

An Analysis of Precise Teaching Strategies for Core Vocabulary in Senior High School English under the Prototype Category Theory

Mingze Huo^{1*}

¹ Department of Foreign Languages, Guilin University of Technology, Guilin, China

Email Address

80783737@qq.com (Mingze Huo)

*Correspondence: 80783737@qq.com

Received: 22 February 2026; Accepted: 24 March 2026; Published: 15 April 2026

Abstract:

Vocabulary is the cornerstone of language learning. In high school English learning, whether students can solidly master and proficiently apply English vocabulary directly determines the effectiveness of their English learning. However, the current methods of teaching English vocabulary in high schools are relatively traditional and inefficient. Students' understanding of vocabulary merely stops at the level of word meanings, and their memory is superficial and mechanical. The prototype category theory, as one of the important theories in cognitive linguistics, posits that humans do not make binary judgments based on sufficient and necessary conditions when categorizing things. Instead, they use the most representative and cognitively prominent prototype within a certain category as a reference, and other members form a continuous gradient of membership based on the degree of similarity to the prototype, thereby constituting a cognitive category with fuzzy boundaries. This paper connects this theory with core vocabulary teaching in high school English. It recommends that teachers emphasize the cognitive basis of core vocabulary, use metaphor to explain polysemous words, build semantic networks, and design category-based exercises. Based on these explorations, specific teaching strategies are proposed. These strategies, grounded in cognitive theories, aim to help students to link cognition and language in vocabulary learning, improve pragmatic ability, and enhance vocabulary learning efficiency.

Keywords:

High School English Vocabulary Teaching, Prototype Category Theory, Cognitive Linguistics

1. Introduction

Vocabulary is the building material of language and the foundation for language comprehension and expression. The “National English Curriculum Standards for Senior High Schools (2025 Edition)” continues the precedent of integrating cognitive linguistics and, on this basis, shifts the evaluation of language abilities to demonstrate

real-life context literacy, no longer solely focusing on the memorization of knowledge. In the prototype category theory, the prototype is the most representative and typical member of the category, serving as the cognitive reference point of the category. Members within the category are not of equal status but form a continuous gradient, ranging from typical to non-typical, based on the degree of similarity to the prototype. According to the prototype category theory, category members share similar characteristics, among which typical features can reveal the internal connections among the members and their relationship with the prototype. This discovery can serve as a reference for teaching lexical similarity in English. Additionally, the prototype category theory holds that the boundaries of the category are fuzzy. We can discover the internal logic between things based on certain clues to understand and interpret the world. With the large number of high school English vocabulary words and the complex relationships among them, it is difficult for students to memorize such a complex vocabulary system through traditional teaching methods. Therefore, high school English teachers can apply the prototype category theory in cognitive linguistics to help students construct an English vocabulary system and achieve the desired teaching effect of vocabulary.

2. The Current Situation of Core Vocabulary Teaching in Senior High School English

At present, high school English vocabulary teaching is still deeply influenced by traditional teaching models. In practice, teaching often tends to adopt isolated and mechanical methods of word memorization, and is generally carried out without reference to specific contexts or unit themes. This situation leads to students' fragmented and superficial understanding and memory of vocabulary, making it difficult for them to form a systematic vocabulary network. Moreover, they lack the ability to flexibly apply vocabulary for comprehension, analysis, and expression in real contexts. As a result, the overall efficiency of vocabulary teaching is low, and it is difficult to achieve the goals of cultivating core English language competencies and the ideal teaching outcomes under the new curriculum standards in high schools.

2.1. Only Focus on Surface Meaning

At present, there is a common problem in high school English vocabulary teaching, which is that the emphasis is placed on surface meaning while the connotative meanings are neglected. Most teachers, in their actual teaching, often present the core vocabulary in textbooks merely through literal translation into Chinese or by presenting a single meaning. This approach fails to effectively guide students in establishing a systematic connection between the prototype meaning of the vocabulary and its various extended meanings. Take the core vocabulary "head" as an example. In teaching, most teachers only explain the basic prototype meaning of "head", but overlook the multiple extended meanings, such as "top, leader, source", derived from this prototype meaning through category extension. This leads to students being unable to clarify the internal derivation logic of the vocabulary meaning when encountering common collocations like "head of a team" or "head of a river", resulting in semantic judgment errors. This fragmented vocabulary teaching model directly disconnects the complete category association network of the vocabulary. Students can only passively and mechanically memorize isolated vocabulary meanings, which not only significantly increases the burden of vocabulary memorization but also severely limits the flexible application of the vocabulary in real

contexts. To a large extent, it restricts students' in-depth understanding of the vocabulary and also hinders the steady improvement of their English pragmatic abilities.

