EXPLORING THE COGNITIVE DIMENSIONS OF LANGUAGE ACQUISITION

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Cognitive Linguistics, as an expanding discipline in language study, delves into language as a mental phenomenon, presenting a holistic approach that integrates linguistic and cognitive elements. Unlike traditional linguistics, which scrutinizes syntactical patterns, word structures, grammar rules, phonology, semantics, and lexical meanings, Cognitive Linguistics offers a comprehensive model that interweaves various closely connected theories. This study seeks to elucidate the manifestations of Cognitive Linguistics in language, providing scholars with a discerning analysis of existing theories. Furthermore, employing methods of descriptive and comparative analysis, this study aims to demonstrate the impact of Cognitive Linguistics on language processing and acquisition. It highlights its significance in second language acquisition while elucidating the underlying mental processes involved. The paper offers a succinct overview of this evolving discipline, encapsulating its unique characteristics within the encompassing term Cognitive Linguistics.

Keywords: Cognitive Linguistics, cognitive models, mental processes, language processing and acquisition, usage-based theory.

Introduction

In recent years, Cognitive Linguistics has become one of the most dynamic and constantly evolving theoretical and descriptive frameworks. It is a part of interdisciplinary branch of linguistics, which combines investigation and knowledge of cognitive psychology and neuropsychology. It is a modern school of linguistics and is a contemporary method of the study of language that emerged in the 1970s because of dissatisfaction with previous linguistic theories. Cognitive...
linguistics includes different approaches developed by prominent linguists George Lakoff, Ron Langacker, and Len Talmy and emphasizes mental processing. The main idea of Cognitive Linguistics is to view language as a tool for organizing, managing, and communicating information (Rao, 2021). Cognitive Linguistics encompasses different theories and it deals with linguistic structure and relevance, which have a particular premise - the idea that the thought is the focal part of our cognition and it reflects the relation of informative, psychological, social aspects which should be comprehended with respect to mental processing and conceptualization (Rao, 2021).

While discussing cognitive linguistics, the question that may come to one’s mind, is generally the difference between linguistics and cognitive linguistics. Despite the fact that there are various answers to this question, the most common one is that language itself is a mental phenomenon and using language is a cognitive activity (Kravchenko, 2002). Hence, acquiring a language can be analyzed from cognitive perspective as well. In language acquisition we should take into account the differences between L1 (first language) and L2 (second language) processing from cognitive linguistic perspective. As long as L2 learning is considered, from pedagogical point of view it can be useful for educators to pay attention to CL (Cognitive Linguistics) approach to L2 processing. In second language learning, particularly in written discourse, scholars should spot what mental processes occur in the productive form of the language. It is apt to highlight not only the theoretical background of CL, but also to implement it in applied linguistics as a methodological tool to discover various linguistic problems that students might face during learning processes. Linguistics and the methodological implications of Cognitive Linguistics (CL) have been key topics of discussion among scholars. It is essential for researchers to pay attention to this branch of linguistics and expand their research in this field. Numerous studies delve into the challenges of second language (L2) discourse, where researchers demonstrate the strategies and various cognitive linguistic theories applied to address second language errors. For instance, classifying errors into taxonomies based on pragmatic analysis-CEF (Common European Framework) grid, applying cognitive strategies in tackling lexical errors (Rababah, 2022; Mestre & Pastor, 2012). Traditional methods of error checking and classification prove insufficient for the specific needs of non-native speakers. Errors made by second language (L2) learners often exhibit systematic patterns that can be linguistically analyzed. This analysis presents an excellent opportunity for enhancing teaching and learning methodologies. In the context of cognitive-pragmatic error analysis, language is not merely seen as a set of rules but is viewed as a communicative system. In line with the recommendations of the European Council, the implementation of a Communicative Approach in language teaching and learning is encouraged. Therefore, communication is intricately linked to learners’ cultural background,
discourse, linguistic competence, and pragmatic competence (Mestre & Pastor, 2012; Reynolds, Janda & Nesset, 2022). Having presented the above statements, it is crucial to illuminate additional aspects of Cognitive Linguistics (CL) and explore their implications in language acquisition. This includes delving into how the key tenets of CL are manifested and offering a general overview of this interdisciplinary branch. In the subsequent sections, we will analyze and present the general features of Cognitive Linguistics, its theoretical background and assumptions, as well as its relevance in language acquisition through the lens of the usage-based theory.

