

# An Empirical Study of Applying Associative Method in College English Vocabulary Learning

Min Zhang<sup>1</sup>

<sup>1</sup>School of foreign languages, China West Normal University, China

Correspondence: Min Zhang, School of foreign languages, China West Normal University, No. 1 ShiDa Road, 637009 Nanchong, Sichuan, China. Tel: 86-133-9841-8866. E-mail: zhangmin62280@163.com

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## Abstract

Vocabulary is the basis of any language learning. To many Chinese non-English majors it is difficult to memorize English words. This paper applied associative method in presenting new words to them. It is found that associative method did receive a better result both in short-term and long-term retention of English words. Compared with the traditional way, associative method was more efficient in the retention of polysyllabic words, monosyllabic and disyllabic words. In addition, the differences were very significant. However, forgetting greatly influenced the long retention of English words. Therefore, teachers should encourage learners to review what they learned in class frequently, and learners themselves should participate actively in associative learning.

**Keywords:** associative method, traditional way, English vocabulary teaching, non-English majors

## 1. Introduction

Vocabulary learning constitutes a major learning task in any language learning. So does the second language learning. McCarthy (1990) once said, "No matter how well the students learn grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wider range of meanings, communication in an L2 just can't happen in any meaningful way." D. A. Wilkins also claimed, "Without grammar, very little can be conveyed; without vocabulary, nothing can be conveyed" (cited in Sheng, 1996). Gass and Selinker (1994) mentioned, "The lexicon may be the most important component for learners." Obviously vocabulary plays an important role in second language acquisition and it is the central and key part in any language learning process. Due to its importance, Chinese non-English majors often spare no efforts to learn English words, but the result is far from satisfactory. They often complain that it is dull and difficult to learn English words, and it is easy to forget them, which affects their initiatives. Therefore, it is of great meaning to explore a new effective method to study English words.

Here two ways of presenting English words will be compared: the traditional way and the associative method. The traditional way is such a teaching way that in the classroom, teachers put emphasis on word meaning, and give explanations of the to-be-learned words, and then, they will give examples to illustrate its usage further. However, teachers give little assistance to learners on the way to memorize words, which leads to the popularity of rote learning (Wang, 2005, pp. 68-71). On the other hand, associative method emphasizes the connections between the new information and the pre-existed knowledge, which encourages learners to make full use of their imagination, initiative, etc. Penny (2000) claimed: "you could get better result if items can be linked with each other, or with one's already known, through meaning or sound association." You (2001, pp. 124-126) stated the functions of associative method: "Association in English teaching is found to meet the requirement of the times. By means of relative, similar or contrastive association, it can arouse students' interest in English and promote their understanding, recollection and application of their English knowledge, as well as providing training for students' initiative and creative thinking."

## 2. Research Design

### 2.1 Research Questions

The experiment is designed to answer the following questions:

1) Which way is more efficient in Chinese non-English majors' vocabulary learning in terms of short-term memory as well as long-term memory, the traditional way or associative method?

2) Is associative method more effective than the traditional way in assisting learners to recall polysyllabic words?

3) To monosyllabic words and disyllabic words, which method is better in enhancing their learning, traditional way or associative method?

## 2.2 Participants

The experiment was carried out among freshmen who were non-English majors in a university in Sichuan Province, China. In this university students are divided into A, B, C classes according to their English entrance examination scores. "A" stands for the top students, "B" means average, and "C" means the lower. So students from class B were chosen out to be the participants, who represented the average English proficiency of the whole grade. In order to lower the differences to the lowest, another score, their average score in the first final exam, was taken into consideration. At last 6 classes were picked out as the participants, because there was no significant difference in their final exams ( $p > 0.05$ ). Students from school of history, school of chemistry and school of law formed the Experiment Group, where the teacher applied associative method to present English words. There were 162 students, 66 females and 96 males. Students from school of physics, school of Chinese literature, and school of history formed the Control Group, where the teacher used the traditional way to present words. There were 143 students, 50 females and 93 males. Each student in both groups had the same education experience: they had studied English for six years, and they were Chinese native speakers.

