Original Paper

An Analysis of the Vocabulary List Arrangement in Primary School English Textbooks from the Perspective of Frame

Semantics

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Received: August 4, 2024 Accepted: August 22, 2024 Online Published: September 6, 2024

Abstract

With the increasingly close ties between countries all over the world, the acquisition of English as a second language is particularly important, in which English vocabulary learning is crucial. But the way of vocabulary arrangement and presentation affects students' vocabulary memorization effect to a great extent. As the starting stage for students to learn English, the problem of teaching vocabulary in elementary school is worth pondering. Based on the Frame Semantics Theory, this paper examines the arrangement of vocabulary lists in elementary school English textbooks by taking the first book of the fourth-grade English textbook published by Foreign Language Teaching and Research Publishing House as an example. It is found that the new words in the vocabulary lists of the current textbooks are simply arranged in the order that they appear in the text or in alphabetical order, which is inconsistent with students' cognition. Therefore, we believe that based on the Frame Semantics Theory, a reasonable arrangement of vocabulary and the provision of a frame vocabulary list in line with the students' cognition can enable students to spend the less cognitive effort to obtain more cognitive effect, and achieve twice the result with half the effort.

Keywords

Frame Semantics, vocabulary learning, primary school, English textbooks

1. Introduction

Among the five skills (listening, speaking, reading, writing and translating), vocabulary is the prerequisite for mastering English and the most basic unit in English teaching. Vocabulary is as necessary and important to learning English as bricks are to constructing a building, and it is the foundation of all English skills. Without sufficient language knowledge and vocabulary, English learning is bound to be

hindered to a greater extent, and even affect the motivation to learn English. In second language learning, vocabulary directly affects the performance of students' language skills.

However, the large amount of vocabulary and the intricate relationship between the meaning and shape of words make it difficult for students to learn and memorize, and students spend most of their time repeating and memorizing words in the process of English learning. While the more they remember, the faster they forget, and the more unsatisfactory the results they achieve. Memorizing vocabulary and mastering vocabulary from conceptual connections is still the subject of vocabulary teaching research (Mei, 1983).

The way vocabulary is presented has an important impact on students' vocabulary learning. There are a lot of new words in each unit of the English textbook, and the new words in the vocabulary list are simply arranged according to the order of their appearance in the text or the alphabetical order, which artificially isolates one semantically related word from another. Therefore, students who learn and memorize words mechanically according to the order in which they appear will not only get half the result with twice the effort, but also lose interest in English learning in the long run. Thus, vocabulary arrangement should follow a certain method, according to students' cognitive ability and in line with students' cognitive laws. Fillmore (1985) pointed out that although frames do not depend on language and exist independently, language cannot be detached from frames, and linguistic expressions are always linked to the relevant frames in people's memory. That is, when people are exposed to a certain language form in a certain context, they always activate a specific frame in their mind, and from that frame, they are connected to a specific frame. As a means of human cognitive construction, frames provide the context and motivation for the presence of words in language and the use of discourse, and frames combine our experiential knowledge and linguistic structure (Pan, 2003).

A semantic frame is a series of schematic reasoning structures linked to lexical items by linguistic conventions. Each frame consists of a set of frame elements. Frame elements are the participants and supports of a frame, the conceptual roles that present schematized scenarios. They represent the semantic and syntactic features of words through their association with semantic frames. The semantic depiction of the frame of a lexical item begins with the identification of the frame that highlights one of the lexical meanings, and then explains how the frame elements and combinations of frame elements are realized in the structure that is formed around the lexical item. Thus, in order to understand the semantics of a word, one must first have an understanding of the word's conceptual structure, i.e., the semantic frame, which serves as background knowledge of the meaning of the word and the existence of its use. Whereas words can select and emphasize certain aspects of the basic semantic framework according to certain principles or ways through the linguistic structure in which they are located. Thus, to explain the meaning and function of words, it is possible to portray the basic semantic frame of the words and then choose which aspects of the semantic conceptual elements of the semantic framework to highlight or emphasize according to the specific context (Fillmore, 1976).

