can be asked to make assumptions about their meaning or to determine whether metaphors are common to both languages by comparing them with expressions that exist in their native language [7, p. 213; 13]. The search for such matches will not only stimulate the deep processing of information, but also contribute to the establishment of semantic connections and, accordingly, effective retention of ESP vocabulary.

The described methods are based mainly on meaning-meaning connections. However, form-meaning and form-form relationships can also be used to help quickly learn and remember the meaning of language material. To this end, students can be asked to judge whether the meaning of a newly learned word matches its form/sound [7, p. 219], or try to track the alliteration or expressiveness of phraseological units [22, p. 186]. Nevertheless, efforts must be made to align learning objectives with students' needs. The ability to think figuratively may differ among students, which, of course, will cause certain difficulties in the application of this technique. However, teaching a foreign language taking into account conceptual metaphor and metonymy is designed to solve this problem, and can positively affect communicative competence on the whole.

4. Syntactical Constructions and Inferential Metonymy

According to the Lexical Constructional Model, linguists should be aware of the inferential processes of meaning formation, which will be especially useful for the motivation of some linguistic phenomena [28]. According to A. Barcelona (2009), metonymy is a key factor in the motivation of constructional meanings and even forms. Together with metaphorical, image-schematic and propositional models, metonymy is considered by cognitivists as a fundamental cognitive model that plays a decisive role in the semantic structure and grammar of language at all analytical levels [2, p. 370].

Conceptual metonymy consists in the mapping of a cognitive source domain onto a target domain, which are in the same functional domain and linked by a pragmatic function, thanks to which the target is mentally activated [1, p. 246]. Thus, there is a complete interaction between metonymy as a conceptual tool and different areas of grammatical description, since metonymy underlies and largely motivates the semantic import of certain grammatical choices and underlies the generally accepted meaning of some grammatical constructions [29, p. 322]. Metonymy derives such an inferential role from its ability to mentally activate an implicit primary connection between certain elements of knowledge or experience [2, p. 369]. Metonymy is realized by foregrounding, giving, at the same time, conceptual prominence to a certain element, while other elements remain in the background [28]. If the metonymically directed meaning is attached to a certain grammatical construction or lexicalized, then such metonymy is considered motivational [2, p. 369].

In this study, we will try to demonstrate the cognitive method of syntax analysis on the example of conditional sentences, namely epistemic conditional, which A. Barcelona interprets precisely as metonymic extensions of conditional sentences [2, p. 381]. In traditional conditional sentences, the relationship between the part of the sentence that contains the condition and the part that highlights the result is profiled, and the conceptualizer of the situation is in the background, outside the scope of predication [18; 17]. Such a situation is constructed objectively rather than subjectively, where the speaker, being part of the ground, is always present and provides an estimate of the probability of the condition highlighted in the sentence and enables the connection between the parts of the conditional sentence, however, in epistemic conditional sentences the conceptualizer, namely his interpretation of the given situation, finds himself in the immediate scope [2, p. 381–382]. A quote from the extended essay A *Room of One's Own* by Virginia Woolf [38] was chosen for analysis:

Women do not write books about men – a fact that I could not help welcoming with relief, for ***if I had first to read all that men have written about women, then all that women have written about men, the aloe that flowers once in a hundred years would flower twice before I could set pen to paper.***

At this stage, we will not consider the quotation as a whole, but only the implicit meaning of the complex conditional sentence (highlighted in bold) – *"overall prototypical grammatical or constructional meaning of the whole complex clause"* [2, p. 381]. The author emphasizes the improbability of her research on men's creativity, arguing that the premise of such impossible circumstances would be that she would have to first read everything that men have ever written about women, and then everything that all women have ever written about men, which would

require spending an enormous amount of time that is actually impossible for one life cycle to such a degree that, as a result, an aloe that flowers once in a hundred years would flower twice.

According to A. Barcelona, the connection between the conditional clauses is motivated by the metonymic connection PART for the WHOLE [2, p. 382]. Metonymy simply activates the implicit roles of premise and conclusion, which are conceptually contiguous as the source domain (in this case the hypothetical outcome) and the target domain (premise) [2, p. 382]. However, it should be remembered that inference cannot be reduced exclusively to metonymy, which, rather, conceptually directs the process of pragmatic inference and usually acts under the pressure of pragmatic communicative principles and on the basis of contextual information [2, p. 394]. The part of the sentence that we previously excluded from the frame of analysis can be considered an inferential key, which is provided by the conceptualizer/author herself, explicitly demonstrating her own assessment of the situation and, therefore, reaches the scope of predication. And the compositional meaning of the quote is generally achieved thanks to the explicit coherent element "*for*", therefore, a holistic analysis of the meaning of this syntactic construction would not be possible without taking into account the levels of description and explanation offered by the Lexical Constructional Model of meaning analysis.

Conclusions. The study highlights the existing approaches and possible ways of implementing the principles of cognitive grammar and linguistics in teaching a foreign language. Conceptual motivation is considered an effective means of semantic processing, which means a deeper elaboration of language material. Modern studies prove that the cognitive interpretation of a linguistic phenomenon as motivated can also solve the problem of motivating students to learn a foreign language.