Cognitive Linguistics: historical background

While pinpointing the exact birthdate of theories is challenging, the emergence of Cognitive Linguistics can be traced back to the 1970s and 1980s. A significant milestone in 1987 saw the publication of influential books such as Mark Johnson’s “The Body in the Mind” and Langacker’s “Foundation of Cognitive Grammar”, providing pivotal insights into the theory’s development. Noteworthy events include the establishment of the International Cognitive Linguistics Association in 1989 and the inception of the first journal by Mouton de Gruyter dedicated to this theory in 1990, highlighting its growing importance. The relatively sparse availability of introductory books on Cognitive Linguistics, even in recent years, signals the youthfulness of this interdisciplinary branch (Barcelona & Valenzuela, 2011).

The inception of Cognitive Linguistics can be likened to coupling reactions, stemming from dissatisfaction and disagreements among many authors with generative approaches to language. It serves as a viable alternative to the linguistic concept of generative grammar championed by Chomsky. Unlike the generative approach’s strong emphasis on syntax while dismissing the essence of pragmatics and semantics, Cognitive Linguistics has evolved to prioritize a holistic understanding of language. In contrast to the notion of an encapsulated structure of language and grammar, Cognitive Linguistics posits an integrated view where linguistic knowledge is intertwined with cognitive abilities. This departure from established premises has led to the recognition of Cognitive Linguistics as an integral part of “mainstream” linguistics (Robinson & Ellis, 2008, p. 408; Barcelona & Valenzuela, 2011).

Theoretical assumptions of Cognitive Linguistics

As mentioned earlier in this article, Cognitive Linguistics is a synthesis of various theoretical and methodological approaches. It is not a singular theory but rather a
distinctive enterprise that shares fundamental theoretical principles and tenets, which will be elaborated on later. It is crucial to emphasize that there are key tenets of CL that are interconnected and essential for Second Language Acquisition (SLA) and its theory.

Let us delve into the first tenet - the non-modularism hypothesis, which guides the CL approach to language. From this perspective, language is not considered an autonomous cognitive tool; instead, it is viewed as an integral part of our cognition (Luo, 2021). Cognitive Linguistics rejects the modularistic principle, which posits that the ability to learn a language is due to a specialized innate unit separate from other cognitive abilities of a learner.

According to Barcelona and Valenzuela (2011), research in anthropological linguistics, neurophysiology, cultural anthropology, and cognitive psychology supports the view that general cognitive abilities, such as kinesthetic, sensorimotor, visual, and human categorization strategies, form the basic design parameters of languages. These are intertwined with contextual, functional, and cultural characteristics, as well as our capacity to use and learn them. Language is conceptualized as the “product” of general cognitive abilities, implying that mental or cognitive capacities are inherently intertwined and cannot be isolated or abstracted from human experience. Within this framework, speakers comprehend and categorize different aspects of the language based on their unique experiences. The meanings embedded in words, sentences, and conceptual categories within language structures are not simply a collection of universal features; rather, they arise as a diverse array of structures and meanings shaped by the richness of human experience.

Regarding language as a product of general cognitive abilities, reflects the principle of “cognitive commitment”. Scholars, indeed, underscore both cognitive commitment and generalization commitment in relation to this principle (Robinson & Ellis, 2008; Barcelona & Valenzuela, 2011; Rao, 2021). These commitments encompass methodologies and assumptions, particularly within cognitive approaches to grammar and cognitive semantics.

Cognitive commitment delineates characteristics of general language standards, aligning with insights derived from various perspectives on the mind, brain, and psyche (Robinson & Ellis, 2008; Rao, 2021). It asserts that linguistic structures should reflect human cognition, drawing from disciplines such as artificial intelligence, psychology and philosophy (Robinson & Ellis, 2008; Rao, 2021; Barcelona & Valenzuela, 2011).

Generalization commitment, in contrast, identifies universal features that permeate all aspects of language. It prompts the exploration of standards in language structure across diverse linguistic properties, including pragmatics, phonology, semantics, and syntax (Robinson & Ellis, 2008; Rao, 2021).
Cognitive Linguistics introduces the concept that meaning is inseparable from individuals, rejecting the idea of an objective reality independent of human cognition. This perspective posits that meaning is intimately tied to those who employ it.

