

# Vocabulary Learning: Exploring the Relationship between English Affixes and Chinese Radicals

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**Abstract:** Vocabulary is an important part of English learning. The vocabulary size of college students has become one of the main measures of their English proficiency. English and Chinese belong to different language families. As English is an alphabet language and Chinese is a hieroglyphic language, it is generally considered that the lexicons of the two languages have little in common and that it is difficult to achieve positive transfer when Chinese English learners learn English vocabulary. This paper addresses the guidance of cognitive linguistics in vocabulary learning, investigates English vocabulary learning among Chinese learners and particularly focuses on the relationship between English affixes and Chinese radicals. In addition to providing an integrated application of Category Theory and Transfer Theory in cognitive linguistics, this paper also incorporates one of the author's participant observation as a college English teacher in China. In conclusion, this paper reveals a new vocabulary learning method for Chinese English learners by finding the similarities between English prefixes and Chinese radicals. This study suggests conducting more studies investigating how cognitive knowledge and theories can facilitate non-English speakers' vocabulary learning, even if their mother languages and English are highly distinct.

## 1. Introduction

Research investigating English vocabulary learning has been conducted from different perspectives. One important approach related to the field is cognitive linguistics, which views language as an important instrument for organizing, processing, and conveying information. In the field of cognitive linguistics, two specific theories, i.e., Category Theory (Lakoff & Langacker, 1987) and Transfer theory (Oldin, 1989), are particularly relevant. According to Category Theory, during the process of recognizing the world, people tend to differentiate the objects they have seen and separate words into different categories. For example, 'un-', 'im-', and 'il-' all belong to the category of negative prefixes. Transfer Theory posits that people build upon familiar words and rules when learning new words and that people also unconsciously transfer such knowledge when learning a foreign language.

Despite the high relevance of the two theories to English vocabulary learning, there exists little research investigating English vocabulary for Chinese learners integrating Category Theory with Transfer Theory in cognitive linguistics. We believe that this topic is significant due to the following two considerations. China has the largest population of English learners worldwide, and there are approximately 450 million Chinese people in China who are learning English for different reasons (Baidu, 2018); as English and Chinese belong to different language families, specifically English is an alphabetic language and Chinese is a hieroglyph, these languages have very few commonalities. Addressing the large difference between the two languages to facilitate English vocabulary learning is an important and challenging issue.

This paper investigates vocabulary learning among Chinese learners and particularly focuses on exploring the relationship between English affixes and Chinese radicals. Apart from discussing the

relevant theories and elaborating upon the specific methods involved, this paper also incorporates one of the author's participant observation as an English teacher in China. We believe that this study could contribute to English vocabulary learning research by integrating two theories and linking English and Chinese, which are generally considered to belong to different language families. The research findings also provide practical significance in serving as good references to English teachers and students. This paper provides a new perspective regarding vocabulary teaching, stimulating students' enthusiasm and initiative in English vocabulary learning and expanding students' vocabulary capacity.

In general, the following sections focus on the following : the importance of vocabulary learning; two theories in cognitive linguistics and the method of learning and memorizing new words: affixes; the connection between English affixes and Chinese radicals; and the conclusions and discussion.

## **2. Importance of vocabulary learning**

The recognition of the importance of vocabulary learning has slowly increased. Laufer (1986) observed that grammar and phonetics represent closed systems that are easier to abstractly summarize, while vocabulary is an open system and thus it is challenging to form and test hypotheses. Therefore, research in the field of applied linguistics is actually 'grammar' research, and vocabulary plays only a supporting role. Nation (1997) noted that vocabulary research is lost in the mainstream of second-language acquisition studies because vocabulary is not related to any popular theories. In general, the academic community pays limited attention to vocabulary research. Wang (2012) suggested that vocabulary learning research should adjust its focus, develop a new understanding of the relationship between vocabulary and grammar, and fully consider the indivisibility of vocabulary and grammar.

Lexicon is the basis of one's language proficiency and is closely related to other language skills, such as listening, speaking, reading, writing and translating. A learner's language is largely measured by the size of his or her vocabulary. For example, Laufer (2001) argued that regardless of whether a language is a mother tongue or foreign language, if the learner does not know the meanings of words, they will not be able to understand the overall meaning of texts. Although almost all learners desire to learn a second language easily and achieve high proficiency without experiencing many difficulties, studying a second language, particularly vocabulary learning, is not an easy task. Although we are aware that it is very important to find good methods for remembering words quickly and easily, in real life, many learners often remember words mechanically without paying adequate attention to the internal structures of the words and find the memorizing process very time-consuming, boring and even frustrating. Hayness and Baker (1993, cited from Laufer, 2001) observed that the greatest difficulty among second-language learners is learning the words rather than developing the reading skills.

