

Review

Cognitive Linguistics and Vocabulary Acquisition: Enhancing English Learners' Mental Lexicon

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Abstract: This paper explores the role of cognitive linguistics in enhancing vocabulary acquisition for English learners, focusing on key theories such as conceptual metaphor theory, prototype theory, and schema theory. By linking language learning to mental processes, these cognitive linguistic approaches promote a deeper understanding of vocabulary through meaningful associations, categorization, and contextual learning. The paper highlights how these methods can enrich learners' mental lexicons, enabling more effective vocabulary retention and use. Additionally, pedagogical strategies for integrating cognitive linguistic insights into classroom instruction are discussed, along with potential directions for future research and curriculum development in English language education.

Keywords: cognitive linguistics; vocabulary acquisition; conceptual metaphor; prototype theory; schema theory; mental lexicon; English language learning; pedagogical strategies; language education

1. Introduction

1.1. Overview of Cognitive Linguistics and Its Relevance to Language Learning

Cognitive linguistics is an interdisciplinary approach to language study, grounded in the understanding that language is a reflection of the human mind and its interaction with the world. Unlike traditional structuralist views of language as an autonomous system, cognitive linguistics emphasizes the connection between linguistic expressions and human cognition. It asserts that language is deeply intertwined with our perceptual and conceptual understanding of the world, thus making it more than just a set of rules governing grammar and syntax.

In language learning, cognitive linguistics offers insights into how learners construct meaning, form mental representations of vocabulary, and process language based on their cognitive experiences. This framework encourages learners to draw connections between language and their own mental models, promoting deeper comprehension and long-term retention of linguistic elements. In the context of English language learning, cognitive linguistics enables learners to grasp abstract vocabulary, idiomatic expressions, and grammar patterns by linking them to more familiar concepts or cognitive structures. This relevance to language acquisition has made cognitive linguistics an increasingly influential theory in educational settings.

1.2. The Importance of Vocabulary Acquisition in English Language Learning

Vocabulary acquisition is a fundamental component of learning any language, especially English, where learners must master a vast and complex lexicon. A rich vocabulary enables learners to comprehend texts, express ideas clearly, and engage in meaningful

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communication. However, acquiring vocabulary in a second language can be a daunting challenge. Learners often struggle with retaining new words, understanding subtle differences in meaning, and applying vocabulary in varied contexts. This is compounded by the abstract nature of many English words, idiomatic expressions, and phrasal verbs, which are not always easily translated or understood.

The importance of vocabulary acquisition extends beyond basic communication; it is crucial for academic success and professional competence. Research has consistently shown that vocabulary knowledge correlates strongly with reading comprehension, writing proficiency, and oral communication skills. Therefore, developing an effective strategy for enhancing vocabulary acquisition is essential for learners to fully engage with the English language. In this context, cognitive linguistics offers valuable tools that can help learners form meaningful connections with new vocabulary, facilitating more effective acquisition and retention.

1.3. Thesis Statement: How Cognitive Linguistic Approaches Can Enhance English Learners' Mental Lexicon

This paper argues that cognitive linguistic approaches, which emphasize the role of conceptual understanding and mental representation, can significantly enhance the mental lexicon of English learners. By focusing on how learners process and internalize vocabulary through cognitive patterns—such as metaphor, categorization, and schema—the paper will demonstrate how these methods foster deeper retention and more effective language use. The integration of cognitive linguistic strategies into vocabulary instruction not only aids in the memorization of new words but also strengthens the learner's ability to use these words in context, improving overall language competence [1].

2. Theoretical Foundations of Cognitive Linguistics

2.1. Definition and Key Principles of Cognitive Linguistics

Cognitive linguistics is a branch of linguistics that examines the relationship between language, thought, and experience. It is based on the idea that language reflects patterns of thought and that linguistic structures are influenced by human cognition. Unlike traditional approaches to language, which view grammar and vocabulary as fixed systems, cognitive linguistics emphasizes the flexibility and dynamic nature of language as shaped by mental processes.

Key principles of cognitive linguistics include the notion that meaning is not inherent in words themselves but arises from the way people conceptualize their experiences. This means that language is grounded in perception, bodily experiences, and cultural contexts, making it fundamentally tied to the way individuals interpret the world around them. Another core principle is the idea of embodiment, which suggests that human cognition is deeply rooted in physical and sensory experiences, influencing how we use and understand language. Cognitive linguistics also focuses on the importance of context and how language users draw on their background knowledge to interpret meanings in various situations [1,2].