The non-objectivist view of semantics challenges the absolute nature of paraphrase relations or synonymy. Instead, it endeavors to uncover symbolic value in various forms of language. This perspective acknowledges the subjectivity and context-dependency of meaning (Barcelona & Valenzuela, 2011). If we accept the non-objectivism postulate in Cognitive Linguistics (CL), it is crucial to emphasize some interconnected concepts: 1) linguistic forms are akin to “blueprints” that activate conceptual structures in our minds, 2) in CL, meaning is seen as an ongoing process of conceptualization which is subjective, reflecting individual perspectives and experiences. Language, according to a perspective embraced by several scholars is experientially-based. This suggests that it does not merely reflect an objective reality but rather mirrors our individual and collective conceptualizations of reality. This viewpoint challenges the notion that language serves as a straightforward representation of an external, universal truth.

Moreover, scholars such as Luo (2021), Robinson (2008), and Rao (2021) argue that meaning transcends the inner features of an element. Instead, they assert that it encompasses the manner in which we choose to demonstrate or represent a particular element or entity. In essence, meaning is not confined to intrinsic qualities but is intricately tied to the ways in which we socially and culturally construct and convey that meaning.

These assertions align with the second tenet of Cognitive Linguistics (CL) – the idea that meaning is conceptualization. This implies that our understanding and expression of meaning are shaped by our mental representations and conceptual frameworks. In this framework, meaning is not fixed or universal; rather, it is subject to contextual, cultural, and individual interpretation. This nuanced perspective challenges the simplistic view that meaning can be solely derived from the inherent characteristics of an element, encouraging a more dynamic understanding rooted in the complexities of human cognition and cultural context.

In other words, meaning in Cognitive Linguistics or Cognitive Semantics is characterized as the expression of conceptual structures of the language and semantic analysis requires a detailed description of conceptual structures. Conceptual structure incorporates the essence of psychological image with its variety and this is one of the ways that focuses and deals with linguistic meaning. Semantics (meaning of the words) in Cognitive Linguistics addresses psychology and its relation with embodied understanding and culture. Cognitive semantics implements language as a tool to unveil associations and concepts in language (Rao, 2021; Lemmens, 2015).
Moreover, we should outline that there is no concrete differentiation between linguistic meaning, based on someone’s experience or encyclopedic meaning. Hence, conceptual frameworks are impelled in comprehension and language use and semantic meanings emerge due to general knowledge and experience. Consequently, meaning in linguistics is pragmatic and holistic. This type of a claim evidently differs from the traditional notion of semantics. This experience-based knowledge penetrates into every level of the language meaning and these levels are open themselves. There is no obvious division between language levels: organization of meaning, grammar and lexicon, pragmatics and semantics (if we consider the language meaning based on the experience-based knowledge).

This perception of language meaning and experience elaborates on the fact that the research on cognitive structures and conceptual models mirrored in language has been an essential sphere of study in cognitive linguistics. These two ideologies have been complementing each other from the very beginning of CL and frequently shape cultural models.

**Language acquisition and usage-based theory**

Upon scrutinizing the hypotheses and principles related to Cognitive Linguistics (CL), it is imperative to acknowledge the interconnected nature of the non-modularism hypothesis and another equally vital hypothesis known as “usage-based,” constituting the third tenet of CL. To elucidate this connection, the research conducted by scholars such as Robinson and Ellis (2008) provides noteworthy insights.

In their study, Robinson and Ellis reference research by Lieven and Tomasello, supporting the perspective that language acquisition stems from general cognitive skills, facilitated by interaction and experience. According to this view, children learn language through exposure, gradually constructing abstract and complex schemas from specific utterances in diverse contexts. This stands in stark contrast to the modularist perspective, positing that innate grammar knowledge, or Universal Grammar, resides in a dedicated syntax module. Furthermore, the modularist stance contends that abstract concepts are inherently present in our cognition, with language peculiarities acquired based on these pre-existing concepts.

The research by Lieven and Tomasello challenges the notion of Universal Grammar by presenting practical evidence that abstract concepts emerge from language peculiarities. For instance, a child may initially lack an understanding of the possessive ‘s in a sentence like What’s your name? as a form of to be. Over time, through interaction, pattern recognition, and schema development, the child learns to identify recurring elements and discern their functions, as seen in the case
of 's in the flow of speech. This empirical evidence contributes to the ongoing discourse surrounding the nature of language acquisition, providing valuable insights into the dynamic processes involved in learning and understanding linguistic structures.

