

Efficient Vocabulary Memory: Taking the Vocabulary Question Type of the Test for English Majors-Band 4 as an Example

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Abstract: With the development of globalization, English has become an indispensable language in international communication and business activities. Therefore, English exams have become one of the essential skills in various fields. This article took the vocabulary question type of the Test for English Majors-Band 4 as an example to explore methods for efficient vocabulary memory. Through empirical research, this article identified some effective vocabulary memory methods and proposed some improvement suggestions. This article adopted experimental control and investigation methods to compare and analyze three memory methods. The experimental results showed that students who used the flashcards word memory method had a maximum accurate vocabulary count of 90. With the help of Flashcards memory method, the experimental group achieved higher memory efficiency, deeper memory depth, and stronger memory persistence.

1. Introduction

Test for English Majors-Band 4 is a standard reference teaching test conducted by the Office of Foreign Language Teaching and Testing, which aims to comprehensively evaluate the Basic English use ability of second year English majors. It consists of six parts: dictation, listening, language use, cloze, reading comprehension, and writing. As one of the highest professional English exams in China, the Test for English Majors-Band 4 exam attracts a large number of candidates to participate every year. However, vocabulary, as an indispensable foundation in English learning, students still face many challenges in exam preparation, and how to efficiently memorize vocabulary has become a difficult problem in exam preparation.

Vocabulary is an important component of language. In linguistics, vocabulary, as a communicative tool, has multiple functions. Some experts believe that with the improvement of China's international status and the increasing frequency of international trade, learning English has become increasingly important [1-2]. Some scholars believe that vocabulary teaching plays an important role in high-level English teaching, but it has not been fully considered in practical teaching [3-4]. Some researchers also pointed out that English learning cannot be completed

without the memory of basic English vocabulary, but vocabulary memory is the biggest challenge faced by most English learners [5-6]. In the process of English learning, vocabulary memory is a very important link. During the learning process, various senses can help improve the memory effect of vocabulary.

The efficient vocabulary memory methods studied in this article include: Flashcards is a common vocabulary memory method that helps students remember the spelling and meaning of vocabulary by making cards and grouping them. Associative memory is a memory method based on the essence of human memory, which helps students remember by associating different information. For example, students can associate the meaning of a word with other related words, images, or scenes. This method is particularly effective in combating forgetting curves. Context learning is a method of learning words in context, which deepens students' understanding and memory of words by placing them in sentences or paragraphs. This method can also help students master the grammar and language structure of English.

2. Efficient Vocabulary Memory Methods

2.1 Flashcards

The Flashcards vocabulary memory method is a very commonly used vocabulary memory method in the Test for English Majors-Band 4 [7]. The advantages and disadvantages of Flashcards are shown in Figure 1:

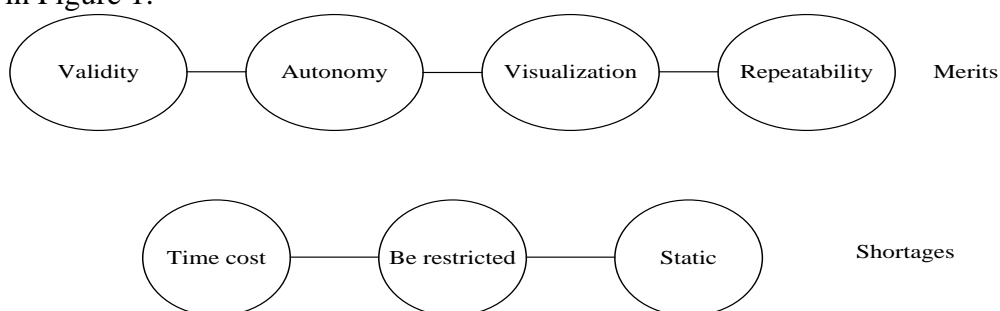


Figure 1: The merits and shortages of Flashcards

Its advantages mainly include that the Flashcards vocabulary memory method has been proven to be a very effective vocabulary memory method. This is because Flashcards can help testers enhance their memory of vocabulary through continuous repetition, thereby effectively consolidating the learned vocabulary. By using Flashcards, testers can create their own learning plans based on their learning progress and needs [8-9]. They can design different learning cards based on their weaknesses and shortcomings, and regularly check their progress. Flashcards provide visual assistance to testers, making it easier for them to memorize vocabulary and definitions [10]. Testers can take out Flashcards anytime and anywhere to memorize vocabulary, which does not require any special equipment or environment and can be easily integrated into daily learning. Testers can repeatedly use Flashcards to memorize vocabulary, which can help them gain a deeper understanding of the meaning and usage of vocabulary [11]. Although the Flashcards vocabulary memory method has many advantages, there are also some drawbacks: making Flashcards requires a certain amount of time and effort, especially when making vocabulary cards yourself. In addition, testers need to spend a certain amount of time every day memorizing, reviewing, and consolidating vocabulary. Although Flashcards can be used for vocabulary learning at any stage, they may not be suitable for certain vocabulary or grammar knowledge. Flashcards are static and cannot reflect the relevance and purpose of vocabulary.

In summary, Flashcards are a very effective vocabulary memory method in the Test for English Majors-Band 4, which can help testers memorize, review, and consolidate the vocabulary they have learned faster, thereby achieving good results [12-13].

2.2 Associated Memory

Associative memory refers to the memory of vocabulary formed by interacting with imagined things, scenes, characters, stories, etc. related to vocabulary [14]. The usual approach is to associate vivid images, scenes, stories, etc. with the vocabulary to be memorized, so as to improve the memory effect of the vocabulary. The advantages and disadvantages of the associative memory method for memorizing words are shown in Figure 2:

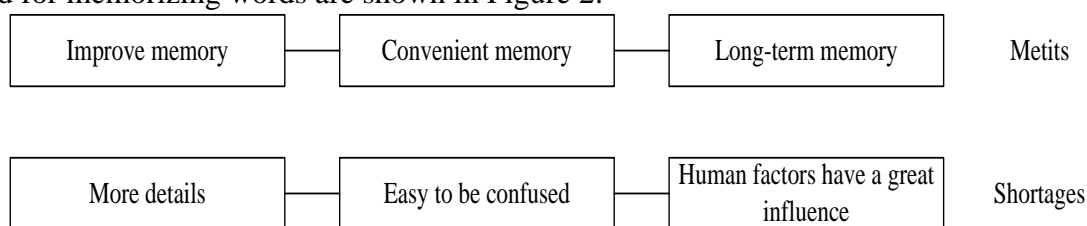


Figure 2: The merits and shortages of the associated memory

The advantages of associative memory are: Firstly, it can improve memory performance. Associative memory is the process of memorizing words by combining them with personal life experiences, which can give them vivid, concrete, and emotional meanings. Therefore, compared to simple memorization of words, associative memory can improve memory performance. Secondly, it can facilitate memory. Associative memory is a way of memorizing words by combining them with personal life experiences, which can reduce the burden and pressure of memory and make it more relaxed and enjoyable. The third is long-term memory. Relevance memory emphasizes the perceptual cognition of vocabulary. By memorizing scenes, stories and characters related to life experience, vocabulary can be more deeply rooted in people's hearts and help form long-term memory. The disadvantage of associative memory is that it has many details and is easy to confuse. The specific content of associative memory contains a large amount of details. If memory is not rigorous enough, it is easy to confuse different vocabulary together [15]. Secondly, human factors have a significant impact. Associative memory is a memory method based on personal life experiences. Therefore, factors such as personal preferences, experience, and cultural background can all affect the effectiveness of associative memory, and there are certain individual differences.