2.2. No Semantic Network System of Vocabulary

The English vocabulary system is vast and diverse, yet these words are not isolated but rather form an organic whole based on semantic networks. However, many current teachers of vocabulary teaching often neglect the systematic construction of semantic networks. They neither guide students to integrate words with logical associations such as synonyms, antonyms, and hyponyms into the same semantic network for memorization, nor do they recognize the internal connections between similar words. For instance, when teaching core vocabulary related to “emotion”, teachers often split and explain words like “happy”, “angry”, “sad”, etc., and arrange them for silent writing one by one. They do not organize these words into a clearly hierarchical semantic network based on dimensions such as emotional intensity, positive or negative connotations, and scene attribution, which leads to students' difficulty in distinguishing the subtle pragmatic differences among this group of words with the same meaning, such as “happy”, “delighted”, “pleased”, and “glad”. Similarly, when learning unit vocabulary related to “transportation”, teachers only present basic words like “car”, “bus”, “train”, etc., without helping students build a complete semantic category network covering various sub-dimensions such as transportation means, transportation methods, and transportation facilities, resulting in students' inability to form a coherent and smooth logical flow in vocabulary usage in English writing and reading comprehension, and their memory and understanding of words remaining at a fragmented level.

2.3. The Practice Lacks Hierarchy and Application.

In addition, there is another significant problem in high school English vocabulary teaching, which is that teachers often neglect students' understanding of the cognitive patterns of vocabulary categories. The post-class exercises and test questions they design generally lack hierarchy and practicality. For instance, when teachers explain core verbs related to “movement”, the exercises used to test students' mastery mostly remain at the basic level of word spelling and English-Chinese translation, and do not guide students to meticulously distinguish the category differences and usage boundaries of similar verbs such as “walk”, “wander”, “run”, “dash”, etc. They also lack contextualized application and expression-specific practice that is relevant to real-life situations. Another example is for common vocabulary related to “expressing opinions”, teachers merely require students to memorize the basic definitions of words like “think”, “believe”, “argue”, etc., but fail to follow the vocabulary cognitive pattern of “prototype meaning - near synonym differentiation - contextual application”. They design progressive layered application tasks from simple sentence structure replacements to writing paragraphs for argumentative essays. This monotonous and shallow vocabulary practice model completely violates the complete cognitive sequence of students' vocabulary learning from perception and understanding, to different differentiation, and to flexible and effective application. As a result, even if students can firmly memorize the spelling forms and surface meanings of the words, they cannot accurately select and flexibly use the words in real English contexts, and it is even more difficult for them to gradually form a stable and solid comprehensive application ability of vocabulary.

3. Teaching Strategies for Core English Vocabulary in Senior High Schools Based on Prototype Category Theory

Based on the current actual situation of high school English vocabulary teaching, and taking into account the content arrangement characteristics and core orientation of the People's Education Press high school English textbooks, the author, through systematic review and analysis, has summarized four application approaches of the prototype category theory in the core vocabulary teaching of high school English. These approaches specifically include: emphasizing the precise understanding of the prototype meanings of core vocabulary, focusing on enhancing students' awareness of lexical metaphorical cognition, systematically constructing a lexical semantic network system, and scientifically designing category-based vocabulary exercises.

3.1. Attach Importance to the Prototype Meaning

During the high school years, students encounter a large number of polysemous words in their English learning. Each of these words' different meanings collectively form a complete semantic category. The original meaning of the word serves as the core anchor of this semantic category, directly determining the depth and breadth of learners' understanding of the entire vocabulary category. Therefore, teaching based on the original meaning is the primary step in the core vocabulary teaching of high school English.