## 2.3 Instruments

### 2.3.1 Teaching Materials

The teaching materials consisted of 60 words, which were new to the participants. To make sure of this, before the teaching materials were put into use, the author chose 130 new words according to the College English Syllabus and some other references, and then handed out the paper with these 130 words to the participants, asked them to give their meaning in Chinese. If 90% students give the right meaning of one word, it would be cancelled. At last, researchers selected 60 words from those left words. Among them, 27 words were polysyllabic words; other 33 words were monosyllabic or disyllabic words. The part of speech included nouns, verbs, and adjectives, which play an important role in English vocabulary.

### 2.3.2 Test Papers

The test papers were made by researchers. It included two parts: short-term memory test papers and long-term memory test paper. Short-term memory test papers were used each time after the ten new words had been presented to students. Totally there were six short-term memory test papers, Test A1, A2...A6, since the 60 words were given to students in 6 classes. Long-term memory test paper, Test B was used in the tenth week, that is, three weeks later after all the new words were given. Short-term memory test papers and long-term memory test paper were same to both groups. Both tests required participants to give the equivalent Chinese meanings to each word on the paper. In the short-term memory test papers the words were those they just learned in class; in the long-term memory test paper they were the 60 words they had learned in the previous stage.

## 2.4 Scoring System

In the long retention test and the immediate retention test, participants were required to write down the equivalent Chinese meanings and part of speech to each English word. Appropriate Chinese meanings with right part of speech were counted as 1 point; appropriate Chinese meanings with wrong part of speech or inappropriate Chinese meanings with right part of speech were marked as zero. If none of them was right, of course, it was scored as zero. The total scores in both tests were 60.

## 2.5 Pilot Study

The pilot study, as the initial step, is important to any valid experiment. Evans (1978) stated: the pilot study gives a chance to practice administering the tests and making observations. In addition, it helps researchers find out the weakness and problems in the design and to make adequate adjustment in time. The pilot study in this experiment will help researchers find out the feasibility of the original experiment design and give some indication to the final experiment.

Sixty students from other two classes were chosen out at random to attend this pilot study. They were divided into two groups. In Group One, the traditional method was used, while in Group Two associative method was used. In each group twenty new words were taught to them, which were not included in the experiment materials but still new to them. This experiment lasted for 40 minutes. During the experiment process, the teacher was observing the participants' reaction carefully. Then the data from the pilot study were collected and analyzed via

SPSS 14.0. Through the pilot study, some problems were discovered. First, in the learning process, the teacher found that if too many words were given at one time, participants got distracted easily. Twenty words seemed a large number to them; second, when giving the equivalent Chinese meanings, students were prone to make mistakes in adjectives by omitting “的”, which affected the class of a word; Third, the result from SPSS showed that all students from both groups did very well in short-term memory. The difference was so little that it could be even ignored. Researchers held that this might result from the fact that they did short-term memory test shortly after they finished the study of the new words, that is to say, there was no adequate interval. That is what we call effect of recency, which refers to the phenomenon that people are far more likely to recall the last few items they encountered than any of the items in the middle portion of the list. It is a normal phenomenon but can be eliminated if appropriate efforts are made. By adding a brief delay between the last items in the list and the retention test and insert some other tasks during the interval, effect of recency will be eliminated (Groeger, 1997).

Based on these findings, some changes were accordingly made in the final experiment. First, each time the teacher just gave learners 10 words in order to avoid distraction; second, the teacher asked students to pay attention to “的” when they meet adjectives in giving Chinese meanings, otherwise they will get zero; Finally, after the study of new words, students shared a joke or a piece of news within 2 minutes or so, and then had the immediate test.

### 2.6 Data Collected

In order to collect more data to guarantee the validity, the teacher employed many ways to ensure students' attendances, but there were still several students absent from the class once or more. So these students' papers were ruled out. Totally there were 29 students, 18 in experiment group, and 11 in control group, whose papers were invalid. So at last there were 132 students in the control group and 144 students in the experiment group whose test papers were valid.