Another example shown by Barcelona & Valenzuela (2011), which is demonstrated in methodological assumptions of CL, proves the opposite of the idea of innate grammar knowledge. The idea that language skills are the result of general cognitive abilities entailed methodological facet of studying the language and it does not accept the requirement that all linguistic analytical categories should introduce conditions that are necessary for affiliation in the linguistic category. For instance, such a requirement brings about one general and abstract definition of passive clauses. However, there is always one possibility that can exclude candidates. To make it more vivid the following examples will assist in comprehending why the requirement that all categories must conform to one general definition doesn’t work:

1. Cash was replaced by credit card.
2. The phone has been crashed by her.
3. She is very surprised to see you.

Here we have passive clause and every linguist understands their syntactic and semantic properties and how different they are. Mentioning that all passives have the structure be + past participle is not enough, as the third sentence contains be + adjective phrase. The word very is a modifier of an adverb or an adjective. Thus, with the help of these examples we can assume that acquisition of language elements derive from the interaction of the modules and systems of our cognition.

Building upon the non-modularism principle and the illustration of language acquisition rooted in general cognitive skills, a compelling inquiry emerges regarding the process of language learning itself. If language acquisition relies fundamentally on experience and interaction, the natural query arises: does the mere usage of language suffice for both initial acquisition and subsequent mastery, regardless of whether it pertains to first language (L1) or second language (L2) acquisition? This pivotal question propels us toward the exploration of another significant tenet, introducing the pertinent postulate of the “usage-based” theory within Cognitive Linguistics (CL).

CL asserts that language is acquired through its application, prompting an inherent investigation into language use and processing. At the core of this theory lies the intricate examination of both L1 and L2 acquisition. The hypothesis revolves around the central notion of abstract and general representations of grammar forms and meaning. According to this framework, linguistic knowledge
evolves bottom-up, with morphology, syntax, phonology, and semantics gradually constructed through specific instances of use. Grammar rules, in turn, are acquired inductively through the processes of schematization and abstraction from frequently encountered expressions.

This perspective conceptualizes the language system as a repository of conventional constructions, where concrete expressions and specific rules coalesce for effective language use (Robinson & Ellis, 2008; Luo, 2021). Notably, Luo (2021) emphasizes that CL does not delineate a strict separation between knowledge of language and its use. Language knowledge is seen as a construct shaped through usage, influencing the cognitive representation of language itself. In essence, the “usage-based” theory within CL offers a holistic perspective that intertwines the acquisition, usage, and cognitive aspects of language, shedding light on the dynamic interplay between language learning and its practical application.

Hence, it is crucial to delineate two facets of the usage-based theory concerning the acquisition of language knowledge through constructions: whether the acquisition of constructions, specifically form-function pairings, is exclusive to L1 acquisition or if constructed patterns of the language are also present in L2 acquisition. According to the insights provided by scholar Luo (2021), construction patterns manifest in both L1 and L2 contexts. To elucidate further, it is essential to underscore both aspects and furnish specific examples illustrating how constructions evolve. In the context of L1 acquisition, the progression unfolds with children initially acquiring item-based constructions, notably lexically-specific ones. For instance, the construction Where’s that? is initially learned as a whole without an understanding of its internal structure. Subsequently, slot-frame constructions emerge, enabling children to discern that an utterance possesses both form and meaning, exemplified by constructions like Where’s the book, doll, pen? and so forth. The final stage involves schematization. Although the complete abstraction of schematic constructions remains a subject not fully elucidated, studies suggest that children employ two key skills in this process: recognizing patterns and utilizing intuition (Luo, 2021; Robinson & Ellis, 2008).

Turning to L2 acquisition and construction patterns, research indicates that evidence of this phenomenon exists in the linguistic competence of L2 learners as well. Gries and Wuff (2009) conducted an experiment based on corpus analysis with advanced English learners. The first experiment involved a sentence completion task, incorporating non-transitive constructions like The driver shows the helping mechanic, and dative prepositional constructions like The driver shows his ripped trousers. These sentences were followed by unbiased chunks. The variable in focus was the choice of subjects in the construction. In the second experiment, the researchers delved into the extent of semantic knowledge of
argument structure constructions. Learners were tasked with 16 grouping sentence cards based on verbs such as *get*, *cut*, *throw*, and *take*, with choices reflecting either a simple compilation of verb-based style or a construction-based approach akin to L1 native learners. The results, compared with International Corpus of English as an L1 corpus and a German L1 corpus (given that the learners were German advanced English learners), supported the evidence of constructions as integral components of their lexicon (Gries & Wuff, 2009).

Furthermore, this study is in accord with Luo’s findings (2021), which extensively discusses evidence concerning constructions in L2 acquisition. The study extends this perspective by introducing several factors that contribute to the acquisition of constructions in Second Language Acquisition (SLA):

- Salience and frequency
- Interpretation-understanding of prototypicality, utterance, generality, surprise value, redundancy
- Form and function
- Learners’ attention-automaticity, transfer.