The original meaning of a word is the most typical core meaning of the vocabulary, and it is also the part among the many meanings of polysemous words that students are most likely to remember and understand. In actual teaching, teachers can first guide students to master and thoroughly understand the original meaning of the word, and then, based on the semantic logical connections within the word and the specific text context, gradually introduce the corresponding peripheral meanings. After students clarify the multiple semantic associations of the word and distinguish the differences among the various meanings, teachers can then guide them to gradually distinguish and flexibly use the word in different contexts. Take the word "character" in Unit 5 *Language Around The World* from the People's Education Press High School English Compulsory 1 as an example. "character" has the original meaning of "personality, quality", and in the text context, it follows "Chinese" and uses its peripheral meaning "written symbol". For this word, teachers should first focus on explaining the original meaning "personality, quality", helping students solidify the core cognitive foundation and expand the semantic cognitive scope. Then, by gradually extending from this, they can transition to the cultural peripheral meaning "written symbol" in the text context. Through this progressive teaching from core to peripheral, it can effectively deepen students' overall understanding and deep-level cognition of the word.

The teaching of the original meaning of core vocabulary plays a crucial role in revealing the essence of learning. Teachers should fully value students' learning and understanding of the original meaning, precisely and clearly explain the basic meaning of core category words, and the effectiveness of this teaching stage directly affects the overall vocabulary learning effect of students. Therefore, mastering the original meaning of core vocabulary can lay a solid and stable foundation for students' subsequent vocabulary expansion learning and deep-level semantic understanding.

3.2. Enhance the Awareness of Metaphors and Strengthen the Understanding of Polysemous Words

The essence of metaphor lies in using one type of thing to understand and comprehend another. There are numerous polysemous phenomena in English, where a word typically has a central meaning as its original meaning, and through metaphorical and metonymic means, it is continuously extended and expanded, eventually forming a multi-meaning category. Cultivating students' metaphorical thinking helps enhance their sensitivity and acuity in understanding and appreciating the creative use of language, enriching their imagination and creativity. In their future expressions and writings, students can also apply this rhetorical device of metaphor to enhance the visuality and richness of language.

For example, in Unit 4 *Natural Disasters* from People's Education Press High School English Compulsory 1, the sentence "Tangshan started to revive itself and get back up on its feet." is used to describe the post-disaster reconstruction of Tangshan. Here, "revive" metaphorically applies a human-related action to the reconstruction of the city, while "get back up on its feet" symbolizes the recovery of functioning from hardship. This not only reflects the attitude of human struggle against disasters but also endows the process of urban reconstruction with stronger vividness and emotional power. Teachers can first present the definition of metaphor to students, then guide them to focus on related word groups for analysis, and combine the specific context and the author's expression intention to understand the expression function of metaphor in this context.

Utilizing the metaphorical mechanism for vocabulary comprehension can effectively solve the long-standing problems in vocabulary teaching, such as neglecting the cultural core and downplaying the interpretation of extrinsic meanings. This strengthens students' proactive exploration awareness in vocabulary learning. Based on the lexical rationale for in-depth comprehension learning, students can precisely grasp the cultural core behind the language, clarify the internal logic and selection basis of specific expressions in the English expression system, understand the core thinking mode of the English community, and thereby promote the construction and improvement of a diverse thinking system. This teaching approach also aligns closely with the core advocated concepts in the field of cognitive linguistics.

3.3. Construct a Semantic Association Network for Core Vocabulary

The prototype category theory posits that the semantic categories of words are not isolated from each other but present a hierarchical structure with distinct levels. Specifically, it consists of three components: superordinate categories, basic categories, and subordinate categories. Among these, the basic category words occupy a central position within the prototype category and are also the main components of the core vocabulary in high school English. High school English encompasses a wide variety of vocabulary types and rich content. A single word does not exist independently of other words; instead, they have multiple semantic associations such as synonyms, antonyms, hyponyms, and overall vs. local relationships. When dealing with such complex category words, students often fall into the trap of isolated memorization and confusion regarding word relationships. In this case, teachers can actively guide and assist students in organizing the hierarchical categories of target words, helping them build a complete semantic network. This not only gradually

expands students' vocabulary reserves but also effectively reduces the burden of vocabulary memorization, thereby helping students develop good English learning habits.

For example, the core vocabulary word “disaster” in Unit 4 Natural Disasters from People's Education Press High School English Compulsory 1 is a typical basic-level category term. Its superordinate category term is “tragedy”, while its hyponyms include specific disaster terms such as “earthquake”, “flood”, and “tsunami”, thus forming a complete hierarchical chain of lexical categories.

