A THEORETICAL REVIEW OF VOCABULARY ACQUISITION LEVEL AND ITS INFLUENCE ON STUDENTS READING COMPREHENSION

Xiaoxue He
Marilyn F. Deocampo

Assumption University, Bangkok, Thailand

Reading is a creative way to actively and positively acquire information and to develop students' ability to perceive and access information visually through writing. At the same time, vocabulary is a foundation for reading. The relationship between English vocabulary level and reading comprehension ability are studied by different scholars, especially the relationship between these two variables. Supported by different findings, most of these researchers have found that there is a high correlation between English vocabulary level and reading comprehension ability. An indication is that English language learners' reading comprehension is generally influenced by how much vocabulary they know. The implication is that, as vocabulary contributes to students' understanding of what they read, reading must be part of their learning to improve their vocabulary and one of the essential components of language learning that could lead to their overall language proficiency.

Keywords: English vocabulary level; language proficiency; reading; reading comprehension ability

English vocabulary in second language

Vocabulary is one of the main difficulties of most second language learners. The reason is that traditional teaching needs to emphasize denotative meaning more while other aspects, such as connotative meaning and word collocation, have long been neglected for decades. Despite this, recent years have seen a greater awareness of vocabulary learning by researchers and teachers.
Vocabulary is no longer a victim of discrimination in second language learning research or language teaching.

According to Ellis (2019), words are now crucial in acquiring language despite being neglected for many years. Understanding how a word is formed and grasping its essential meaning can be puzzling for Chinese second-language learners. Therefore, second language learners need to understand the connotative significance of vocabulary. While knowing a word is important, how that knowledge is acquired remains a question.

This understanding is a crucial component of vocabulary knowledge.

Many kinds of research have tried to define what vocabulary knowledge means, and the following are summaries of notions of vocabulary proposed by different researchers. Roberts (2021) thought that fully understanding a word involved five aspects:

- Generalization - being able to define a word;
- Application - selecting an appropriate use of the word;
- Breadth of meaning - recalling the different meanings of the word;
- Precision of meaning - applying the word correctly to all possible situations;
- Availability - being able to use the word productively.

However, the definition has some apparent areas for improvement. For example, it did not consider other aspects of vocabulary knowledge, such as collocation, but his definition inspired later researchers to construct frameworks of vocabulary knowledge.

González-Fernández & Schmitt (2020) commonly believed to be the first person who tried to define vocabulary knowledge and attempted to list the different aspects of vocabulary knowledge.

According to González-Fernández & Schmitt (2020), to fully acquire a single word, it is necessary to master various aspects of word knowledge. He proposed eight assumptions:

1. The native speaker of a language continues to expand his vocabulary in adulthood, whereas there is comparatively little development of syntax in adult life.
2. Knowing a word means knowing the probability of encountering that word in speech or print. For many words, we also know the sort of words most likely to be found associated with the word.
3. Knowing a word means knowing the syntactic behavior associated with the word.
4. Knowing a word entails knowledge of the underlying form of a word and the derivation that can be made from it.
5. Knowing a word entails knowledge of the network of associations between the word and other words in the language.
6. Knowing a word means knowing the semantic value of a word.
7. Knowing a word means knowing many of the different meanings associated with a word.

Although the assumptions are relatively comprehensive, it is apparent that some aspects need to be included in Richard's definition, such as pronunciation and spelling. Miralpeix & Munoz (2018) proposed the terms of receptive and productive knowledge.

According to him, receptive knowledge tests a learner's ability to recognize or comprehend a particular type of knowledge, such as sound and collocation. In contrast, productive knowledge tests a learner's ability to produce or apply a particular type of knowledge, such as pronouncing or using the word in a correct idiomatic context with other words Miralpeix & Munoz (2018).
Listening and reading involve receptive vocabulary knowledge, and writing and speaking are related to productive vocabulary knowledge. Nation's definition offers researchers a new and effective method to describe English study skills in terms of receptive and productive abilities. Thus, we can understand more aspects of vocabulary knowledge.