## 3. Results and Analysis

### 3.1 Immediate Tests

Table 1. Performance in immediate tests

	Group	N	Mean	Std. Deviation	Std. Error Mean	t
Polysyllabic words	1.00	132	23.6136	3.05923	.46120	-3.648***
	2.00	144	25.3750	1.29853	.18743	
Monosyllabic and disyllabic words	1.00	132	28.4545	3.66285	.55220	-4.561***
	2.00	144	31.1042	1.60106	.23109	
Total performance	1.00	132	52.1136	6.05485	.91280	-4.591***
	2.00	144	56.4792	2.49245	.35975	

As is shown in Table 1, participants in the Control Group got a mean of 23.6136 in terms of the short retention of polysyllabic words, while those in the Experiment Group got a mean of 25.3750. Obviously the Control Group has a lower mean than the Experiment Group. What's more, this difference is very significant ( $t=-3.648$ ,  $p<0.001$ ), which illustrates that associative method is more effective than the traditional one. In short-term memory, associative method can help learners recall more polysyllabic words, which are very difficult to many learners.

In the case of monosyllabic and disyllabic words, we can see two groups have different means in this aspect, the mean of control group is 28.4545, and the mean of experiment group is 31.1042. It shows that in immediate retention of monosyllabic and disyllabic words, two methods have different effects, and associative method has a better result than the traditional one, and the difference is very significant ( $t=-4.561$ ,  $p<0.001$ ). In other words, when it comes to the immediate retention of monosyllabic and disyllabic words, associative method is more effective than the traditional one as well. It can help learners recall far more monosyllabic and disyllabic words in short-term memory.

As to the total performance in immediate tests, Table 1 reveals that participants in the Control Group got a mean of 52.1136, while those in the Experiment Group got a mean of 56.4792. It is obvious that participants with

associative method got a higher mean than those with the traditional one. It tells us that different presentation ways do have different effects on the learning results in immediate retention. What's more, the difference is very significant ( $t=-4.591$ ,  $p<0.001$ ). It proves that associative method was more effective than the traditional method in short-term memory.

### 3.2 Long-Term Memory Test

Table 2. Performance in long-term memory test

	Group	N	Mean	Std. Deviation	Std. Error Mean	t
Polysyllabic words	1.00	132	10.2500	5.79143	.87309	-6.337***
	2.00	144	17.9792	5.89081	.85027	
Monosyllabic and disyllabic words	1.00	132	12.5905	7.12335	1.07388	-6.118***
	2.00	144	21.6042	6.29333	.90836	
Total performance	1.00	132	22.8409	12.28904	1.85264	-6.684***
	2.00	144	39.5833	11.73254	1.69345	

In the case of the long-term retention of polysyllabic words, Table 2 reveals that the Experiment Group did a better job than the Control Group, the former got a higher mean than the latter one, and the difference is of significance ( $p<0.001$ ). In other words associative method can enhance learners' long-term retention better, compared with the traditional way.

As to the total performance and monosyllabic and disyllabic words, the Experiment Group also got a higher mean than participants in the Control Group. Besides, their differences were very significant ( $p<0.001$ ). That is to say, in terms of the long-term retention of monosyllabic and disyllabic words, associative method also performed better.

## 4. Discussions

Through this experiment it is found that compared with the traditional way, associative method is more effective in enhancing learners' retention of English words both in short-term memory and long-term memory. In the immediate test, participants treated with the associative method recalled almost 94.13% words in contrast with 86.86% words of those with the traditional way. According to SPSS 14.0, this difference is significant. Obviously the associative method is more effective than the traditional one in helping learners' learning of words in the short-term memory. And in the long retention test, students exposed to the associative method recalled almost 65.97% words while students with the traditional method recalled just about 38.07% words. This difference was also significant. This provides strong evidences for the better effectiveness of the associative method in enhancing Chinese non-English majors' vocabulary learning in the long term.

Polysyllabic words are regarded as the most difficult part in vocabulary learning to most non-English majors in China. Learners are puzzled about how to learn them by heart. The associative method is a good way to deal with it. In the immediate test, students exposed to the associative method can recall 93.98% of the polysyllabic words, while students treated with the traditional method can recall 87.46% words. In the long retention test, students in the Experiment Group recalled 66.59% of the polysyllabic words, while those in the Control Group just recalled 37.96% words. These differences are very significant. So we can say that the associative method can greatly enhance students' learning of polysyllabic words. In addition, the associative method turned out to be an effective way in helping learners' retention of monosyllabic and disyllabic words. It performs far better than the traditional way. Therefore, teachers should apply this method in English vocabulary teaching.