The theory of frame semantics has been widely used in psychology, sociology, anthropology and other fields. At present, its application to vocabulary teaching is also active, but few scholars have studied the vocabulary arrangement of textbooks from the perspective of frame semantics. Therefore, it is very meaningful to organize vocabulary based on frame semantics theory, which can present a frame vocabulary list in line with students' cognition, so that students can maximize the cognitive effect with minimum cognitive effort and improve their vocabulary learning effect.

2. Literature Review

Linguists have made relevant studies on Frame Semantics and vocabulary teaching in English textbooks, and this chapter will provide a basic introduction to the basic concepts of Frame Semantics as well as the current state of research related to vocabulary teaching in English textbooks.

2.1 Frame Semantics

Frame semantic theory was proposed by American linguist Fillmore (1977), who interpreted the meaning of vocabulary from the perspective of human cognition, emphasizing the importance of the intrinsic connection between languages and people's understanding of language in the process of language use (Chen & Bai, 2011). Frame semantics comes out of the empiricist tradition of semantics, linking social knowledge to semantics in linguistics, close to the semantics in the field of ethnography. A "frame" is a schematic structure generalized from recurrent human experience, a category created by a linguistic community, a conceptual representation of language. A frame is a structured system of categories that corresponds to some motivating contexts, a schematized situation stored in human experience, which may describe either an entity or a pattern of behavioral practices, or even some social institutions, customs, etc. (Fillmore, 1982). The coverage of "frame" is very wide, covering a series of concepts in natural language understanding, such as "schema", "script", "script", "scenario", "ideational scafolding", "cognitive model", and "folk theory" ect.. Frame semantics attempts to use empirical methods to explore the connection between human linguistic experience and to study a feasible way of describing this connection, i.e., to describe the meaning of words, sentences and texts in a unified "frame".

Fillmore (1982) argued that the meaning of a word is governed by the semantic frame in which it is located and is defined by that semantic frame, so in frame semantics, understanding the meaning of a word must be predicated on an understanding of the entire frame in which the word is located. First, the frame semantic theory holds that people understand the meaning of words in the frame activated by the word, in which a number of words are intrinsically related to each other. Secondly, frame semantics theory suggests that the process of learning is the process of making connections between new knowledge learned and existing cognitive background. Learners need to make efforts to make the new knowledge of the target language interact with the relevant old knowledge stored in the original cognitive structure of the brain, and to stimulate the a priori knowledge in order to obtain the actual meaning represented by the new knowledge. Finally, frame semantics theory holds that people's understanding of the meaning of words comes from their knowledge of the world, and that people's understanding of their social and

cultural life will be reflected in language accordingly, so the constraints on people's understanding of language are related to their social customs and beliefs to a certain extent.

The vigorous development of frame semantics has attracted a group of Chinese linguists, who have not only studied the contents of foreign frame semantics, but also further developed and innovated the theory, and pioneered the related practical application research, which mainly focuses on the application in the teaching of foreign language vocabulary, especially in the teaching of English vocabulary. Chinese linguist Pan (2003) believes that language learners can view each frame as a small and abstract "scenario", thus creating a way of observing lexical meanings of words, emphasizing the two important concepts of prototype and perspective. Linguist Wang (2011) believes that second language vocabulary teaching based on frame semantics by combing, reconstructing and building new second language frames can help learners correctly understand and master second language lexical meanings. Tan (2012) suggested that the English vocabulary teaching method based on frame semantics is more effective for students' second language vocabulary acquisition than the traditional vocabulary teaching method, and that the positive effects of the frame semantics-based vocabulary learning method are reflected in two dimensions of vocabulary acquisition, that is, input knowledge and output knowledge. And in the empirical study, it was concluded that lower level students made effective progress in the vocabulary teaching vocabulary learning method based on frame semantics. You (2016) found in an empirical study that vocabulary teaching based on frame semantics can expand students' vocabulary and improve their learning interest and attitude. Based on Brown and Payne's (1994) five-step vocabulary teaching method and the threestage vocabulary learning method proposed by Qian and Zhou (2005), Yin (2020) proposed a new threestep teaching method, which divides vocabulary teaching based on frame semantics into a pre-frame stage, a frame stage and a post-frame stage. In the pre-frame stage, the target vocabulary is approached in a specific reading text, and the frame stage serves as the core stage for identifying, describing, and analyzing explicit and specific frames, and in the post-frame stage, i.e., the frame reconstruction stage, the teacher instructs students to apply the target vocabulary to various contexts, and she argues that English vocabulary teaching based on frame semantics improves the vocabulary comprehension of students to a great extent, and it can also effectively improve students' vocabulary production ability.