Test for English Majors-Band 4 has a large vocabulary and high difficulty in memorizing [16-17]. Therefore, it is suitable to use the method of associative memory, which can be applied as follows: firstly, association can be used. Each word is associated with images, scenes, stories, etc., making the memory of words more deeply ingrained in people's hearts. For example: Apple: Imagining a red apple with a hole in it and a blue pen inserted. Bank: Imagining a long queue outside a bank, where everyone can see the numbers on their bank cards. Secondly, combinations can be utilized. Several words are combined to form a small story or memorized together. For example, this article can combine the words "victory", "failure", and "competition" to form a story: "In the competition, after hard and fierce competition, this article ultimately achieved victory, and failure was only temporary". For example, the words "mountain", "valley", and "river" can form a short story: "Walking from the mountain to the valley, the gurgling flow of the river is seen." Thirdly, visualization can be used. The meaning of words is visualized and linked to real life, improving the memory effect of words. For example: camera: "cam" refers to the camera, "era" refers to time, so the camera is a device that records time and captures images. Voice: The pronunciation of voice is

similar to “voice”. It is possible to imagine the sounds of waves, wind, and other sounds heard on a ship, and then associate them with the concept of navigation, making it easy to remember. In short, associative memory is an efficient and interesting way of memory, which can help Test for English Majors-Band 4 students better remember words and consolidate them.

2.3 Context Learning

Context learning refers to the integration of words into specific language environments through reading articles, listening to dialogues, watching videos, and other means of learning. Compared with traditional rote memorization methods, contextual learning methods pay more attention to the comprehensive understanding of context, meaning, and language habits, which can more effectively improve the memory effect of words.

In the process of contextual learning, there are several main methods: first, reading: by reading English articles, words are integrated into the context of the article. Due to the more specific language environment of the article, it deepens the understanding and memory effect of words. The second is listening: listening to English conversations, English videos, etc. During the listening process, by understanding the meaning and intonation of sentences, it is easier to remember the pronunciation, usage, and collocation of words. The third is to take notes: the meaning, usage, and collocations of newly learned words are recorded for easy review. The fourth is to use classic examples: through classic examples with beautiful styles and standardized language, practical examples are practiced. By observing and understanding the language details and expressions of examples, words can be better understood and applied.

The advantages of contextual learning are: firstly, the learning effect is more lasting. Integrating words into specific contexts can enable learners to more realistically experience the application environment of words in language, thus making memory more secure during use. Secondly, it can improve language proficiency. Through contextual learning, one can not only learn the meaning and usage of words themselves, but also deepen their understanding of sentences and rhetorical skills, and improve their language proficiency. Thirdly, it can improve language sense. Context learning can help learners gradually develop sensitivity and habits towards English expression. The drawbacks of contextual learning are: firstly, it takes a lot of time. Compared to traditional methods of memorizing words, contextual learning requires more time to read, listen, and understand, and learners need to patiently accumulate and participate in these aspects. The second is that it depends on the language material. Context learning requires more valuable and accurate English materials, and these materials need to balance vocabulary size and simplicity. Fourthly, it depends on the learner’s English foundation. If learners have insufficient English foundation, they would fall into a passive situation and cannot actively learn from it.

The vocabulary of the Test for English Majors-Band 4 is relatively large and requires targeted preparation in multiple aspects [18]. Context learning is a very effective method for memorizing vocabulary. Relevant English articles and books should be read, emphasizing contextual understanding. While understanding each word, it is important to keep a record of the relevant words and pay attention to their pronunciation and application. Additionally, listening exercises can be conducted: By listening to listening exercises such as International English Language Testing System and the Test of English as a Foreign Language, or listening exercises related to English courses, techniques can be used to identify each word. By combining context, the understanding of word meanings, collocations, usage, etc. is deepened. It can also take notes: The newly learned words are recorded in a notebook, sorted and organized, and reviewed step by step to deepen the memory and understanding of each word [19]. Finally, classic examples are utilized: by searching for relevant articles and classic examples, the application of words in context is deepened, and the

ability to express oneself in English is improved.

In summary, contextual learning is a relatively targeted method for memorizing English vocabulary, with practical characteristics such as persistence, efficiency, vividness, compatibility with teaching, and assistance in dictation. When learning context, learners need to pay attention to selecting suitable English materials, stable memory methods, and correct English learning perspectives.