It is believed that mastering the professional vocabulary of a foreign language involves knowledge of an extra-linguistic conceptual structure and means of verbalization – conceptual and linguistic content, respectively. When an extra-linguistic phenomenon is revealed through a linguistic form, this form is considered motivated. This learning approach focuses on explaining the conceptual structures, i.e., the mappings underlying the conceptual metaphor, in which words and phrases associated with a source domain are transferred to the structure that the source domain provides to the target domain. The production and interpretation of metaphors reflect such general cognitive processes as the deep processing of information, categorization, and establishment of associative links between semantically motivated linguistic phenomena. Considering the semantic potential of the ESP vocabulary, it is assumed to consist of technical, sub-technical, and general vocabulary. The most effective will be the application of extra-linguistic motivation when considering the polysemic structure of the sub-technical and general vocabulary, the derivational meanings of which expand radially from the central meaning via mental operations, however, one should also pay attention to the conceptual metaphorical connections that can be traced in the technical (terminology) and general vocabulary.

Students who understand how conceptual metaphor and metonymy structure the content of an utterance faster perceive it and are proven to remember it for a longer period. Given the cognitive nature of this process, the most perceptive to the use of a cognitive approach in teaching vocabulary will be students prone to figurative thinking and those whose specialty involves the active use of professional visual images in general. The representation and interpretation of images are often more direct, which makes it possible to interpret difficult-to-perceive concepts through more concrete ones, and awareness of the conceptual structures according to which they are correlated in the human mind is designed to promote the activation of mental processes and the retention of the meaning of linguistic expressions, in particular. It is obvious that the use of extra-linguistic motivation as part of the cognitive approach to teaching ESP vocabulary not only has a positive effect on the acquisition of foreign professional vocabulary but can also help students develop sociolinguistic competence, and stimulate their creative thinking

and agile minds. However, the fact that all the processes involved are cognitive implies a different level of acceptance of the outlined approach.

Given the number of functions that a conceptual metaphor performs, it is important that students can understand how it works. For some reason, the inability to do this can cause not only an inappropriate interpretation of a figurative expression but also a misunderstanding in general. One of the numerous advantages of the outlined approach is also that the awareness of the extralinguistic motivation of a linguistic expression makes it possible to cover a significant amount of material in a relatively short period.

Cognitive Grammar questions the autonomy of syntax, operating with concepts of construal and conceptual models. Considering the applied Ronald W. Langacker's Theory of Cognitive Grammar as a methodological basis for syntactic constructions analysis, much attention is paid to the mental dimensions of imagery. Such construal as schematicity, prominence/salience, perspective, and focus of attention emphasize the importance of the relationship between the primary focal participant and the secondary focal participant of the situation being conceptualized.

The salience of a particular construction within the context depends on the mental abilities of the conceptualizer and the linguistic features of the text. Attentional Focusing consists in foregrounding a particular construction. The particular linguistic elements can be foregrounded by deviation from language norms, which leads to increased attention to the element.

While overviewing current approaches to syntax, the differences between various linguistic theories in considering the functions of grammar and the descriptive levels of the linguistic organization were distinguished. The concept of a level description of linguistic phenomena is not characteristic of Cognitive Grammar, which recognizes only hierarchies of constructions as symbolic pairs of meaning and form and focuses mostly on the motivation of the mentioned connections. Though, Cognitive Grammar rejects the notion of a traditional hierarchical organisation and analytical levels of description are of secondary importance compared to cognitive models of linguistic organization and dimensions of imagery, Cognitive Grammar and Lexical Constructional Model share the assumption of the grammar-lexicon continuum as symbolic and composed of form-meaning pairs.

The Lexical Constructional Model shares this characteristic of constructions, where the form gives access to the meaning, and the meaning is realized by the form to the extent determined by the speech community, and the connection itself is stably associated in the mind of the conceptualizer. However, the Lexical Constructional Model seeks regularities of the meaning-form connection at all levels of linguistic description. The Lexical Constructional Model, inclined to the level description of linguistic phenomena, emphasizes the inseparability of the interpretation of linguistic constructions from the immediate situations of their use. Since this model is based on usage, it is based on the systematic search for linguistic expressions that occur in the natural context. Thus, the Lexical Constructional Model integrates the pragmatic and discursive dimensions of language use into its descriptive and explanatory apparatus. The Lexical Constructional Model offers four levels of description and explanation of construction meaning, including the discursive relations implying inferential mechanisms and constructional resources.

In cases where the context is ambiguous or too poor, the conceptualizer is involved in the inferential process that motivated the occurrence of the meaning or form of syntactic constructions. The basis of such inferential activity is metonymy and the meaning of syntactic constructions is described as metonymically motivated. The metonymic description helps to understand the relationship between the parts of a complex conditional sentence as conceptually related. The study provides possible ways of applying the outlined approaches, with the inferential mechanisms and constructive resources being considered during the analysis of syntactic constructions, in particular, the overall grammatical meaning of the whole complex conditional sentence, in which the implicit roles of premise and conclusion are metonymically activated.

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