2.2 Vocabulary Teaching in Textbooks

As an important form of language expression, vocabulary is an important part of language ability and an important constituent part of language skills, and second language vocabulary teaching, as the foundation and core of second language teaching, has always been the focus of linguistic researchers, and the history of related research is also long.

At first, in the view of formalist linguists, second language teaching should be centered on grammar, and vocabulary teaching should serve grammar teaching, vocabulary memory should be mechanically memorized by learners on the basis of dictionary definitions, focusing on lexical meaning changes, and focusing on the study of logical and rational meanings. However, with the deepening of the research, the

linguists' viewpoints about vocabulary teaching have shifted. In order to ensure the smooth progress of English speech activities, mastering the necessary vocabulary always plays a pivotal role.

Therefore, scholars have conducted a lot of research on English vocabulary learning methods. Malley and Chamott (1985) believed that the memory of English words can be deepened through repeated identification and use of vocabulary. And Schmitt (2000) emphasizes the importance of learning vocabulary in context. He believed that by reading a lot and guessing the meaning of words in context can effectively increase the vocabulary and enhance word memorization. Chen (2013) found through comparative tests that thinking maps are conducive to the formation of students' English learning strategies, such as the cognitive strategies such as "word formation", "association" and "categorization" in cognitive strategies, which were significantly improved. Zhang and Duan (2017) investigated and analyzed students' vocabulary learning strategies and depth of vocabulary knowledge, and found that reviewing and testing, guessing the meaning of words, looking up the dictionary, taking notes and practicing were positively correlated with the level of depth of vocabulary knowledge. Vocabulary memorization affects the efficiency and effectiveness of learners' learning. Previous scholars have conducted a lot of research on second language vocabulary memorization from different perspectives and concluded that students use certain strategies to varying degrees and facilitate their learning of new words. Overview of the above vocabulary learning strategies, it can be seen that most of the strategies were essentially the same, that is, they all emphasize the need to learn English vocabulary in meaningful situations, providing students with background knowledge for vocabulary learning, in order to promote better understanding and memorization of vocabulary, such as learning vocabulary in context; reading a lot, speculating on the meaning of the word in context; and learning vocabulary in relation to the context; the strategy of "association" and so on. However, the arrangement of vocabulary lists in students' English textbooks were only mechanical listing of words, which might takes words out of context and cuts the connection between words, which is likely to affect students' vocabulary learning strategies to a great extent, and then affect their vocabulary learning efficiency and effectiveness. The textbook is the best language sample for classroom teaching, and the basis of language learning is vocabulary learning. The arrangement of vocabulary in textbooks should firstly meet the number of vocabulary required by the syllabus, and secondly, the rational arrangement and design of vocabulary in textbooks is also very important. Sinclair (1991) explored the problem of vocabulary breadth distribution. Chen (2001) studied by means of a questionnaire and concluded that most students (74%) used the textbook as the main way to learn vocabulary. Xie (2010) explored the vocabulary appendix of secondary school English textbooks by using a corpus approach and found that the vocabulary inclusion, vocabulary categorization and annotation of the textbook vocabulary lists were deficient and explored the reasons for this.

Domestic and overseas studies on vocabulary and vocabulary teaching emphasized the importance of vocabulary in the teaching of English language teaching textbooks, and researched in terms of the theory of vocabulary teaching and the application of the theory. The research emphasizes the importance of vocabulary teaching and learning, focuses on vocabulary teaching strategies, emphasizes student-

centered vocabulary teaching, and proposes many instructive teaching methods and vocabulary teaching models. And in the development of in-depth research on vocabulary teaching theory, scholars began to try to use frame semantics in the theory of second language vocabulary teaching and continued to expand related empirical research, demonstrating the value and wide application of frame semantics theory. However, past theoretical studies and empirical studies of vocabulary teaching based on frame semantics still have many flaws.