In the case of China, English teachers and students face the following problems in term of English vocabulary learning. Even though both teachers and students highly recognize the importance of English vocabulary, there are no specific lexicon courses offered to non-English major students at most Chinese universities. Some teachers believe that there is no need to teach vocabulary separately in class; thus, teachers prefer to leave this type of learning to the students. Even if some teachers cover English lexicon in class, they usually do not explain the underlying structures and meanings of the words, as they may simply encourage the students to review the word list quickly before discussing the text proper. Therefore, teachers place too much of the burden on their students, rendering the learning process boring and failing to spark the students' interest. When memorizing English words, students often resort to vocabulary books that are designed based on learners' general English proficiency. These books do not usually provide much information about why the words are the way they are, or the formations or origins of the words. Chen (2015) pointed out that as Chinese students rely too much on rote learning and mechanical memorizing, it is difficult for them to find correct and effective learning methods, thus curbing the healthy development of college English teaching in China.

### 3. Cognitive linguistics and two theories

Cognition is the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses. Cognitive linguistics is a well-established approach used to study language that emerged in the 1970s and matured in the 1980s. It is marked by the convening of the first International Conference on Cognitive Linguistics in Germany in 1989 and the publication of the journal of *Cognitive Linguistics*. Its founding figures include G. Lakoff, R. Langacker, C. Fillmore, L. Talmy, M. Johnson, M. Turner, W. Chafe. Later, J.R. Taylor, D. Geeraerts, G. Fauconnier, E. Sweetser, A. Goldberg and others who made new contributions to the development of cognitive linguistics. Cognitive linguistics is a general term describing a rather extensive theoretical movement in modern linguistics, and it covers many different approaches, methods and research priorities. These different approaches and methods are unified by the common theoretical assumption that language is an inseparable part of human cognition. Human cognitive ability must be considered in any analysis of linguistic phenomena.

Cognitive linguistics explains the origins, development and acquisition of words. In this field, the rules of words are precisely observed based on the experience of people and rules of things. Cognitive linguistics redirects the approach to teaching English, rendering it more effective, and proposes new requirements for and objectives of teaching English. In this approach, learning is based on the perception of old words and the mastery of the language system. During the process of vocabulary learning, teachers and students should utilize more knowledge and theories related to cognitive linguistics.

When addressing English affixes and Chinese radicals, two theories in the field of cognitive linguistics, i.e., Category Theory and Transfer Theory, are applicable and noteworthy. Category Theory explains that people tend to classify objects into different categories based on the objects' similarities and differences and give different names linguistically. In the English language, people use affixes to expand their vocabulary based on the roots or origins of words, while in the Chinese language, people learn and understand new words based upon radicals, i.e., the essential parts constituting Chinese characters. In addition, Transfer Theory in cognitive linguistics, which is widely accepted in second-language learning research, is highly relevant. The core aspect of the theory concerns the influence resulting from the similarities and differences between the target language and any other previously acquired language (Odlin, 1989: 27). A Positive Transfer occurs if there is much similarity between the two languages, and the language rules of the previously acquired language are able to facilitate the learning of target language. In contrast, if there is not much in common between the two languages, the influence of the first acquired language might hamper the learning of the second language. This paper argues that although English and Chinese are quite different, as English is an alphabet language and Chinese is a hieroglyphic language, a positive transfer occurs when Chinese learners learn English vocabulary. This paper explains how Chinese students relate their existing knowledge of Chinese radicals to English lexicon learning. Affixes in English and radicals in Chinese constitute an important part of the present study.

### 4. Method of learning and memorizing new words--affixes

According to Category Theory in cognitive linguistics, language learners are able to enlarge their vocabulary base based upon the words and the word categories that they have mastered. If learners know the affixes of a language, learning new words linked to the affixes becomes much easier. The discussion below explains how learners can remember English words by their affixes.