Gleason & Ratner (2022) proposed a continuum theory of word development. The three dimensions are as follows:

- partial-precise knowledge: vocabulary-size measures tend to be located towards the partial end of this continuum;
- depth of knowledge: it includes the multiple dimensions: a spoken and written form of the word, grammatical knowledge, collocational knowledge, stylistic register constraints, conceptual meaning, and associations;
- receptive-productive knowledge: the distinction here is between having some knowledge of a word and being able to use it in speech or writing.

Sifakis (2019) claimed that the three dimensions can reflect the vocabulary development process. In the first stage, Sifakis (2019) said precision will come later, and lexical development can be characterized as a move or progression from rough categorization or vagueness to more precision and mastery of finer shades of meaning.

Furthermore, her third stage states that vocabulary knowledge should be viewed as comprising two aspects: receptive and productive. According to Sifakis (2019), the phenomenon that learners cannot use a word correctly does not mean that they do not know the word; it only means that they have yet to achieve adequate control over word access.

Quinn et al. (2020) recent framework stated that vocabulary knowledge comprises four intrinsically connected dimensions:

1. Vocabulary size, which refers to the number of words of which a learner has at least some superficial knowledge of meaning
2. Depth of vocabulary knowledge, which includes all lexical characteristics, such as phonemic, graphemic, morphemic, syntactic, semantic, collocational, and phraseological properties, as well as frequency and register
3. Lexical organization, which refers to the storage, connection, and representation of words in the mental lexicon of a learner
4. Automaticity of receptive-productive knowledge refers to all the fundamental processes through which access to word knowledge is achieved through receptive and productive purposes, including phonological and orthographic encoding and decoding. This is accessed to structural and semantic features from the mental lexicon, lexical-semantic integration and representation, and morphological parsing and composing

According to Quinn et al. (2020), these dimensions are intrinsically connected and interact closely with one another in the fundamental process of vocabulary use and growth. Thus, knowing the complete mastery of a word is much more than knowing its meaning and form, and it involves many more aspects.

Quinn et al. (2020) pointed out that recognizing depth and breadth as two primary dimensions of vocabulary knowledge is crucial to understanding the relationship between vocabulary knowledge and reading comprehension. The amount of words a learner knows is their vocabulary size or breadth of vocabulary knowledge. On the other hand, the depth of their vocabulary knowledge is measured by their understanding of different aspects of a word.
A THEORETICAL REVIEW OF VOCABULARY ACQUISITION

Recent studies on vocabulary knowledge have adopted Quinn et al. (2020) definition, making this classification increasingly popular.

**English vocabulary acquisition**

Vocabulary is one of the main difficulties of most second language learners. The reason is that denotative meaning had been emphasized too much in traditional teaching by Nguyen (2021), while other aspects, such as connotative meaning and word collocation, had long been neglected for decades. Despite this, recent years have seen a greater awareness of vocabulary learning by researchers and teachers. Vocabulary is no longer a victim of discrimination in second language learning research.

After decades of neglect, words are recognized as central to any language acquisition process, Schmitt (2019). Does learning a word mean recognizing how it is formed and grasping its essential meaning? Most Chinese second-language learners have been puzzled by such questions for many years. So, our second language learners need to make the connotative significance of vocabulary.

Knowing the word is one thing, but how that knowledge is acquired is another. In learning their first language, the first words that children learn are typically those used for labeling, that is, mapping words onto concepts, so that the concept, e.g., of dog has a name, dog, or doggie in English, and in Chinese. Nevertheless, do dogs indicate the same thing? Are all four-legged animals dogs? Some may be cats. So, the child has to learn how far to extend the dog concept so as not to include cats but other people's dogs, toy dogs, and pictures of dogs. In other words, acquiring a vocabulary requires labeling and categorizing skills (Zhang & Zhang, 2022).