Most domestic and abroad studies focused on the impact of English vocabulary teaching and textbook arrangement on students' foreign language learning in junior high school and above. While only a few scholars have paid attention to the impact of vocabulary presentation and vocabulary arrangement of elementary school English textbooks on learners' vocabulary learning, although the primary schools' English textbooks are the preliminary foreign language textbooks for most of the students in China. Therefore, there is still a great deal of room for exploration in the study of applying the theory of frame semantics to the teaching of English vocabulary in elementary schools. On the basis of the original research findings, we can implement more in-depth research on a more solid theoretical foundation. In this paper, the primary English textbooks will be selected to examine their vocabulary list arrangement from the perspective of frame semantics theory, and try to give a more reasonable and in line with the students' cognitive pattern of new word presentation, to help students better understand and memorize the words.

3. Analysis of Vocabulary List in Primary English Textbook

In this study, the elementary school English textbook was selected as a research sample (taking the first book of Grade 4 English published by the Foreign Language Teaching and Research Press as an example), and its vocabulary list arrangement was analyzed module by module from the perspective of the frame semantic theory, in attempt to find out some weaknesses in the vocabulary list selection and design, and to try to improve the arrangement of the textbook's vocabulary lists from the perspective of the frame semantic theory, so as to make the presentation more in line with the cognitive rules of the students, and to promote the students' comprehension and memorization of the new words.

The textbook is divided into ten modules, each of which consists of two units. Pages 66 to 67 of the textbook are accompanied by a vocabulary list (Words and Expressions in Each Module), in which the key vocabulary words of each module and unit are listed and labeled with their corresponding meanings in Chinese, and the thematic contents of each module are listed and analyzed against each other as follows:

Eg 1: Module 1

Unit 1 Go straight on.

Unit 2 It's at the station.

The first module lists 22 words, examining the vocabulary content and comparing the titles of the units, it is found that the module involves the theme of "location", and the vocabulary mostly involves places

of departure, destinations, references and directions, etc., and most of the words are nouns and directional words, such as station, street, straight, near, etc. The vocabulary is relatively difficult and the vocabulary is relatively large. In this module, the main categories involved in the "location" framework are listed in the vocabulary list, and the vocabulary set is relatively comprehensive, but there is a lack of vocabulary related to the medium of mobility, such as foot, bus, bicycle, and so on.

Eg 2: Module 2

Unit 1 She's reading a book.

Unit 2 What are you doing?

The second module lists 12 words, and this module is mainly concerned with the theme of "action". The vocabulary mainly involves some common actions, mostly verbs, such as read, doing, talk and so on, which is relatively simple and the vocabulary quantity is relatively small. While the main categories involved in the framework of "action" should take into account such as the action sender, the action bearer, the action, etc.. This module focuses on some words related to action, which is relatively homogeneous in terms of variety, leaving students with limited space for association, which is not very conducive to students' vocabulary for the series of words under the framework of "action". Moreover, the framework of this module is shallowly connected with the framework of the previous module, so it is difficult for students to use the vocabulary of the previous module, which is not conducive to students' coherent learning of English vocabulary.

Eg 3: Module 3

Unit 1 What are they doing?

Unit 2 What are the elephant doing?

The third module lists 25 words, which showed that this module involves the same theme as the previous module, mainly "action". The vocabulary mostly involves the sender of the action, the receiver of the action, and the action behavior, etc.. And most of them are nouns and verbs, such as people, row, boat and so on, which are relatively difficult and have the largest vocabulary in this textbook. The vocabulary is relatively difficult and the vocabulary is the largest in this textbook. The framework of this module is closely related to the previous module, and the vocabulary is more rich and complete, students can associate and review the words of the previous module, which is conducive to the coherent learning and mastery of English vocabulary. But the number of vocabulary is over-arranged, which is a little bit stressful for elementary school students to memorize English vocabulary, and may discourage the students' motivation to learn.

Eg 4: Module 4

Unit 1 Do you want some rice?

Unit 2 How much is it?

