

The Acquisition of Polysemous Words in Maritime English from a Cognitive Perspective

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Abstract: The acquisition of English polysemous words is an important theory regarding category division in cognitive linguistics. It emphasizes that the boundaries of categories are fuzzy, the status of members within a category is unequal, with a distinction between the center and the periphery. This paper conducts an in-depth exploration of the acquisition process of English polysemous words from the perspective of cognitive linguistics, analyzes the cognitive connections and evolution mechanisms among the various senses within polysemous words. By introducing the prototype category theory and metaphor theory, this paper reveals the cognitive motives for the generation and development of polysemous words and explores the applications of these theories in English vocabulary teaching. Research shows that the acquisition of English polysemous words not only depends on the improvement of memory, but more importantly, it links known concepts with unknown concepts through cognitive means such as metaphor and metonymy, thereby expanding and enriching the meaning network of vocabulary.

Keywords: Cognitive Linguistics; Polysemous Words; Prototype Category Theory; Metaphor; Acquisition.

1. Introduction

Polysemy is a common phenomenon in natural languages, referring to a lexical form having two or more interrelated meanings. In the case of English, except for technical terms, most words are polysemous, and they are frequently used with relatively rich meanings. Traditional vocabulary teaching often ignores the cognitive connections among the various senses within polysemous words, making it difficult for students to grasp their intricate meaning networks. Therefore, exploring the acquisition process of English polysemous words from a cognitive perspective is of great significance for improving the effectiveness of vocabulary teaching and students' language proficiency. Elopment of contemporary fashion art have vigorous vitality.

2. Analyzing the Motivations for the Acquisition of English Polysemous Words from a Cognitive Perspective

(1) Polysemous Words and Prototype Category Theory

Within the framework of cognitive linguistics, the prototype category theory provides strong theoretical support for understanding the motivations for the acquisition of English polysemous words. This theory holds that the meanings carried by words are not isolated but are based on one or more core concepts (i.e., prototype meanings) to construct a category structure. For polysemous words, their various senses are interconnected through this category system to jointly form a complex and orderly meaning network [1].

Take the word "dog" as an example. Its basic meaning (prototype meaning) refers to "a common domestic animal, usually kept by humans as a pet or a working partner". However, in actual use, the word "dog" has also derived many other senses, such as "a dirty dog" (a despicable person), "follow someone like a dog" (a stalker), "a lucky dog" (a lucky person), etc. Although these senses seem far from the basic meaning on the surface, they are closely related cognitively. According to the prototype category theory, these

senses can be regarded as "peripheral members" expanding outward around the core category of "dog", and they are connected to the prototype meaning through family resemblance (for example, some metaphorical connections with the behaviors, characteristics, or properties of dogs). Therefore, when acquiring English polysemous words, learners should realize that the meaning of polysemous words is not an isolated island but a continental shelf connected to each other. They need to gradually build a meaning network system centered on the prototype meaning and with various senses as supporting points through continuous accumulation of experience and knowledge. This process is beneficial for learners to have a relatively complete grasp of the meanings of polysemous words and is also conducive to the improvement of their cognitive and language application abilities.

(2) Polysemous Words and Metaphor Theory

The metaphor theory provides another important means for cognitive linguistics to explain polysemous words. It regards metaphor as a cognitive process that generates new meanings based on similarity by mapping the concepts within one category to those within another category. The metaphor mechanism plays a crucial role in the acquisition of English polysemous words [2].

Take the word "head" as an example. Its basic meaning refers to "the head as a part of the body". However, influenced by metaphor, the word "head" can be extended to many meanings that have no direct connection with the head but have certain similarities. For example, in "head of the company", "head" means "leader, chief", where the metaphor is that the core and leadership position of the company is similar to the controlling role of the human head; in "headache", "head" means "pain", where the metaphor is that the pain in the head often brings great trouble and discomfort to people. The metaphor mechanism enriches the meaning connotations of English polysemous words and also promotes the development and evolution of the language. It enables people to express infinite ideas and feelings with limited words, enhancing the expressiveness and creativity of the language. During the acquisition process of English

polysemous words, learners need to cultivate metaphorical sensitivity and understanding, and learn to start from known concepts to explore and discover the correlations and similarities between unknown concepts. Thus, they can use the language more flexibly and express their thoughts and feelings more accurately.

(3) The Acquisition Process of English Polysemous Words

The acquisition process of English polysemous words is a complex and dynamic cognitive process involving the interaction of multiple cognitive mechanisms and mental activities. Learners need to go through several stages of perception - understanding - memory - application in this process.