2.2. Major Theories: Conceptual Metaphor Theory and Image Schema Theory

Two major theories within cognitive linguistics are Conceptual Metaphor Theory and Image Schema Theory, both of which have significant implications for language learning.

Conceptual Metaphor Theory, introduced by Lakoff and Johnson in 1980, posits that much of human thought is metaphorical in nature. According to this theory, people understand abstract concepts by mapping them onto more concrete, familiar experiences. For example, we often use spatial metaphors such as “time flies” or “I’m feeling down” to describe temporal or emotional experiences. In language learning, understanding how metaphors shape thought can help learners comprehend idiomatic expressions and abstract vocabulary more effectively by connecting new concepts to familiar ones.

Image Schema Theory is another influential framework in cognitive linguistics. It proposes that people use basic cognitive structures, called image schemas, to organize and interpret sensory experiences. These schemas are derived from bodily interactions with the world, such as the concept of containment (e.g., “in” or “out”), path (e.g., “toward” or “away from”), and balance (e.g., “stable” or “unstable”). Image schemas help learners understand spatial relations and abstract grammar rules in language. For instance, prepositions like “under” or “over” can be taught more effectively by highlighting the mental imagery they evoke based on physical experiences [3,4].

2.3. The Connection Between Cognition, Language, and Meaning-Making in Learning

Cognitive linguistics asserts that language learning is a process of meaning-making, where learners connect new linguistic forms to their existing cognitive frameworks. The way individuals comprehend language is inseparable from how they think, reason, and perceive the world. This connection between cognition and language becomes especially important in vocabulary acquisition, where learners must not only memorize words but also understand their meanings and uses in context.

Cognitive linguistics emphasizes that language learning is not just about internalizing arbitrary rules but about developing an intuitive understanding of how language reflects thought. Learners use cognitive tools such as metaphor, analogy, and categorization to make sense of new vocabulary and grammatical structures. For example, when learners encounter a new word, they often draw on prior knowledge or mental associations to grasp its meaning. This process is facilitated by cognitive mechanisms like conceptual blending, where two or more concepts are combined to create new meanings, and categorization, which allows learners to group related words and ideas together [5].

In practical terms, this cognitive approach to language learning encourages the use of context-based learning, where words are taught in meaningful scenarios that mirror real-life experiences. By linking vocabulary to learners’ cognitive frameworks, teachers can foster deeper engagement and better retention of linguistic knowledge.

3. Mental Lexicon and Vocabulary Acquisition in English Learning

3.1. Explanation of the Mental Lexicon: Structure, Function, and Development

The mental lexicon refers to the cognitive system that stores and organizes an individual’s knowledge of words, including their meanings, forms, and relationships. It is often described as the mental dictionary or repository of vocabulary, but unlike a traditional dictionary, the mental lexicon is not a static list of definitions. Instead, it is a dynamic network where words are interconnected through various semantic, phonological, and syntactic relationships.

Structurally, the mental lexicon is composed of layers that range from surface-level phonological information (the sound of words) to deeper semantic links (meaning associations between words). These connections are fluid and adaptive, enabling individuals to access words based on context and need. For example, encountering the word “apple” may activate related words such as “fruit,” “tree,” or “red,” depending on the context in which it is used. This interconnectedness helps speakers retrieve words quickly and appropriately during communication.

Functionally, the mental lexicon supports both comprehension and production of language. It enables learners to decode words when reading or listening and to encode words when speaking or writing. As learners are exposed to more language, their mental lexicon becomes more sophisticated, allowing for faster word recognition and more nuanced use of vocabulary. The development of the mental lexicon is a gradual process, shaped by experience and exposure to language. Initially, learners may form basic associations, but over time, these associations grow more complex, incorporating grammatical rules, idiomatic usage, and deeper semantic understanding [6].

3.2. Challenges in Vocabulary Acquisition for English Learners

For English learners, acquiring vocabulary is often one of the most challenging aspects of mastering the language. A number of factors contribute to these challenges, from the sheer volume of vocabulary to the complexity of word meanings and usage.

One major challenge is the polysemous nature of English words—many words have multiple meanings depending on the context in which they are used. For example, the word “bank” can refer to a financial institution or the side of a river. Learners must not only memorize these different meanings but also understand when and how to apply them, which can be difficult without sufficient contextual clues.

Another challenge lies in the acquisition of collocations, or natural word pairings that native speakers use frequently. For instance, English speakers say “make a decision” rather than “do a decision,” even though the verbs “make” and “do” have similar meanings. Understanding such fixed expressions requires learners to go beyond individual word meanings and grasp how words function together in sentences, which can be difficult for learners from different linguistic backgrounds.