Module 4 lists 16 words. Examining the content of the vocabulary and comparing the titles of the units, it can be seen that the two units in this module deal with the themes of "eating" and "trading", and the vocabulary is mostly related to the types of food and the action of trading, with most of the vocabulary being nouns and verbs, such as juice, tomato, buy, etc. The vocabulary is relatively simple and the amount of vocabulary is reasonable. However, the thematic frame of the two units of this module is relatively far away from each other, so students may have a relatively poor coherence in learning this module. In addition, the categories involved in the frame of "trading" should take into account the buyer, seller, quantity and the amount of the transaction, and the vocabulary should be arranged such as buy, sell, number, money, etc. Yet, only one category is set in this module, which is not conducive to the students' English cognition of the frame of "trading". This is not conducive to the establishment of students' English cognition of the frame. The vocabulary of only 16 words in the whole module contains two different frames, in which the vocabulary of food is obviously higher, which is not reasonable in quantity of vocabulary.

Eg 5: Module 5

Unit 1 Can you run fast?

Unit 2 Can Sam play football?

Module 5 lists 9 words, the theme of which is mainly about "sports", and the vocabulary mostly involves the ways of movement and states of movement, with verbs and adjectives, such as run, fast, etc. The vocabulary is relatively simple and the vocabulary size is set to be the smallest in this book. The thematic frame of vocabulary in this module is closely related to the second and third modules, which helps students to review the previous knowledge. However, the framework of "sports" should basically take into account the ways, places and states of sports, etc. This module does not cover the vocabulary related to places of sports such as gym, which is not conducive to the complete establishment of students' knowledge of English under this framework. The vocabulary is too insufficient for students to learn easily, and the second half of this module is easy to feel boring.

Eg 6: Module 6

Unit 1 Can I have some sweets?

Unit 2 Happy Mid-Autumn Festival!

Module 6 lists 12 words. The two units of this module deal with the frames of "food" and "festival" respectively, and the vocabulary words are mostly related to the types of food and the names of festivals. The framework of "food" can be associated with food types and flavors, etc. In the fourth module, the textbook has already dealt with food types, but the emphasis on food types in this unit may make students feel bored with the English vocabulary of this unit. Adding appropriate vocabulary expressions for food flavors such as sweet, spicy, etc. is not only conducive to deepening students' connection and consolidation of previous knowledge, but also improves students' interest in learning to a certain extent.

In Unit 2, the vocabulary in the framework of "festivals" is relatively small, and the connection between the two units is not very close, which is not conducive to students' coherent learning.

Eg 7: Module 7

Unit 1 There is a horse in this photo.

Unit 2 There are twelve boys on the bike.

Module 7 lists 12 words, and this module deals with the frame of "animals", the vocabulary words are mostly related to the kinds of animals, the number of animals, and the kinds of food, etc.. Most of the words are nouns, such as horse, twelve and fruit. In this module, the vocabulary words are relatively simple and the vocabulary is relatively small. The frame of vocabulary in this module is mainly based on "animals", but some food expressions are arranged in the vocabulary list, which is easy to confuse the students, and the link between this module and the previous one is not close enough, so the consistency of the vocabulary arrangement needs to be improved.

Eg 8: Module 8

Unit 1 We are going to visit Hainan.

Unit 2 Sam is going to ride a hose.

Module 8 lists 11 words, and the frame of this module is mainly "travel", and the vocabulary mainly involves the departure time of the trip, the means of transportation, the destination of the trip, and the activities of the trip, etc., and the majority of the vocabulary words are nouns and verbs such as tomorrow, plane, sea, fish, etc. The vocabulary of this module is relatively rich in variety but relatively small in amount. The frame of the vocabulary of this module is relatively unfamiliar to students at this stage, so there is a relatively rich variety of expressions of the different elements involved in this module, which is conducive to stimulating students' motivation to learn this module. But the small number of vocabulary, which can easily lead to the shallow understanding of students, and the establishment of English cognition for this frame is easy to become monotonous.

Eg 9: Module 9

Unit 1 Are you going to run on sports day?

Unit 2 I'm going to do the high jump.

Module 9 lists 14 words. Examining the content of the vocabulary words and comparing the titles of the units, it is found that this module mainly deals with the frame of "sports", and the vocabulary words are mostly related to sports movements, units of measurement of sports, and the time and frequency of sports, etc.. Most of the words are verbs, quantifiers, and nouns, such as jump, metre, day, etc. The vocabulary words are relatively difficult but the amount of vocabulary words is relatively small. The vocabulary framework of this module is the same as that of Module 5, but it is relatively rich in the variety of elements under the framework, with the addition of expressions related to units of measurement and time

frequency, which is complementary to the vocabulary of Module 4, and it helps to deepen the connection and consolidation of the vocabulary under the frame of "sports". However, the distance between the two modules may make it difficult for students to recall the vocabulary they have learned, which is not conducive to their further improvement of the frame.