3. Experimental Investigation on Efficient Vocabulary Memory

The Test for English Majors-Band 4 is an important exam for English education majors in ordinary Chinese universities, which is of great significance for English majors and those engaged in English related work. Among them, vocabulary question types are one of the key contents in the exam [20]. How to efficiently memorize vocabulary has become the focus of many candidates' attention. Flashcards, associative memory, and contextual learning methods are currently popular vocabulary memory methods.

This article used correlation coefficients to calculate the relationship between these three methods, defined as follows:

$$\mu_{AB} = \text{Cov}(A, B) / \sqrt{\text{Var}[A]\text{Var}[B]} \quad (1)$$

Among them, $B = x + yA$. At this point, the formula is as follows:

$$F(A) = \lambda, C(A) = \eta \quad (2)$$

The formula is as follows:

$$\text{Cov}(A, B) = F(AB) - F(A)F(B) = y\eta \quad (3)$$

Taking the Test for English Majors-Band 4 vocabulary question as an example, this study explores the effectiveness of these three methods through experiments and proposes an efficient vocabulary memory method.

3.1 Experimental Design Plan

Experimental purpose: The effects of Flashcards, associative memory, and contextual learning methods in the vocabulary test types of the Test for English Majors-Band 4 were compared.

Experimental subjects: 100 students who participated in the Test for English Majors-Band 4 exam were randomly selected as experimental subjects. This is divided into three experimental groups and a control group of 25 people each. The age and sex ratio of the experimental group and the control group are basically the same. There was no significant difference in vocabulary proficiency between the experimental group and the control group.

Flashcards memory method: Flashcards software or paper cards are used. Words and definitions are written on both sides for repeated memorization. This method is suitable for self-learning and group learning, and can improve memory efficiency and depth. Association memory method: Through the connection between words, students are helped to better remember words. This method is suitable for situations where a large number of related vocabulary needs to be memorized, such as professional terms. Context learning methods: Through reading articles, listening exercises, and other methods, students are helped to integrate words into the context, thereby improving memory performance. This method is suitable for situations where word mastery needs to be improved, but it takes longer.

3.2 Learning and Testing Phase

The experimental group used Flashcards memory, associative memory, and contextual learning methods, while the control group used traditional word memorization methods. The experimental group and control group underwent the same number of vocabulary tests (100 words) at the same time. The test consists of vocabulary questions from the Test for English Majors-Band 4 exam, including multiple-choice and fill in the blank questions. The test scores of the experimental group and the control group were compared, and the effects of various memory methods were analyzed.

Both the experimental group and the control group underwent three learning stages and two testing stages.

The first learning stage: The words that need to be memorized are randomly arranged and displayed on the blackboard. The experimental group and three groups each apply one memory method, while the control group only learns using traditional memorization methods. Second learning stage: Within two days after the first learning stage, an experimental group and a control group were established in two classrooms for the second learning. The third learning stage: Within two days after the second learning stage, an experimental group and a control group were established in two classrooms for the third learning.

The first testing stage: Within two days after the third learning stage, the experimental group and the control group were tested for the first time in two classrooms. The second testing stage: Within two days after the first testing stage, the experimental group and the control group were tested for the second time in two classrooms.

3.3 Experimental Investigation Results

The scores of 36 students were randomly selected as the test criteria, and the students in the experimental group and control group were numbered 1-6. Different batches of students were selected for each performance comparison. The results obtained are as follows:

Table 1: Accuracy results of flashcards and conventional memory methods

	Flashcards	Traditional methods of word recitation
1	85	46
2	80	38
3	76	30
4	83	35
5	86	50
6	90	55

As shown in Table 1, six students from the experimental group and six students from the control group were randomly selected. Statistics were conducted on their vocabulary memorization, and it was found that students using flashcards memory method had significantly higher word accuracy than students using traditional word memorization method. Students who used the flashcards word memorization method had the highest score of 90 and the lowest score of 76, while students who used the traditional word memorization method had the highest word accuracy of 55 and the lowest accuracy of 30.

