Vocabulary Research of English Textbooks for Primary and Secondary Schools

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Abstract

Vocabulary is the foundation of language and plays an important role in language learning. Vocabulary teaching has been paid more and more attention at home and abroad.Whether the vocabulary of English textbooks for primary and secondary schools can meet students' learning and information exchange needs is a question worth exploring.This paper analyzes the vocabulary of English textbooks for primary and secondary schools and shows their usage and coverage in different real language communication activities, which provides statistical reference for the selection and revision of English textbooks for primary and secondary schools in the future.

Keywords: Vocabulary, Primary and Secondary Schools, Word Frequency, Word Coverage

1. Introduction

Vocabulary learning is an important part of language learning. Generally speaking, the more information a learner has in English vocabulary, the more proficient he/she is in using all aspects of vocabulary knowledge, the higher his/her comprehensive English ability will be[1-3]. For primary and secondary school students, although the channel of acquiring vocabulary has expanded from a single textbook to rich multimedia and Internet, English textbooks used in class are undoubtedly the most important way for them to contact and acquire vocabulary. Therefore, the quality of textbook vocabulary has a direct impact on the development of primary and middle school students' English ability.

With the development of social life and the dynamic change of language, English textbooks for primary and secondary schools should keep pace with The Times in terms of vocabulary selection and timely revision. English textbooks for basic education in China have gone through three development stages: restoration and reconstruction, reform and innovation, adjustment and deepening. The textbooks in these three development stages are called unified compilation textbooks[4-6], sino-foreign co-compilation textbooks and new curriculum

textbooks respectively. Among them, the new curriculum textbook refers to the textbook compiled under the guidance of the new curriculum standard since the 21st century, and its compilation and use present the situation of "one class and many books" and "many classes and many books".

This paper makes a statistical and quantitative analysis of vocabulary in English textbooks for primary and secondary schools by using the method of corpus linguistics. For the study of vocabulary in English teaching materials for primary and secondary schools, corpus can reflect vocabulary knowledge in an all-round way, provide reliable basis language for vocabulary analysis, and ensure the objectivity and scientific nature of this study.

2. Vocabulary Extraction

2.1 Extraction Method

There are two ways to extract vocabulary from textbooks of primary and secondary schools: one is to extract vocabulary from the text content of the whole textbook, the other is to extract vocabulary from the unit attached to the back of the textbook. The latter summarizes the new words and idioms in each unit of the textbook and represents the vocabulary to be learned in the unit[7]. Therefore, the extracted vocabulary is more comprehensive and representative than the former, which is suitable for vocabulary analysis at the macro level and the overall comparative study with other vocabularies. Therefore, this study uses the latter method to extract the vocabulary of each textbook. To be specific, take grade as unit, create each grade textbook word list respectively.

2.2 Article Classification

In order to ensure a reliable word frequency table, this paper classifies the short passages in the textbooks of all grades, including economics, politics, sports, entertainment, life and other aspects, and involves news, narration, expository, practical writing and argumentation.

2.3 Character Filtering

Use regular expressions to filter special characters in articles, such as &, #, and *. A regular expression is an expression used to describe string rules. It can match words and phrases in text with certain rules[8]. It forms some characters or combinations of characters into "regular strings", and then removes them with the help of "regular strings".

2.4 Word Segmentation

Word segmentation refers to the process of converting a series of characters into separate and easily recognizable sequences of words. The word segmentation of English text involves compound word processing, single apostrophe processing, phrasal verb processing, letter case and so on. In the actual word segmentation work, we find that most of the word segmentation difficulties are mainly caused by the special symbols in the word[9]. These special symbols include hyphens, acronyms, periods, and apostrophes.

2.5 Form Reduction

Lexical reduction refers to the merging of different morphed forms of words in a text. For example, plural forms of words, passive voice, perfect voice, etc. After restoration, all words in the text are replaced by their original forms, in order to accurately count the word frequency of words.