On this basis, teachers need to guide students to carefully sort out the hierarchical relationships between various words, build a close semantic network, completely break down the learning barrier of memorizing words in isolation, lay a solid foundation for in-depth learning of core vocabulary, and thereby achieve twice the result with half the effort in vocabulary memorization.

3.4. Design Categorization Exercises

Under the guidance of the prototype category theory, when students conduct vocabulary learning in their daily activities, they should focus on the internal logical relationships among words, actively incorporate newly learned words into the constructed semantic network system, and establish a stable connection with the existing old knowledge. This can not only effectively reduce the burden of vocabulary memorization but also achieve the consolidation and deepening of previously learned vocabulary, avoiding the problem of forgetting while learning. When teachers design specialized exercises for vocabulary categorization, they must firmly grasp the core association between the prototype meaning and the semantic category, highlight the targeted and systematic nature of the exercise design, and guide students step by step to consolidate the core prototype meaning through practical exercises, accurately distinguish marginal non-prototype meanings, clarify the category attribution relationships among different meanings and words, and ultimately help students achieve the core transformation from simply “memorizing vocabulary” to “flexibly applying vocabulary”.

Specifically, the categorization exercises for vocabulary can be advanced in a hierarchical manner: at the basic level, focus on the practical application of the core prototype meaning, and design basic types of questions such as sentence pattern imitation and context filling, with a particular emphasis on strengthening students' precise understanding and standardized application ability of the core vocabulary prototype meaning; at the improvement level, it focuses on in-depth analysis of categorization, taking the core vocabulary “environment” as an example, design a special near-synonym discrimination exercise, guide students to carefully distinguish the semantic emphasis and applicable scenarios of the group of near-synonyms “environment”, “surroundings”, “setting”, and simultaneously combine category word classification exercises, allowing students to categorize related words such as “pollution”, “protection”, “conservation” under the core category of “environment”, through practical exercises to build a complete semantic network, achieving precise discrimination and distinction of near-synonyms and homologous words. Finally, combine comprehensive practical question types such as reading appreciation, written writing, and oral expression, implement the application of the categorization learning theory in language practice. For example, around the core topic of campus life, students are required to use the corresponding core vocabulary within the high school

category, such as “campus”, “curriculum”, “extracurricular”, to complete an 80-word short writing task in a real and relevant language context, further strengthening students’ precise application and flexible output ability of core vocabulary.

4. Conclusions

The English vocabulary system is extensive, with native English speakers having a vocabulary of 30,000 to 40,000 words, far more than the 5,000 to 6,000 common characters mastered by native Chinese speakers, showing an obvious gap in vocabulary reserve. Therefore, based on the prototype category theory and combined with the objective characteristics of language, exploring efficient vocabulary teaching methods is of great research and practical value.

From the perspective of cognitive linguistics, vocabulary teaching adheres to the core principle of “reality-cognition-language”, relies on the principles of cognitive science, and integrates vocabulary teaching into themes and contexts, which is fully consistent with the teaching reform concept advocated by the Curriculum Standard. When teachers carry out teaching by applying this theory, they should first focus on explaining prototype meaning items, as mastering prototype meaning items is the core link of vocabulary learning; secondly, they need to attach importance to the teaching of polysemous words, and use methods such as metaphor to help students clarify the connections and differences between different meanings of polysemous words. In addition, constructing a semantic network is the key to vocabulary learning, which can not only expand the vocabulary but also connect the category relationships of words, reducing the memory burden. Finally, teachers should design categorical exercises to avoid vocabulary learning staying at the level of mechanical memorization, allowing students to flexibly understand and apply vocabulary in contexts and achieve the ultimate goal of teaching.

The integration of prototype category theory and core vocabulary teaching in senior high school English can improve the problems of single mode, low efficiency, and boring classes in traditional teaching, help students deeply understand vocabulary, improve learning efficiency and language expression ability, and ultimately achieve the effect of cultivating English core literacy.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

References

- [1] Alkhelaiwi, S. Polysemous Verbs Break, Run, and Draw Within Prototype Theory From the Perspective of Saudi Learners of English. *Journal of Language Teaching and Research*, 2023, 14, 740-750, DOI: 10.17507/JLTR.1403.22. DOI: <https://doi.org/10.17507/JLTR.1403.22>.