Affix is a collective term used to describe the type of formative that can be used only when added to another morpheme (the root or stem). Learners memorize words by affixes, which can largely help them remember words. Chinese English learners can learn new English words efficiently by affixes. According to their positions in the word, affixes can be divided into the following three types: prefixes, infixes, and suffixes. The prefixes usually used by Chinese students are explained in Table 1 and are classified according to their different types of meanings. The types and examples of the prefixes are extracted from *English Affixes and Vocabulary Learning* (Wei,

Table 1: Prefixes and examples of their use in English words

Types of Prefixes	Prefixes	Words
Negative reversal	“de-”, “dis-”, “in-”, “il-”, “im-”, “ir-”, “mis-”, “non-”	defrost, dislike, incorrect, illegal, impolite, irregular, misuse, non-smoker, uncertain
Size degree	“macro-”, “micro-”, “mini-”, “out-”, “over-”, “super-”, “ultra-”, “under-”, “vice-”	Macroeconomics, microeconomics, minibus, outnumber, overwork, superpower, ultrasonic, underestimate, vice-president
Order time	“ex-”, “fore-”, “mid-”, “post-”, “pre-”, “re-”	Ex-wife, foretell, midday, postgraduate, predict, recall
Location	“ex-”, “extra-”, “in-”, “im-”, “inter-”, “intra-”, “sub-”, “tele-”, “trans-”	Export, extra-nuclear, inland, import, international, intranuclear, subway, telescope, transcultural
Number	“bi-”, “centi-”, “mono-”, “multi-”, “poly-”, “semi-”, “tri-”, “uni-”	Bicycle, centimetre, monorail, multinational, polysyllable, semiconductor, triangle, unicycle
Attitude	“anti-”, “auto-”, “co-”, “con-”, “co-”, “com-”, “cor-”, “contra-”, “counter-”	Anti-war, automobile, cooperate, connection, colleague, combine, correct, contradiction, counterattack

## 5. Connection between English affixes and Chinese radicals

A strong connection exists between learning new English words through affixes and learning Chinese characters through radicals. This connection can provide encouragement, reduce the burden on learners and arouse learners' interest in learning the English language. In real teaching practice, one of the authors used Chinese radicals while teaching English affixes to facilitate a positive language transfer among Chinese English learners. The following was taught in her class.

For example, if the Chinese characters have the radical ‘氵’, the characters' meanings are all related to water. Chinese language contains more than 200 radicals, accounting for approximately 120,000 characters (Wang, 1994), indicating that Chinese radicals constitute a large part of the Chinese language. Table 2, which was adapted from the *Chinese Characters Dictionary (3<sup>rd</sup> edition)*, presents some typical radicals.

Table 2: Chinese radicals and examples in Chinese characters

Radicals	Meanings of radicals	Examples of characters
木	Plants	林, 枝
虫, 鱼	Worms and fish	蛇, 鲸
日, 月	Natural phenomena	晚, 明
广, 门	Buildings and architectures	库, 闭
口, 目	Mouth and eyes	喝, 盼
扌	Hands	抓
足, 立	Feet	路, 站
刀	Tools for cutting	切
衣	Silk and cotton	裁
黑	Black colour	墨
一, 二, 八, 十	Numbers	万
小, 大	Size	尖

1) The Chinese character ‘林’ means woods or a large number of trees growing near each other;

‘枝’ means the branches of trees in English. Both characters are related to trees.

2) The Chinese character ‘蛇’ means snake; ‘鱼’ means fish in English. Both characters related to animals.

3) The Chinese character ‘明’ means when the day arrives, it becomes bright; ‘晚’ means that when the sun sets, the evening arrives in English. Both characters are related to natural phenomena.

4) The Chinese character ‘闭’ means to close the door; ‘库’ means the garage of a house in English. Both characters are related to buildings or architecture.

5) The Chinese character ‘喝’ means to drink something; ‘盼’ means to look around in English. Both characters are related to body parts.

6) The Chinese character ‘抓’ means to grab something in English and is related to hands.

7) The Chinese character ‘站’ means to stand up; ‘路’ means an open way (generally public) for travel or transportation. Before modern transportation was available, ancient people used to travel on feet. These characters are both related to feet.

8) The Chinese character ‘切’ means tools in English and is related to cutting with a knife or tool.

9) The Chinese character ‘裁’ means to make clothes in English and is related to silk or cotton.

10) The Chinese character ‘墨’ means black in English and is related to colour.

11) The Chinese character ‘万’ means ten thousand in English and is related to numbers.

12) The Chinese character ‘尖’ means the tip of something in English and is related to shapes.