*From the perspective of cognitive psychology*

In the mid-1950s, with the emergence of cognitive psychology, psycholinguists found that the development of psycho-cognitive ability affects language learning and acquisition. Using new findings from psycholinguistic research to study English vocabulary teaching from the perspective of learners' cognitive abilities and cognitive processes has been a clear trend in this field in the past 12 years by Wang et al. (2019).

Journal websites on English vocabulary teaching and learning from the cognitive psychology perspective were searched. Two or four articles were found on the cognitive psychology of English vocabulary teaching. Chinese scholars have extensively and deeply researched English vocabulary teaching and learning from different cognitive psychology perspectives and theories.

Wang et al. (2021) discussed the research in cognitive psychology on memory and its enlightenment on English vocabulary teaching in terms of situational memory, associative memory, image memory, and the cognitive level and presentation frequency of vocabulary based on the latest achievements of cognitive psychology research at home and abroad.

Wang et al. (2019) discussed the three stages of a memory system: the sensory storage stage, short-term memory stage, and long-term memory stage, and analyzed the relationship between memory and interest. She proposed the inspiration of the law of interest and memory for our vocabulary teaching.

Xu (2019) explored the role of an emerging doctrine in cognitive psychology, connectivity theory, in teaching English vocabulary strategies.
Research on English vocabulary teaching from the perspective of cognitive linguistics in China started late, and from the results of the search, 16 important academic journals of foreign languages only started to publish the relevant research results, but the coverage is relatively comprehensive.

Yang et al. (2020) focuses on the role of cognitive linguistics in teaching English vocabulary, including the basic categories of vocabulary, the semantic rationale of words, the deep connection between multiple meanings of words, the metaphorical meaning of words, and the theory of cognitive semantics.

Yang et al. (2020) pointed out that the active application of cognitive linguistic theories will bring unexpected benefits to vocabulary teaching.

Ellis (2019) described the role of cognitive linguistics in English teaching practice from core vocabulary, meaning group teaching, and analytic synthesis. The first two aspects deal with the macroscopic influence of cognitive linguistics on vocabulary teaching, and the third discusses vocabulary teaching strategies in terms of specific methods.

**From the perspective of semantics, stylistics, and pragmatics**

As the research on semantics, stylistics, and pragmatics has intensified, language researchers have further applied the results of these studies to vocabulary teaching in the past 12 years, and many scholars have combined and synthesized the advantages of each of them, thus complementing and developing the methods and strategies of vocabulary teaching. Therefore, while reviewing the research results of semantics, stylistics, and pragmatics in this field, I review the synthesis of their application in English vocabulary teaching.

The study of chunk teaching is another major trend in the field of English vocabulary teaching in recent years, Mohammadi & Enayati (2018). A chunk is a linguistic phenomenon that occurs more frequently than words in real communication. It integrates grammar and explores the linguistic functions and classifications of language "chunk" structure with the word "chunk" structure and improves. The word pattern is also a lexical collocation.

Mohammadi & Enayati (2018) pointed out that using the word pattern method to teach English vocabulary can increase and improve students' motivation to participate in class. Some researchers attributed learners' problems in class connection and collocation to their mastery of word chunks and suggested that one of the priorities of English vocabulary teaching should be to strengthen the teaching of word chunks (Dakhi & Fitria, 2019).

In response to the current situation in which college students have a small active vocabulary in English, both the design of vocabulary questions and teaching vocabulary in the classroom should be based on word chunks to improve students' language output ability.

**From the perspective of intercultural communication**

The most culturally influenced aspect of language is vocabulary. In the literature on English vocabulary teaching, cultural factors have been mentioned as background knowledge affecting vocabulary acquisition or as a systematic discussion of the relationship between intercultural communication and vocabulary teaching by language researchers.

Hartono et al. (2021) noted that cultural principles are essential in teaching foreign language vocabulary and one effective method for teaching it. He systematically analyzed the vocabulary composition and different meanings of two different national cultures by comparing the ways of thinking, historical reasons, geographical environment, religious
beliefs, values, customs, and habits of the English and Chinese peoples. He discussed the specific teaching methods of English vocabulary.