However, there existed a problem—forgetting. In this experiment forgetting happened in both groups. In the immediate test, both groups did a good job. Students in the control group recalled 86.86% words and students in the experiment group recalled 94.13%. However, when it comes to the long retention test, they recalled 38.07% and 65.97% respectively. For the control group, it decreased by 48.79%, for the experiment group, it dropped down by 28.16%. As to the reasons, the lack of consolidation is the most important one. No matter how effective the method is, without enough practice, satisfactory results are impossible. Therefore, teachers should not only apply this method in presenting new words, but also encourage students to use this way to memorize new words in their spare time. Practice makes perfect.

## 5. Implications

Vocabulary plays an important role in EFL. A successful learning experience in English words can make the study of English easier. Therefore, it is of great importance to explore an efficient way to learn English words. In this study the associative method turned out to be a good one. In order to apply this method more successfully, the following items should be taken into consideration.

### 5.1 Teachers' Role

Teachers' role in the process of presenting English words should be recognized from a new perspective. For a long time it has been accepted that teachers' role in vocabulary presentation is to tell students how to pronounce the words correctly and how to use them appropriately. However, fewer teachers put emphasis on how to help learners memorize them. Why do teachers seldom mention the memorizing way? Personally speaking, there are two reasons. First, few teachers turn over the question: what contribute to learners' difficulty in vocabulary learning. Most of them believe that it is the learners' task to memorize words after class, and take it for granted that as long as they work hard, they learn English words well. So they never realize that they should make some changes in their teaching methods. Second, though some of them have realized the question, they may think that it is a complicated and difficult task to make some innovations in vocabulary teaching. As we know, college English teachers often have a heavy burden, not only from their teaching task, but also from their researching task, from their families, also from our society. So at last they do not put the innovation of English vocabulary teaching into practice.

This study tells us that different teaching methods do have different learning results. In order to help learners make a big progress in English vocabulary learning, English teachers should put more emphasis on their preparations, at the same time, teachers should keep a life-long learning attitude, update their teaching principles and methods all the way.

### 5.2 Learners' Role

As far as the non-English majors are concerned, they do not have much time to study English outside the classroom because of their own majors, so it is impossible for them to think over the question: how to memorize English words effectively. Though some of them realize that the rote-learning method, which is popular among them, is dull and ineffective, and they are eager for a new one, due to their proficiency in English, they have no ideas as how to improve it. So they can only continue using the old-fashioned method to learn English words. In the old vocabulary learning process learners are usually the passive recipients. In class they just note down what the teacher says but seldom think about them. Findings from this experiment show us that it is important for learners to use their own ability to think and rebuild the network of knowledge. If learners just put the new information into their mind like a plate of sand, and do not try to make them connected with each other, the new information will be forgotten easily. Indeed, only when learners are involved in the process can the new information make a deep impression on them. Only when their initiatives are intrigued, can the learning process become much more interesting and fruitful. In one word, in the learning process, students are not only the recipients but also the leaders. They should make full use of their imagination, creativity. If learners participate in the learning process actively, their initiatives will be displayed, they can do learning much better.

### 5.3 The Importance of Review

The biggest enemy in vocabulary learning is forgetting. As time goes by, it's natural that some of the new vocabulary will be forgotten. In order to cut down the forgetting rate to the lowest degree, learners should review shortly after learning has finished and also in the later time. The current experiment reveals that no matter how effective the teaching method is, review is necessary. Otherwise, the yield is still not satisfactory. The principle of frequency also tells us more practice may lead to stronger and more efficient associations between items in mental lexicon (Gui, 2002). In addition, as Nation (1990) pointed, various studies create a range of encounters with a word in order for a student to truly acquire it, teachers should give students more chances to use them; also learners themselves should create more chances to consolidate the newly learned words. Learners should be encouraged to gain knowledge both from the textbooks and out of textbooks, such as, listening to the radio, reading newspapers, watching English movies, etc. Only by constant review can we learn something by heart.

## 6. Conclusion

Through this experiment it is found that associative method is really a good way to present English words to non-English majors. It can motivate learners' initiatives and intrigue them. Therefore, teachers should often help learners build every kind of association with some new words, and encourage them to apply this way in their after-class study. On the other hand, forgetting is unavoidable. Thus, learners should review new words

frequently after class, and apply this method in their learning. Only in this way, can they get more improvements in vocabulary learning.

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