Eg 10: Module 10

Unit 1 We have a big family dinner.

Unit 2 Merry Christmas!

Module 10 lists 12 words, the two units of this module deal with the frames of "food" and "festivals" respectively, and the vocabulary mostly involves the types of food and the types of festivals. Most of the vocabulary is related to the types of food and festivals, with nouns, such as "peanut" and "Christmas". The vocabulary of Module 10 is relatively difficult but with a relatively small amount. Lastly, this module duplicates the sixth module in terms of the frame. Besides, it focuses on the frame of "food" in the first unit as Module 6, which makes it easy for students to find it boring. And since this module is a little reletiveless from the previous one, it is not conducive to the consolidation of vocabulary that students have already learnt.

4. Conclusion and Implications

Generally speaking, this textbook is relatively close to life in the selection of vocabulary frames, such as "food", "action", "trade" and other frames close to students' daily life, which is good for students' understanding and memorization and promotes their daily use of English. This is conducive to students' understanding and memorization and promotes their daily use of English. The frame of "traveling", which students have relatively little contact with, is also partially arranged in the textbook, which is conducive to increasing students' interest in learning, and the selection of the frames is both difficult and easy, which is quite reasonable. However, there are still some deficiencies in the selection and design of vocabulary lists in the textbook.

First of all, the textbook does not list the lexical properties of the words and the page numbers, which is not conducive to the further understanding of the students. The students may only know the meaning of the words in Chinese but do not understand the role of the word in the sentence, and the students will waste their time when they look up the words without the index of the page numbers.

Secondly, the textbook is somewhat lacking in the arrangement of the number and difficulty of vocabulary in each module. As mentioned above, the module with the highest number of vocabulary words has 25 words, while the module with the lowest number of words has only 9 words, so the number of vocabulary words needs to be further averaged. In terms of vocabulary difficulty, the textbook focuses on the frameworks of "food" and "action", which are relatively easy for students to familiarize themselves with and understand. However, the main frame of the first module of the textbook is arranged as "location", which is relatively difficult for students to master in the first module, and the large number

of words to be learned may cause unnecessary panic and psychological burden to some students, so that they may lose their enthusiasm for learning. The relatively simple and familiar frame of "food" is arranged in a relatively later module, which is obviously not in line with people's cognitive pattern, and also aggravates the learning burden of students.

In addition, the semantic frames of the vocabulary between modules are not sufficiently linked. For example, the semantic framework of "location" in the first module is closer to the frame of "traveling" in the eighth module, and the frames of the sixth and tenth modules are duplicated, which can be grouped under one semantic frame, with the related vocabulary put together to form a semantic framework that provides students with background knowledge for students' vocabulary learning. And it is more conducive to students' understanding and memorization of the words. However, if the arrangement between the two modules is too far away from each other, artificially separating the related vocabulary that should belong to the same semantic frame, which might increases the students' burden of memorization and makes it difficult for the students to apply the two modules in connection with each other.

Frame semantic theory offers a particular way of looking at lexical semantics. Each frame is seen as portraying a "scene" (Fillmore, 1982). In English textbooks of our country, new words are usually listed in isolation as a vocabulary list in the back of the textbook as an appendix. When teachers explain new words, they also list the vocabulary words separately and explain them independently. This out-of-context approach is not suitable for students to accept and memorize quickly. If the new words are linked by a frame, and a series of words of the same frame are presented to students, a conceptual structure with a close internal structural connection can be left in students' brains, which is more in line with students' cognitive style and the memorization of vocabulary will be more lasting.

Therefore, the textbook should adjust the unit arrangement appropriately, and the corresponding vocabulary lists need to follow the unified arrangement standard to stipulate the number of vocabulary words and difficulty, step by step, labeled with the lexical properties and page numbers, in order to help students memorize the words more effectively. For example, the textbook should be arranged so that the simpler modules 6 and 10 need to be advanced, and modules 1 and 8 should be arranged appropriately backward. Then the difficulty may be gradually increased with the passage of time, which will enable the students to better adapt to the rhythm of learning English in primary schools.

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