**English reading comprehension in second language**

The forms of reading in English include learning reading, comprehension reading, and informational reading in daily life, Roe (2018).

So-called learning reading means that students learn how to read, starting from short texts in textbooks, dialogues or short stories in related materials, and reading superficially. Learning reading emphasizes reading speed, understanding the main content, cultivating interest in reading, and good reading habits. Comprehension reading is to get the thoughts, feelings, and information expressed in the article through reading.

Therefore, the selection of materials should be broad, the difficulty of the article should be slightly more significant than the students' level, students should pay attention to understand the general meaning of the article and understand the author's intention to obtain specific knowledge; Informational reading is the reading of English newspapers, magazines, letters, manuals, and advertisements in daily life, Rumelhart (2022). It focuses on enabling students to acquire information in a specific aspect.

Therefore, in the reading training for students, these three kinds of reading can be combined through a large number of long-term reading training, constantly obtaining new information, discovering reading methods, and mastering reading skills in order to expand their original knowledge structure and improve their reading level.

However, since most students have a weak foundation in English and are not interested in English, the students' bad reading habits and the backwardness of the reading teaching mode also affect the improvement of the student's English reading ability to a certain extent.

The research on the relationship between vocabulary knowledge and reading comprehension

First-language readers believe that vocabulary depth and breadth of knowledge are essential in reading comprehension. Observed English learners who spoke Dutch as a first language found that vocabulary knowledge was the most predictive of reading comprehension compared to four types of metacognitive knowledge (self-knowledge, task knowledge, strategy, and goals (Zhang & Zhang, 2022). Over the past two decades, researchers have found that word breadth predicts success in reading, writing, etc.

Qian & Lin (2019) investigated the relationship between vocabulary size and reading achievement and showed that all vocabulary levels (less than 2000 vocabulary, 3000 vocabulary, 4000 vocabulary, and 5000 vocabulary) were significantly related to reading achievement. At the same time, Qian & Lin (2019) argued that a lack of vocabulary knowledge affected second-language learners' reading performances.

However, in second language research, it is only in the last decade that scholars have focused on the relationship between depth of vocabulary knowledge and predicted reading ability. Some studies have shown a correlation between vocabulary depth and reading comprehension outcomes.

In contrast, Enayat & Derakhshan (2021) pointed out that domestic scholars' research on vocabulary size initially focused on the relationship between vocabulary breadth knowledge and second language learners' language ability.
Since then, more and more scholars have been studying the relationship between vocabulary and reading. However, the research results could be more informative due to the differences in the research scope, measurement tools, and methods used in the research process. Therefore, it is necessary to investigate the relationship between vocabulary knowledge and the reading ability of high school students.

**Current studies related to the research**

In recent years, there have been numerous studies on English reading teaching in China, and some scholars have emerged who are more prominent in related research fields:

Gong et al. (2020) divided the research content of English reading teaching by Chinese scholars into four aspects from different research perspectives:

- the first aspect is from the aspect of English reading teaching and reading mode theory;
- the second is from the perspective of discourse. The second aspect is the study of English reading teaching from the perspective of discourse;
- the third aspect is the study of English reading teaching from the perspective of pragmatics;
- and the fourth aspect is the analysis and research from the perspective of multimedia networks and English reading teaching.

Fu et al. (2019) conducted a study on the application of English word chunks in high school English reading teaching and proved that English word chunks facilitate English reading, which is very helpful to English reading teaching.

Scholar Chapman & Tunmer (2019) investigated and analyzed the difficulty of current reading teaching, which lies in how to go beyond the surface of language factors and guide students to understand the deeper meanings conveyed by language information.