Furthermore, learners often struggle with idiomatic expressions and phrasal verbs, which do not always follow logical rules and are difficult to translate directly. Expressions like “break the ice” or phrasal verbs like “put up with” are often opaque to learners and require a deeper understanding of cultural and linguistic norms. Additionally, English learners must cope with pronunciation and spelling inconsistencies, which can add to the cognitive load during vocabulary acquisition [7,8].

3.3. The Role of Meaning, Context, and Associations in Building a Rich Vocabulary

A crucial aspect of vocabulary acquisition is the ability to associate new words with meaningful contexts and existing knowledge. Cognitive linguistics emphasizes that vocabulary learning is not simply about memorizing isolated words but about understanding how words fit into a broader network of meaning and context. This process of meaning-making is central to expanding and enriching the mental lexicon.

Context plays a vital role in helping learners grasp the meaning of new vocabulary. When learners encounter a new word within a meaningful sentence or situation, they are better able to infer its meaning based on surrounding clues. For example, if the word “bank” is used in a sentence about money, learners can infer that it refers to a financial institution rather than a riverbank. Teaching vocabulary in context, through authentic texts or real-life situations, makes the learning process more engaging and effective, as it mirrors how language is used in real communication.

Another important factor is the use of associations in vocabulary learning. Words are not stored in isolation within the mental lexicon; they are interconnected through semantic and conceptual links. By encouraging learners to form associations—such as grouping words by category (e.g., fruit: apple, banana, orange) or linking synonyms and antonyms (e.g., hot and cold)—teachers can help learners build a more robust and flexible vocabulary network. Associative learning helps learners retrieve words more easily and strengthens their understanding of how words relate to one another.

Finally, focusing on the meaning behind words, rather than rote memorization of their definitions, leads to deeper and more sustainable learning. This approach aligns with cognitive linguistic principles, which emphasize that language is fundamentally about conveying meaning. By understanding the conceptual underpinnings of vocabulary, learners are better equipped to apply words in diverse contexts, enhancing both their receptive (listening, reading) and productive (speaking, writing) language skills.

4. Cognitive Linguistic Approaches to Vocabulary Learning

4.1. Conceptual Metaphor and Its Role in Understanding Abstract Vocabulary

One of the central ideas in cognitive linguistics is that metaphor is not just a literary device but a fundamental mechanism through which we understand abstract concepts.

Conceptual Metaphor Theory (CMT), introduced by Lakoff and Johnson (1980), suggests that much of human thought is structured metaphorically, particularly when dealing with abstract or complex ideas. In language learning, metaphors provide a bridge between familiar, concrete experiences and new, abstract vocabulary, making it easier for learners to grasp and retain difficult concepts.

For example, many abstract concepts are understood through spatial metaphors, where physical movement or orientation is used to describe non-physical ideas. Expressions like “up” and “down” are commonly used to convey emotional states: we say someone is “feeling down” to describe sadness or depression, while “things are looking up” refers to improvement or optimism. These metaphors help learners connect new vocabulary related to emotions with more tangible experiences, such as physical movement or direction.

In the realm of English vocabulary acquisition, conceptual metaphors can be powerful tools for learners to comprehend and internalize abstract words. For instance, understanding economic terms like “inflation” or “recession” can be challenging without grounding them in metaphorical concepts. By framing inflation as something that “rises” and recession as a “fall,” learners can relate these terms to familiar ideas of upward or downward movement, making them easier to conceptualize and remember.

By teaching vocabulary through the lens of conceptual metaphor, educators can enable learners to make meaningful connections between abstract words and concrete experiences, leading to deeper comprehension and more effective retention [9, 10].

4.2. *The Use of Prototype Theory in Organizing Vocabulary Categories*

Prototype Theory, developed by Eleanor Rosch in the 1970s, is another key framework within cognitive linguistics that has profound implications for vocabulary acquisition. This theory suggests that within any given category, certain members are more representative or “prototypical” than others. For example, when asked to think of a “bird,” most people are likely to imagine a robin or a sparrow, which serve as prototypical examples of the category. Less typical members, such as penguins or ostriches, are further from the central prototype but still belong to the broader category.

In language learning, prototype theory can be particularly useful in helping learners organize vocabulary into categories that are easier to understand and recall. When learning new words, learners often struggle with categorization, especially when faced with complex or unfamiliar groupings. By introducing prototypical examples first—those words that are most representative of their categories—teachers can help learners form mental associations that facilitate the acquisition of less typical vocabulary later on.