3. Vocabulary Features of Teaching Materials

3.1 Word Frequency

Word frequency is the most basic quantitative characteristic of vocabulary. The analysis of word frequency is helpful to adjust the teaching content. Syllabus writing should not be based on intuition, but should be guided by data on the frequency of actual language use in order of instruction. Frequency grade can be used as an indicator to rank and grade learning materials[10], because it is a probabilistic feature to measure the usability of language structures and affects students' vocabulary processing and acquisition to a large extent. Therefore, a core vocabulary composed of high-frequency words should be more valuable than words randomly selected by teachers or textbooks.

Word frequency in vocabulary usually refers to the frequency or frequency of occurrence of a word, which is the basic standard of word selection. Simply put, words with high frequency or frequency should be considered for inclusion in the word list first. Word frequency plays an important role in lexicon formulation, but frequency standard has its limitations. First, frequency reliability is relative[11]. To be specific, word frequency is calculated based on a specific corpus. Different times, different regions, different lengths of materials, different numbers of materials, whether the materials are spoken or written, etc., will all affect the content of language materials, thus affecting the whole word frequency. Secondly, frequency in some cases will mask the true face of vocabulary usefulness. In particular, when a word appears multiple times in a single article and another word appears in multiple articles, the frequency of the former may be higher than that of the latter, which is clearly more widely used.

3.2 Word Coverage

Since word frequency is one-sided in judging the importance or usefulness of words, coverage is used in this paper. It refers to the coverage of words in the text, that is, the proportion of known words in the text. The coverage rate reflects the status and importance of words in the corpus or teaching material, and its calculation method is as follows: 1) First, all words are ranked in descending order of frequency[12]; 2) Then, the frequency of each word is summed with the frequency of the words before it;3) Finally, the accumulated sum and the percentage of word summary times in all the corpus is the word coverage.

Generally speaking, if students want to have a sufficient understanding of an English text, they need to have 95% vocabulary coverage of the text, and when the vocabulary coverage reaches 98%, they can get a pleasant reading experience[13-15]. Since English learning from primary

school to high school is a continuous process, this paper proposes a more realistic feature -- overall coverage.It does not refer to the coverage rate of the textbook vocabulary of a single grade in the corpus, but refers to the coverage rate of the textbook vocabulary of this grade and the sum of the textbook vocabulary of the previous grade in the corpus.

This paper calculates the overall coverage of the vocabulary in the textbooks of each grade by making statistics on the vocabulary list of each grade, and analyzes which high-frequency words can be used as supplementary words in primary School English learning, and which words in the textbooks are no longer commonly used in daily life.

4. Vocabulary Analysis of Teaching Materials

In this paper, the word frequency of the textbook is counted, the word frequency table is obtained by descending order of the word frequency, and the coverage rate of the first 2000 words in the table to the whole textbook is calculated, and the result is 85.68%. This shows that the corpus of articles used in primary and secondary school textbooks is generally representative and can well reflect the language used in daily life.

4.1 Analysis of Primary School Textbooks

(1) Overall coverage characteristics

The overall coverage of vocabulary in primary school textbooks is characterized by gradual increase with grade, but the value is low. This suggests that primary school children are learning more and more vocabulary, but not enough to communicate online or understand movies and TV shows. Add in grammar, cultural differences and so on. Therefore, in terms of the number of English words learned in primary school, it is difficult to play an effective role in language communication.

(2) Characteristics of vocabulary quantity

From the perspective of vocabulary quantity, the vocabulary quantity of grade 3 to Grade 5 shows a rising trend, but the vocabulary quantity of grade 6 textbooks is less than that of grade 5 textbooks, which may be due to the need to reduce the number of new words in the textbooks for grade 6 students before entering school. However, from the age characteristics of the grade, the vocabulary of grade 6 does not increase but decreases, which is inconsistent with the increasing cognitive ability and communicative needs of primary school students. According to the law of psychological and cognitive development, sixth-grade students are in a stage of strong adaptability and learning ability, so it is suggested to increase the input of vocabulary in sixth-grade textbooks under certain conditions.