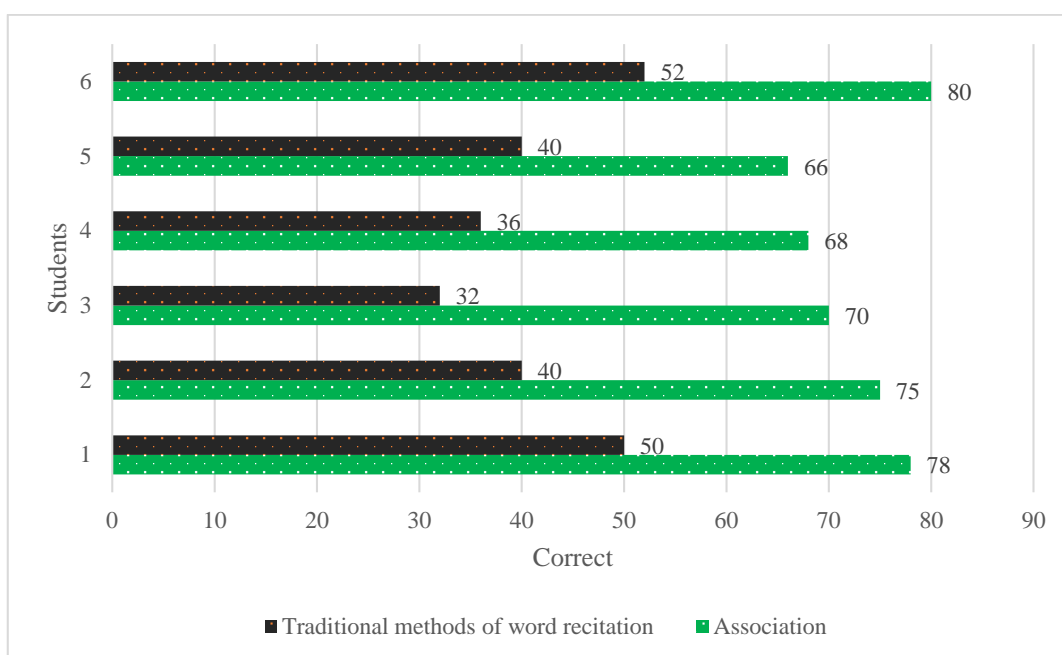


Figure 3: Accuracy results of correlation mnemonics and conventional memory methods

As shown in Figure 3, six students from the experimental group and six students from the control group were randomly selected. Statistics were conducted on their memorization of words, and it could be seen from the graph that students who used traditional word memorization methods had the highest score of 52 and the lowest score of 32. The students who used the associative memory method achieved the highest score of 80 and the lowest score of 66.