- [2] Andrews, P.; Zaihrayeu, I.; Pane, J. A classification of semantic annotation systems. *Semantic Web*, 2012, 3, 223-248, DOI: 10.3233/SW-2011-0056. DOI: <https://doi.org/10.3233/SW-2011-0056>.
- [3] Beach, K.D.; Sanchez, V.M.; Fitzgerald, M.S.; Neal, Erica; Jimenez, Michelle Pazzula. Utilizing Semantic, Mnemonic, and Strategic Approaches to Vocabulary Instruction to Promote Word Learning for Students with Learning Disabilities. *Learning Disabilities Research & Practice*, 2026, 41, 73-86, DOI: 10.1177/09388982251392905.
- [4] Hadley, E.B.; Dickinson, D.K.; Hirsh-Pasek, K.; Golinkoff, Roberta Michnick. Building Semantic Networks: The Impact of a Vocabulary Intervention on Preschoolers' Depth of Word Knowledge. *Reading Research Quarterly*, 2019, 54, 41-61, DOI: 10.1002/rrq.225.
- [5] Johansson, F.M.; Wiben, J.T. Embodied, social, and creative dimensions of metonymy. *Metaphor and the Social World*, 2025, 15, 185-195, DOI: 10.1075/MSW.24034.JOH.
- [6] Le, N.; Lan, C.; Thi, N.; Giang, H. From Noticing to Reuse: Tracing Vocabulary Learning Trajectories in English-Subtitled EFL Classrooms. *International Journal of Linguistics, Literature and Translation*, 2026, 9, 74-83, DOI: 10.32996/IJLLT.2026.9.3.9.
- [7] Li, H.H. Teaching academic English in higher education: strategies and challenges. *Frontiers in Education*, 2025, 10, 1559307-1559307, DOI: 10.3389/FEDUC.2025.1559307.
- [8] Li, T. The Application of Metaphor Theory in Cognitive Linguistics in English Vocabulary Teaching. *Journal of Sociology and Education*, 2025, 1, 104-111, DOI: 10.63887/JSE.2025.1.9.51.
- [9] Pan, D.; Syed, A.; Syed, N.; Abdullah, M.A.R.; Abd, R.R. Translating English Polysemous Words: A Systematic Literature Review. *World Journal of English Language*, 2025, 16, DOI: 10.5430/WJEL.V16N1P337.
- [10] Taye, T.; Lodebo, T. The relationship between vocabulary learning strategies, reading comprehension, and motivation among secondary school EFL learners. *Social Sciences & Humanities Open*, 2026, 13, 102516-102516, DOI: 10.1016/J.SSAHO.2026.102516.
- [11] Tsohatzidis, S.L. *Meanings and Prototypes (RLE Linguistics B: Grammar): Studies in Linguistic Categorization*; Taylor and Francis: Abingdon, UK, 2014; 53-129; ISBN 9781315857398.
- [12] Xi, Z.S.; Yun, H. A Study on Lateral Teaching Strategies for Middle School Vocabulary Teaching Integrating Herbart's and Piaget's Theories. *International Journal of Social Science and Education Research*, 2025, 8, 194-202, DOI: 10.6918/IJOSSER.202508_8(8).0024.
- [13] Zeige, L.E. Word forms, classification, and family trees of languages—Why morphology is crucial for linguistics. *Zoologischer Anzeiger - A Journal of Comparative Zoology*, 2015, 256, 42-53, DOI: 10.1016/j.jcz.2015.02.003.
- [14] Zhang, M.C.; Ding, J.F.; Li, X.S.; Yang, Y.F. The impact of variety of episodic contexts on the integration of novel words into semantic network. *Language*,

Cognition and Neuroscience, 2019, 34, 214-238, DOI: 10.1080/23273798.2018.1522446.

- [15]Zhang, Y. Application of Multimodal Teaching in Junior High School English Vocabulary Instruction. *International Journal of Social Science and Education Research*, 2024, 7, 104-111, DOI: 10.6918/IJOSSE.202409_7(9).0015.



© 2026 by the author(s); licensee International Technology and Science Publications (ITS), this work for open access publication is under the Creative Commons Attribution International License (CC BY 4.0). (<http://creativecommons.org/licenses/by/4.0/>)