Additionally, Hsu (2022) reported that after vocabulary reached the required 3,000-word families, adding 1,000-word families still significantly boosted students' reading scores. Chinese non-English majors with a vocabulary of 4,000 words did not regress in their reading scores but significantly achieved 68.75% of the total reading score. At this level, vocabulary still plays an essential role in Chinese students' reading abilities. Since the vocabulary size of second language learners was correlated with reading ability, foreign language teachers can measure the vocabulary size of second language learners to predict their reading. It also aimed to provide appropriate guidance by measuring learners' reading performance and understanding their needs in reading training.

Since the lower limit of vocabulary required for basic comprehension in reading was 3,000 English words, teachers could provide targeted instruction depending on the size of the learner's vocabulary. Instruction should focus on expanding vocabulary if the learner's vocabulary is less than 3,000-word families.

When the learner's vocabulary reaches or exceeds 3,000-word families, instruction should shift from vocabulary expansion to reading strategy training while encouraging the learner to continue expanding their vocabulary. Lailiyah et al. (2019) proposed that students who received direct vocabulary instruction had a higher growth rate in reading comprehension when compared to students who did not receive direct vocabulary instruction.
A THEORETICAL REVIEW OF VOCABULARY ACQUISITION

English Language Learners face the challenge of learning to read while learning a new language, and vocabulary instruction can support the reading comprehension of these students.

The teacher said the word, wrote the word and defined the word for students before the students began any activities with the words. Next, students used visual clues or created mental images to construct a personal connection and attachment to the word.

Then, the students were given multiple chances to use the word in dialogue with the teacher and each other. The teacher observed excitement and an interest in new words that transferred to the students reading and writing activities. Students were provided multiple exposures to words using graphic organizers, creating illustrations and sentences, examples and non-examples, and keeping a personal dictionary.

Shortcomings of the current status of the study

According to Barcroft (2019), the study of vocabulary teaching, whether theoretical change or pedagogical reform, cannot be called innovative. Context, word blocks, or cultural background knowledge are the same old issues. Many papers are titled New Explorations of English Vocabulary Teaching or Multimodal Teaching, but at best, they are old wine in new bottles. The content must break through the original research results and achieve innovative research on English vocabulary teaching.

The practicality of theoretical inquiry could be more robust

Some authors have tried to interpret new ways of vocabulary learning from different perspectives, for example, cognitive linguistics. While it is true that theoretical knowledge can help develop new approaches, it is essential to remember that teaching in reality often differs significantly from theory. Vocabulary teaching is closely connected to cognitive linguistics. However, as an essential part of the knowledge structure of English, it is not likely to provide a concrete and practical approach to English vocabulary teaching as it is primarily a study of language by Chang & Lu (2021).

Most methods are summarized from teaching practice and need to be more systematic

Many vocabulary teaching documents come from teachers with many years of teaching experience. They have extracted from their teaching experience or explored by themselves to summarize their experience, which is practical and robust. However, most are scattered and fragmented and need to form a system. The individual summaries need to be more specific and comprehensive, and there is no set of theoretical systems and concrete implementation steps.

After studying the literature on English vocabulary teaching, there are many new theoretical achievements in both theory and method. However, there are no groundbreaking and innovative theories, and we must continue our efforts.

Conclusion
As shown in this review, researchers in China and other parts of the world have conducted numerous studies investigating the connection between vocabulary knowledge and reading comprehension. The findings have shown some similarities and differences.

While they generally agree that there is a correlation between vocabulary knowledge and reading comprehension, the amount of vocabulary needed for understanding is still a topic for discussion and further exploration.

These differences could be attributed to variations in research subjects, methods, and tools used. Therefore, researchers may focus on developing innovative approaches to vocabulary teaching by exploring new pedagogical strategies, incorporating technology and multimedia resources, or experimenting with unconventional methods that differ from traditional vocabulary instruction to help students develop their vocabulary acquisition.

References:


A THEORETICAL REVIEW OF VOCABULARY ACQUISITION


*Paper submitted* 29 July 2023
*Paper accepted for publishing* 27 September 2023
*Paper published online* 30 November 2023