In the perception stage, learners need to be exposed to various examples of the usage of polysemous words and their contexts. These examples and contexts provide learners with a large amount of language materials and cognitive clues, which are beneficial for learners' initial cognition of the multiple meanings of polysemous words. For example, when learning the word "bank", learners may encounter various usages such as "river bank", "savings bank", "banking industry", etc. Although these usages seem different on the surface, they all jointly point to many senses of the word "bank".

In the understanding stage, learners need to rely on cognitive mechanisms such as metaphor and metonymy to understand the internal connections and evolution laws among the various senses of polysemous words. It is necessary to conduct in-depth analysis and comparison of the usage differences in different contexts to reveal the meaning structure and development history of polysemous words. For example, when learning the word "break", learners can analyze usages such as "break a window", "break a promise", "break the news" to discover the common meaning characteristics such as "separate, interrupt, damage" exhibited by the word "break" in different contexts.

In the memory and application stage, learners need to internalize the knowledge of polysemous words they have learned into their own language system and be able to apply it flexibly in actual communication. This requires learners to be proficient in mastering the various senses of polysemous words and their usage examples, and to be able to accurately select and use the appropriate sense to express thoughts and feelings in different contexts. For example, when encountering the need to express the meaning of "stop doing something" in communication, learners can quickly think of phrases such as "break off", "break down" that contain the word "break", and accurately select one of them to express the intended meaning.

3. Implications of the Acquisition of English Polysemous Words from a Cognitive Perspective for English Teaching

(1) An in-depth analysis of the acquisition process of English polysemous words from a cognitive perspective offers more implications for English teaching. Firstly, it emphasizes that vocabulary teaching should have both depth and breadth. Traditional vocabulary teaching usually only focuses on the accumulation of vocabulary quantity, neglecting the exploration of the internal meanings of words. However, the acquisition of polysemous words requires learners to not only grasp the basic meanings of words but

also understand the cognitive connections among various senses of words and their evolution laws. Therefore, when conducting English teaching, teachers should attach importance to guiding students to explore the deep meanings of words and help them construct meaning networks among words to enhance the effectiveness of vocabulary learning [3].

(2) Secondly, metaphor, metonymy and other cognitive mechanisms are of great significance for the acquisition of English polysemous words, which indicates that emphasis should be placed on cultivating students' metaphorical thinking ability in teaching. Metaphor, serving as both a rhetorical device and a cognitive approach, helps learners identify the internal connections and similarities between different concepts. Through the training of students' metaphorical thinking ability, teachers can help students deepen their understanding and memory of the multiple senses of polysemous words, stimulate their creativity and imagination, and thus improve their language application ability.

(3) Thirdly, the discussion on the acquisition process of English polysemous words from a cognitive perspective also reminds people to pay attention to individual differences among learners and their learning strategies. Different learners have different cognitive styles, learning motivations and language abilities, all of which will affect their acquisition of polysemous words. Therefore, when conducting English teaching, teachers should respect the individual differences of learners and apply diverse teaching strategies and methods to meet the needs of different learners.

4. The Application of the Acquisition of English Polysemous Words from a Cognitive Perspective in Maritime English Vocabulary Teaching

(1) Using Prototype Category Theory for Vocabulary Teaching

1) Helping Students Build a Meaning Network of Vocabulary

By presenting the central and peripheral senses of polysemous words in maritime English as well as the cognitive connections between them, help students build a meaning network with the central sense as the core. For example, for the word "port", its central sense is "port", and in maritime English, it also has the peripheral sense of "port side". Letting students understand the associations between these senses can help them better understand the meanings of polysemous words in different contexts and improve the efficiency of vocabulary learning.

During the teaching process, students can be guided to classify and sort out the polysemous words in maritime English, identify the central and peripheral senses of different words, and thus construct a meaning network system of maritime English vocabulary. In this way, when encountering new words, students can also better use their existing knowledge to understand and remember them.

2) Guiding Students to Focus on the Prototype Meaning of Vocabulary

In maritime English vocabulary teaching, guide students to focus on the prototype meaning of vocabulary and use the prototype as a reference to understand and remember other senses. For example, the prototype meaning of "anchor" is a very important tool in navigation. Based on this prototype meaning, students can better understand the meaning of

"anchor" in phrases such as "weigh anchor" and "drop anchor".

For some polysemous words in maritime terminology, such as "deck", its prototype meaning is "deck". Guide students to understand the peripheral senses of "deck" in different contexts, such as "a floor (of a ship)" and "the face of a playing card (in playing cards)", etc., and let students recognize the connections between these senses and the prototype meaning, so as to better master these words.