Among these factors, prototypes and frequency effects emerge as particularly salient contributors, bearing significance for both language processing and acquisition as emphasized by researchers. This revelation unveils a myriad of aspects that could serve as valuable avenues for further exploration within the realm of linguistics.

Let us begin by exploring the prototype category, utilizing examples that can significantly contribute to the learning process of constructions in L2. Consider the following polysemantic word units:

1. *The eye of the needle*
2. *He has got blue eyes.*
3. *She has a good eye for smart people.*

In the first two examples, the primary abstract semantic meaning centers around the concept of a *circular shape*. However, this fundamental meaning cannot be universally applied to the third example. In this instance, the meaning expands through metaphorical interpretation or is related to metonymy. Research indicates that categories exhibit an inner structure, signifying that some members are more representative than others. In the case of *the eye*, the definition emphasizing a circular shape is deemed more indicative than its metaphorical meaning. In essence, according to the prototype classification, every category typically has one central member, the prototype, with other members connected to it, branching out in various dimensions and degrees.
According to cognitive methodology, the prototypical use of the word *eye* is defined as “an organ of sight.” Other derivative meanings are considered non-prototypical. This classification extends to Cognitive Grammar, where linguistic elements in the language system are categorized into central and less central constructions derived from prototypes. To illustrate this, let’s revisit the example of the passive voice structure mentioned earlier in this study. The sentence *Cash was replaced by a credit card* embodies the core and prototype of the passive voice structure (*be + past participle*), while its derivative form is *be + adjective* phrase.

It is widely believed that learners acquire prototypical examples more rapidly, and over time, they also attain proficiency in their generic counterparts (Barcelona & Valenzuela, 2011; Robinson & Ellis, 2008; Luo, 2021).

Another crucial aspect that significantly contributes to construction in second language acquisition is the frequency effect. The frequency of construction usage plays a pivotal role in shaping cognitive structures. It’s essential to distinguish between token and type frequency. The former assesses how often a specific construction appears in a language, whether it’s a morpheme, a word, or even a sentence, for instance, the *-s* morpheme or a particular word. On the other hand, the latter pertains to language patterns and the number of words exemplifying a particular language pattern. For example, the *–ed* ending for past tense can be applied to a broader range of words compared to the specific pattern of past forms like *draw, drew, know, knew*.

High token frequency reinforces the retention of specific constructions, whereas type frequency necessitates learners to encounter a specific number of instances to discern the structure of language constructions and formulate linguistic patterns by expanding on schematization. In this context, there’s a dynamic interaction between high token frequency and prototypes. The higher the frequency, the greater the likelihood of an item evolving into a prototype. Therefore, in teaching and learning processes, emphasis is put on high-frequency items with their prototype elements initially and then gradually extend focus to low-frequency ones.

**Conclusion**

In summary, Cognitive Linguistics (CL) unfolds its fundamental principles, beginning with an exploration of its historical underpinnings. Our examination reveals that the theory’s non-modularism hypothesis presents compelling arguments rooted in general cognitive abilities, supported by methodological and practical examples, particularly evident in first language (L1) acquisition instances. Furthermore, our analysis underscores the centrality of conceptualization within CL, emphasizing the inherent symbolic validity of each linguistic form. In essence,
core tenets of CL permeate the language acquisition process, encapsulated by the overarching concept of “construction.” This phenomenon, whether observed in first or second language acquisition, unveils the key cognitive processes at play. Notably, our exploration extends to the crucial factors of prototypicality and token frequency, demonstrating their significant roles in second language acquisition constructions.

From a pedagogical standpoint, our findings advocate for educators and learners to incorporate these insights into L2 acquisition strategies, recognizing the influence of prototypicality and token frequency on teaching and learning processes. In doing so, this comprehensive understanding enriches the landscape of language acquisition and contributes valuable perspectives to both theory and practice within the realm of Cognitive Linguistics.

References

Հայաստանի կենսաբանության ինստիտուտ, հայ երկիրի գրականության պատմության և մշակույթի գրականության գրականության ստորագրության պատմության և մշակութային գրականության պատմության զարգացումը:

Արևիկ Չուբարյան
Մարիամ Վարդանյան

Հայաստանի կենսաբանության ինստիտուտ, հայ երկիրի գրականության պատմության և մշակութային գրականության պատմության զարգացումը:

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