(3) Characteristics of vocabulary selection

In this paper, the first 2000 words in the word frequency list of corpus are compared with the words in primary school textbooks to screen out the words that do not appear in the vocabulary list of textbooks. By comparison and statistics, 543 words, including some commonly used function words, have not appeared in the vocabulary of primary school textbooks among the

first 2000 words in the word frequency table. In addition, there are some more common content words high-frequency words do not appear in the textbook vocabulary. According to the theory of cognitive development, children in primary school are in the concrete operational stage of their cognitive development and can generally master 2,500 common words. Therefore, we can combine the properties of word frequency and distribution rate and appropriately select some of them to be added into textbooks or used as supplementary vocabulary for primary school English learning.

Through comparative analysis, it is found that the vocabulary in the vocabulary list of primary school textbooks is not enough, and it is difficult for the vocabulary of primary school English textbooks to meet the basic needs of students' language communication. In order to enable primary school students to use English smoothly and effectively in daily language communication activities, and reflect the characteristics of language timeliness and dynamic development, it is necessary to supplement and update the vocabulary of primary school English teaching materials. In addition, more appropriate language input can be provided to primary school students after class, such as English reading materials, English programs or movies. At the same time, attention should be paid to the different spelling forms of vocabulary in vocabulary teaching. Finally, the setting of vocabulary in textbooks of each grade, especially the sixth grade, should give more consideration to the characteristics of students' physical and mental development and communication needs, so as to improve the rate of word recognition.

4.2 Analysis of Thesaurus in Middle School Textbooks

(1) Characteristics of overall coverage

The coverage rate of vocabulary in junior high school and senior high school textbooks in corpus is 77.5% and 79.7% respectively, far lower than the 95% coverage rate required for 3000 vocabulary. This data shows that the vocabulary of middle school English textbooks can guarantee the foundation of English language use, but there is still a big gap between the vocabulary required to successfully use the language. Lack of sufficient vocabulary will cause obstacles to the language communication process of learners.

In addition, through the analysis of register and spelling form of corpus input, it is found that the vocabulary in English textbooks adopts the spelling form of British English, and most of the language is formal British English expression. In order to help students master different language communication environments, this paper suggests that extra-curricular reading materials with different themes and registers should be used as vocabulary supplements.

(2) The characteristics of vocabulary quantity

The number of vocabulary in textbooks from grade one to grade two and from grade one to grade two shows an increasing trend, and so does the recognition rate in corpus. At the same time, the number of vocabulary in the English textbooks of grade three and grade three decreased, which is consistent with the decrease of vocabulary in the textbooks of grade six. The reason is that the textbook writers took into account the setting of the textbooks of grade

three and grade three students, who are facing the middle school entrance examination and college entrance examination, and appropriately reduced the vocabulary. In terms of the total number of vocabulary, the vocabulary of textbooks from primary school to senior three is slightly higher than that set in China's English Curriculum Standards for Ordinary Senior High Schools. This is because the vocabulary contains a certain number of proper nouns such as people's names and place names.

(3) The characteristics of vocabulary selection

From the perspective of the inclusion of vocabulary in middle school textbooks, most words have high frequency and distribution rate, while a few words have low frequency and distribution rate. Therefore, some high-frequency words used in current language communication should be added in the updating of teaching materials, and some high-frequency words can also be used as supplementary words in the process of vocabulary teaching.

In general, the choice of vocabulary in middle school English textbooks can lay a good foundation for the cultivation of students' communicative competence, but it is difficult to ensure that they can carry out good communicative activities. Based on the coverage of vocabulary, it is necessary to expand the vocabulary of middle school English textbooks.

5 Conclusion

Vocabulary is the cornerstone of English language, and vocabulary teaching is an essential part of English teaching. As the main channel for primary and secondary school students to acquire vocabulary knowledge, it is worth exploring whether the vocabulary of English textbooks for primary and secondary schools can meet the needs of students' learning and information exchange, and make corresponding updates to such changes.

The English language is dynamic, and the corresponding vocabulary changes with the changes of The Times and society. Therefore, from the perspective of dynamic updating of vocabulary, English textbooks for primary and secondary schools should be updated and upgraded frequently. When selecting and compiling textbooks, textbook writers can consider to include the frequently used and widely used vocabulary in daily language communication activities, so as to improve the word recognition rate and English communicative ability of primary and middle school students.

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