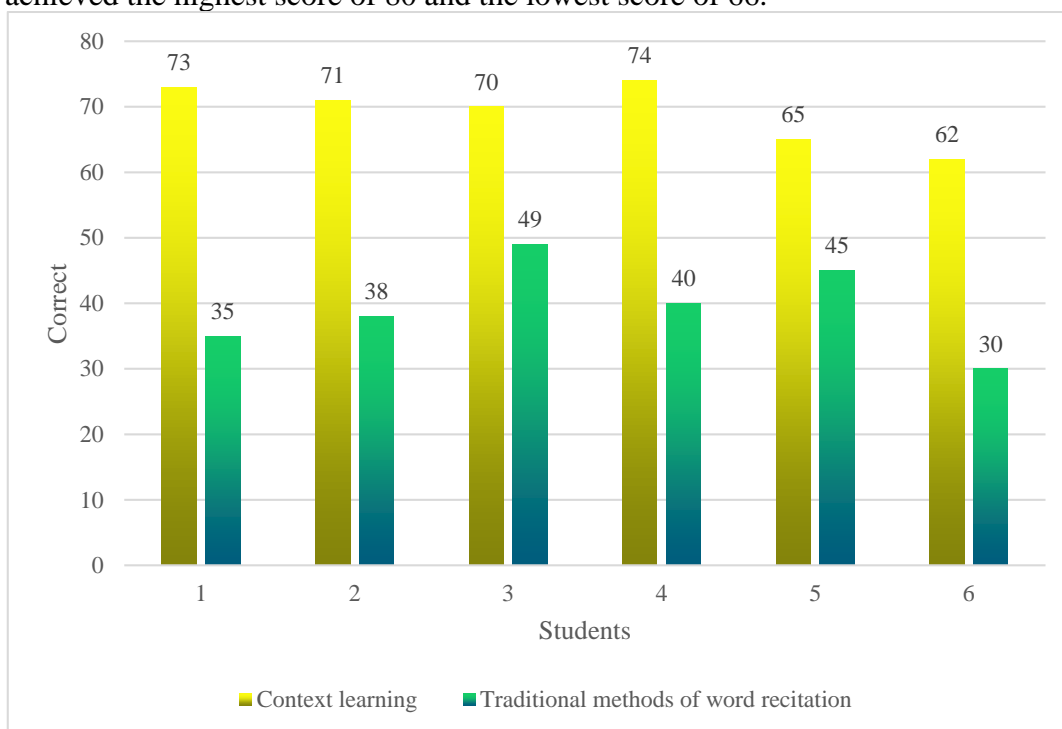


Figure 4: Accuracy results of contextual learning method and traditional memory method

As shown in Figure 4, in the analysis of the scores of six randomly selected experimental group students and six control group students, this article could know that using contextual learning

method to memorize words had the highest accuracy of 74 and the lowest accuracy of 62. Among students who used traditional memorization methods, the highest score was 49 and the lowest was 30.

Through the investigation of the experimental subjects, the following conclusion was drawn: The experimental group had better vocabulary memory performance. The associative memory method could help students better understand the connections between words, but the memory effect was not as good as Flashcards. Although contextual learning methods had certain effects in helping students improve their mastery of words, they required longer time and memory efficiency was not as good as Flashcards. The experimental subjects generally believed that the Flashcards memory method was easy to operate and suitable for self-learning, and had good memory effects.

4. Extension of Vocabulary Memory Methods Based on the Example of Vocabulary Question Types in the Test for English Majors-Band 4

Vocabulary memory is one of the important methods to improve language proficiency. For the Test for English Majors-Band 4, vocabulary size and quality are quite important, so there is a need for more targeted and efficient vocabulary memory methods. Classifying words according to certain rules or concepts can make it easier to remember. For example, it can be classified based on aspects such as part of speech, theme, function, and purpose. For example, words can be divided into nouns, verbs, adjectives, adverbs, etc., and words can also be classified according to themes, such as interpersonal relationships, natural landscape, culture and art, etc. This classification method can use tools such as text boxes and word clouds to help with memory.

The roots, affixes, and derivative meanings and forms of many English words are closely related, which can help to quickly grasp the words. For example, the prefix “pre-” represents “ahead and in advance”, and the suffix “-able” represents “capable of...” By combining these two parts together, one can obtain “preparable”, which means “be ready to, and can be prepared”.

By using association, one can easily, easily, and interestingly remember the meaning of words in their minds. Lenovo can be either pictorial or storytelling. For example, the pronunciation of “pinnacle” is analogized to “peanut”, and then the word is associated to mean “the apex of a pyramid”. A huge peanut horn can be imagined, which is like the top of a pyramid.

The scenario based approach combines words with daily life, work, and other scenarios to form associations, making them easier to remember and enhancing the fun of learning. For example, when learning “medical”, one can envision some scenarios, such as working in a hospital and communicating with patients, so as to gain a deeper and clearer understanding of the meaning and usage of the word.

The above methods are all practical. As long as the most suitable method is found and persisted, all words can be remembered. While memorizing vocabulary, attention should also be paid to accumulating related vocabulary and deepening understanding of the interaction between vocabulary, so as to improve the level of English language use.

5. Conclusions

This article proposed three efficient vocabulary memory methods, which were very helpful in helping students improve their vocabulary memory, comprehension, and application abilities. At the same time, this article also pointed out some challenges and improvement suggestions that these methods might face during use. This article could consider combining these methods with modern technologies, such as using mobile applications and online learning platforms to help students better practice these methods. At the same time, this article also needed to further research and explore how to maximize the use of these methods, as well as how to customize personalized vocabulary

memory methods based on different students' needs and learning styles.

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