For example, when teaching the category of “furniture,” learners are more likely to first encounter prototypical items like “chair” or “table.” Once these central members are established, less typical items such as “ottoman” or “futon” can be introduced, with learners being able to relate them to the core category more easily. Prototype theory also applies to more abstract categories, such as emotions or professions, where certain words serve as the best representatives of broader concepts.

Using prototype theory in vocabulary instruction helps learners develop a more organized and intuitive understanding of word categories, which in turn improves their ability to retrieve and apply new vocabulary in context.

4.3. *Schema Theory and Its Application to Contextual Vocabulary Learning*

Schema Theory, another concept central to cognitive linguistics, focuses on how individuals use mental frameworks, or schemas, to organize and interpret information. Schemas are cognitive structures that represent our knowledge of the world, including concepts, events, and relationships. These mental frameworks help learners make sense of new information by relating it to existing knowledge. In language learning, schema

theory is especially valuable for teaching vocabulary in context, as it enables learners to integrate new words into their broader understanding of language and the world.

In practical terms, schema theory suggests that learners understand new vocabulary more effectively when it is presented within meaningful contexts that align with their existing knowledge. For instance, when teaching words related to travel, a teacher might activate learners' travel schemas by discussing previous trips or common experiences at airports. By doing so, the new vocabulary (e.g., "boarding pass," "security checkpoint," "luggage") is embedded in a familiar context, making it easier for learners to comprehend and retain the new terms.

Schema theory also emphasizes the importance of contextualized learning, where new words are introduced not in isolation but within coherent and relevant scenarios. This approach mirrors how language is naturally used and helps learners build stronger mental associations between words and their practical applications. For example, rather than simply teaching the word "restaurant," a teacher might present the vocabulary within the broader context of dining out, incorporating related words like "menu," "waiter," "order," and "bill." This contextualization helps learners develop a richer understanding of how these words function together in real-life situations.

By applying schema theory to vocabulary learning, educators can create more engaging and meaningful learning experiences that promote deeper vocabulary acquisition. This approach encourages learners to actively relate new words to their existing knowledge and experiences, leading to more effective learning outcomes.

5. Pedagogical Implications: Applying Cognitive Linguistics in English Education

5.1. Strategies for Integrating Cognitive Linguistic Insights into Vocabulary Instruction

Integrating cognitive linguistics into English language teaching offers a powerful way to improve vocabulary acquisition by focusing on how language reflects thought processes. Teachers can adopt several strategies based on cognitive linguistic principles to enhance learners' ability to internalize and use vocabulary more effectively.

One effective strategy is the use of conceptual metaphors to explain abstract vocabulary. By linking new words to familiar experiences, teachers can help learners grasp complex ideas more intuitively. For instance, teaching abstract concepts like time, emotions, or financial terms can be done through metaphorical mapping. Metaphors such as "time is money" or "up is happy, down is sad" allow learners to associate abstract terms with physical, everyday experiences, making the vocabulary easier to understand and remember.

Another strategy is leveraging prototypes in vocabulary instruction. Teachers can introduce core, prototypical examples of vocabulary categories first, followed by more peripheral or less typical words. For instance, when teaching vocabulary related to transportation, starting with prototypical forms like "car," "bus," and "train" establishes a foundation for learners to later understand less common forms like "rickshaw" or "tram." This method allows learners to anchor new vocabulary in familiar categories, facilitating more efficient acquisition.

Schema activation is another cognitive strategy that aids in contextualizing vocabulary. By tapping into learners' existing knowledge and experiences, teachers can present new words within scenarios that align with familiar schemas. This could involve beginning a lesson by discussing common life experiences, such as dining at a restaurant, before introducing relevant vocabulary (e.g., "menu," "order," "waiter"). This approach not only makes learning more meaningful but also strengthens the connections between words and their practical use [11].

5.2. Designing Lessons and Activities That Foster Deeper Lexical Connections

To foster deeper lexical connections, lesson designs should incorporate activities that allow learners to engage with words meaningfully and in context, following cognitive

linguistic principles. One effective approach is using metaphor analysis exercises, where learners explore how conceptual metaphors shape everyday language. Teachers can present common metaphors in English, such as “argument is war” (e.g., “defend your point” or “attack the claim”), and ask learners to identify and explain similar expressions. This activity helps learners understand how abstract concepts are framed metaphorically and encourages them to apply these patterns to unfamiliar vocabulary.