(2) Applying Metaphor Theory for Vocabulary Teaching

1) Cultivating Students' Metaphorical Thinking Ability

By explaining the nature and function of metaphor, cultivate students' metaphorical thinking ability so that they can consciously use metaphorical ways to understand and remember the different senses of polysemous words in maritime English. For example, when teaching the word "sail", students can be guided to think about the metaphorical meaning of "sail" in the phrase "set sail", that is, "journey" and "advancing".

Let students analyze the metaphorical expressions in maritime English, such as "the ship of life", understand the metaphorical meanings therein, cultivate students' metaphorical thinking, and improve their ability to understand and remember maritime English vocabulary.

2) Using Metaphor for Vocabulary Expansion

By analyzing the metaphorical phenomena in polysemous words in maritime English, help students expand their vocabulary. For example, starting from the basic meaning of the word "wave", students can be guided to understand the meaning of "wave" in the phrase "a wave of enthusiasm" through metaphor, that is, "a burst" and "a tide".

Guide students to start from specific words in maritime English and use metaphorical thinking to expand more related words and expressions. For example, starting from the word "compass", students can be guided to understand the metaphorical meaning of "compass" in the phrase "find one's compass in life" (finding one's direction in life) through metaphor, and then expand related words such as "direction" and "guidance".

(3) Applying Metonymy Theory for Vocabulary Teaching

1) Helping Students Understand the Application of Metonymy in Maritime English

Metonymy is a cognitive means that refers to another thing through the proximity or causal relationship between one thing and another. There are many examples of metonymy in maritime English. For example, "the bridge" usually refers to "the bridge" in maritime English because the bridge is usually located on the bridge part of the ship. By explaining such metonymy phenomena, help students understand the meanings of words in maritime English.

Let students analyze the sentences in maritime English, find out the metonymy expressions therein, and understand the objects they refer to. For example, in the sentence "The engine room reported a problem.", "engine room" is metonymically referred to as "the personnel working in the engine room".

2) Using Metonymy for Vocabulary Expansion

By analyzing the metonymy phenomena in maritime English, help students expand their vocabulary. For example, starting from the word "flag", in maritime English, "hoisting the flag" can be metonymically referred to as "the country", "the nationality of the ship", etc. Guide students to understand this metonymy relationship, expand more related words and expressions.

Encourage students to actively look for metonymy phenomena when learning maritime English vocabulary and use metonymy thinking to expand and understand vocabulary. For example, starting from the word "helm", it can be metonymically referred to as "control", "leadership", etc., helping students enrich their vocabulary and understand the expressions of maritime English.

The trend of mass data in power system provides a basis for load characteristic analysis and prediction model establishment, but the classical load forecasting method can not afford such a huge time and computing resource consumption. The problem of over fitting in large sample set will affect the prediction accuracy. In this paper, a power load forecasting model is built by using the BP neural network model, making full use of the powerful data processing function of Clementine and preventing the over fitting function. The experimental results show that the BP neural network model has good predictability and robustness, and has a certain practical application value.

(4) Combining Cognitive Context for Vocabulary Teaching

1) Creating a Cognitive Context of Maritime English

In maritime English vocabulary teaching, create real maritime scenes or situations to let students learn vocabulary in a specific cognitive context. For example, through multimedia means such as pictures and videos, display various scenes in navigation, such as ports, ships, and offshore operations, etc., to let students understand and remember maritime English vocabulary in these scenes.

Simulate the dialogues and situations in navigation to let students use maritime English vocabulary in actual language communication and improve their ability to understand and apply vocabulary. For example, set up emergency situations in navigation and let students practice dialogues, using relevant maritime English vocabulary to express countermeasures.

2) Using Cognitive Context to Understand Polysemous Words

Guide students to understand the meanings of polysemous words in maritime English according to different cognitive contexts. For example, "current" can mean "water current", "sea current" as well as "current", "present" in maritime English. In different contexts, students can determine the specific meaning of "current" through context and cognitive context.

Let students analyze the sentences and paragraphs in maritime English to understand the changes and meanings of vocabulary in different cognitive contexts. Through this way, improve students' ability to understand and apply polysemous words in maritime English, and at the same time cultivate their context awareness and comprehensive language application ability.

5. Conclusion

With the continuous deepening of globalization nowadays, maritime English, as the working language for maritime communication, has rich and complex vocabulary, which presents both challenges and opportunities for learners. Through the discussion in this study, learners have deeply realized that the acquisition of polysemous words in maritime English is not a simple process of memorization. It is a comprehensive process involving multiple factors such as cognitive mechanisms, context understanding, and language application ability. Cognitive linguistics has shown us the deep cognitive connections among the various senses within

polysemous words, especially by applying prototype category theory and metaphor theory, we have a more systematic understanding of their evolution and development.

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