Radicals are the essential components of Chinese characters. We can correctly understand the meanings of Chinese radicals only after correctly understanding the radicals and their structural rules. Therefore, during the process of English lexicon teaching, identifying and discussing the similarity between Chinese radicals and English affixes offer a new perspective to facilitate English learning. As noted by Wang (1994: 57), ‘There are similarities and differences in word formation between English and Chinese languages, which coincide with each other’.

As shown in Tables 1 and 2, English prefixes are similar to Chinese radicals. Both prefixes and radicals are meaningful parts that form new words and constitute an important part of the languages’ vocabulary. Based on Category Theory and Transfer Theory, Chinese English learners can learn English words by the method they used to learn Chinese characters in their mother tongue. Learners can stimulate the old information they already know to enlarge their vocabulary base. Although learners have not been previously exposed to new words, they do not need to feel scared or frustrated about vocabulary memorizing. In many cases, the new words are not ‘new’ if the learners can identify the words’ components and are able to link their old knowledge to the new words. Thus, word learning is similar to a snowball rolling. Vocabulary enlargement is similar to a snowball growing increasingly larger by repeatedly rolling the snow in a snowfield. This method is not only a good and new method for Chinese English learners to learn and enlarge their English vocabulary but also a process of enhancing confidence, especially in Chinese learners who view English vocabulary as a large obstacle.

One of the authors of this paper has been working as an English teacher in a privately owned college in Xi’an, which is a western city of China, for almost ten years. The following is her account based on participant observation:

*In my teaching experience, the biggest challenge I was confronted with is how to make my students remember the words they have learned. I and my colleagues all tried hard to find suitable teaching methods for vocabulary learning to improve the efficiency of the learning process. Our students who did not achieve high scores on the national college entrance examinations and entered this college generally had a low morale in learning. With regard to the subject of English, the students believed that ‘memorizing English words’ is the most difficult task and something they felt compelled to do frequently (the basic requirements for our students’ graduation is to pass the English courses offered by the college and the national CET band 4 test, with a command of 4,500 English words as the base line). In particular, the English alphabet looks unfamiliar or even alien to them. Many students spend much time memorizing English words, but the outcome is not*

satisfactory. They tend to memorize each letter of words separately, but they forget the words easily. In the English texts and examinations, students tend to get lower scores in the vocabulary section than in the other sections.

When teaching non-English major students at the college, I guided them to explore the relationship between English affixes and Chinese radicals. To highlight the importance of this issue and arouse my students' attention and interest, I used official class time to make elaborations and illustrations. The feedback from my students was quite positive. They spoke highly of this new method of learning English vocabulary. They no longer remembered the words mechanically; instead, they were able to learn and analyse the words' components, which enhanced the students' ability to understand and memorize. This approach not only improved the students' learning efficiency but also cultivated their interest in and enhanced their confidence in English learning at large.

In the course of College English that I taught, I found that my students achieved a higher passing rate in the vocabulary section of the English tests and examinations. In my private conversations with my students, I found that their stress regarding memorizing English vocabulary is less than before.

## 6. Conclusions and Discussion

Cognitive linguistics is an important approach used to study vocabulary learning, and two specific theories, i.e., Category Theory and Transfer Theory, are highly relevant. Nevertheless, there is limited research about English vocabulary learning that integrates the two theories. We argue that this topic is highly important because China has the largest population of English learners worldwide, and English lexicon learning poses much difficulty to Chinese people due to the great difference between English and Chinese (their mother tongue).

This paper explores the relationship between English affixes and Chinese radicals and suggests that the Chinese students could learn and enlarge their English vocabulary using this new method. Students should avoid the old mode of memorizing words by rote and attempting to remember each letter mechanically. Category Theory postulates that if learners are able to understand the deep aspects of words and know the underlying rules of word formation, they become quicker and more efficient at English vocabulary learning. In addition, Transfer Theory could help Chinese English learners achieve positive transfers by finding the similarities between Chinese radicals and English affixes. To deepen our understanding of the issue under investigation, this study also adds the perspective of participation observation, as one of the authors shares her experience with English vocabulary teaching by exploring the connection between English affixes and Chinese radicals.

This paper provides a new perspective regarding the application of cognitive linguistics, and we consider this approach to be applicable to the teaching of English in many aspects. In future research, we suggest that scholars conduct more studies investigating how cognitive knowledge and theories can facilitate non-English speakers' English learning. Even if their mother languages and English are highly distinct and belong to different language systems, the underlying cognitive structures may be similar, and making a positive transfer is possible. Researchers, teachers and students are encouraged to collaborate to develop new and effective methods.

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