Category-based vocabulary tasks are another effective way to deepen lexical connections. Learners can work in groups to categorize words based on their prototypical features or group items into conceptual hierarchies. For example, learners might categorize different types of foods (e.g., fruits, vegetables, grains) and then expand on these categories by adding specific examples or less common food items. Such activities promote the organization of vocabulary into mental networks, allowing learners to build on their existing lexicon more effectively.

Teachers can also design contextual role-playing activities that require learners to use vocabulary within specific scenarios. These exercises help integrate new words into a learner's mental lexicon by providing context-rich environments for practice. For instance, a role-play set in a doctor's office can involve learners using medical vocabulary (“symptoms,” “diagnosis,” “treatment”) in conversation, allowing them to practice words in relevant, meaningful situations [12].

Incorporating visual aids and imagery is another valuable method to build stronger associations. Teachers can use pictures, diagrams, or video clips to illustrate complex concepts or abstract vocabulary. For instance, visualizing the metaphor “time is money” with clocks and currency symbols can reinforce understanding and help learners make lasting connections.

5.3. Case Studies or Examples of Cognitive Linguistic Methods in Practice

Numerous real-world applications of cognitive linguistic principles have shown the effectiveness of these methods in English education. For example, a case study conducted in an ESL classroom in South Korea demonstrated the benefits of using conceptual metaphors to teach idiomatic expressions. Learners who were introduced to metaphors such as “love is a journey” (e.g., “on the road to love” or “hitting a dead end”) were able to better comprehend and remember idiomatic phrases compared to learners who were taught using traditional methods of rote memorization. This suggests that linking idiomatic vocabulary to metaphorical frameworks enhances learner understanding of figurative language.

Another case involves the use of image schema theory to teach prepositions in an English as a second language classroom. By presenting learners with visual representations of image schemas—such as diagrams showing objects “in” or “out” of containers or moving “toward” or “away” from a goal—teachers were able to improve learner comprehension of spatial relationships in English. These visual aids grounded abstract prepositions in concrete, bodily experiences, making it easier for learners to understand and apply them in context.

A further example can be found in vocabulary lessons that utilize prototype theory to organize new words. In a Canadian ESL program, teachers implemented a prototype-based approach to teaching categories like animals, plants, and tools. Learners were first introduced to prototypical category members (e.g., “dog” for animals, “rose” for flowers) before being exposed to less typical members (e.g., “platypus” or “cactus”). This approach improved learners' ability to recall and categorize new vocabulary more efficiently than traditional memorization techniques, reinforcing the effectiveness of organizing words into meaningful categories.

These examples illustrate how cognitive linguistic methods can be practically applied to enhance vocabulary learning in the classroom. By using metaphor, categorization, and

context, teachers can help learners form deeper connections with new vocabulary, improving both retention and language use.

6. Conclusion

6.1. Summary of Key Findings on Cognitive Linguistics and Vocabulary Acquisition

The key findings from this study demonstrate that cognitive linguistics offers valuable insights into vocabulary acquisition by linking language to mental processes such as categorization, metaphor, and contextual understanding. Theories like conceptual metaphor, prototype theory, and schema theory show that vocabulary learning is enhanced when learners can relate new words to familiar concepts and structures. Rather than memorizing words in isolation, cognitive linguistic approaches promote deeper connections between language and thought, leading to more effective and lasting vocabulary acquisition.

6.2. The Impact of These Approaches on Enhancing English Learners' Mental Lexicon

Cognitive linguistic approaches have a profound impact on expanding and enriching English learners' mental lexicons. By using strategies like metaphor to explain abstract vocabulary and prototype theory to organize word categories, learners can develop a more structured and intuitive understanding of language. These methods help learners create stronger associations between words and their meanings, improving both retention and practical usage. Moreover, contextual learning through schema theory enables learners to use vocabulary in meaningful and relevant ways, enhancing fluency and overall language competence.

6.3. Future Directions for Research and Pedagogical Development in English Language Education

There are numerous opportunities for further research and development in integrating cognitive linguistics into English language education. Future studies could explore the role of multimodal teaching strategies that combine visual, auditory, and kinesthetic elements in vocabulary learning. Additionally, long-term research on the retention of vocabulary acquired through cognitive approaches would provide valuable insights into their effectiveness. Pedagogically, the development of curriculum models that systematically incorporate cognitive linguistic principles and teacher training programs focused on these strategies can advance English language instruction and improve learner outcomes.

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