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The Effect of Different Presentations on English Words Retention of Chinese Learners of English

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Abstract
The authors of the present paper carried out some experiments of different presentations of English words (context, image and semantic field) so as to observe the effects of different presentations upon the memory retention of Chinese learners of English. The subjects of the experiments were 36 non-English majors from North China Electric Power University. The words used in the experiments were 45 English words selected from the glossary in the Band Eight Syllabus for English Majors, published by the Ministry of Education. The data from the experiments were mainly obtained through one immediate test and two delayed tests. After the experiments, the researchers interviewed several subjects to gain more feedback and further information. The results of the study show that image presentation is the most effective on short-term memory, and that context presentation is the most effective on long-term memory.
Keywords: English words; presentation; image; context; semantic field; effect; Chinese learners of English

1. Introduction

Stern (1983: 301) viewed the presentation of language as the core of the teaching and learning procedure. Language consists mainly of words, which can be presented to language learners individually, contextually, semantically, or with visual images. Researchers concerned with the effectiveness or efficiency of language learning and teaching would naturally want to know the effect of different presentations of lexical items upon the memory retention of the language learners.

The results of the experiments by Zeng (2007) indicated that thematic clustering was more effective than semantic clustering, and that context and processing of words relationships were directly conductive to second language learning. Therefore, new words should be presented in context or through connections with other words. The semantic situation and collocation contribute to the understanding of the words concerned and hence to the retention of the words.

Crow and Quigley (1985) conducted a comparative experiment between the traditional way of word presentation and semantic field presentation. The target words were five words with semantic connections. The results showed that while the traditional method had some benefits in short-term memory, participants performed better in terms of long-time memory. This was because the subjects in the semantic field experiment were presented with extra words. Tinkham (1993) also examined the effect of the semantic field. The subjects were presented with a list of semantically related words and a list of unrelated ones and asked to provide corresponding native words or non-words for the words they heard. Findings showed that the subjects had less difficulty in learning the unrelated words than the related ones. The study implied that it was more efficient to learn unrelated words compared with semantically related words.

He (1998) studied the effects of three modes of vocabulary presentation: semantic field, wordlist and context. The subjects were shown new English words with three modes respectively. The results indicated that wordlist and semantic field were more effective than context, but context approach was more effective on longer retention. Dong (2006) repeated He's experiments and examined the retention of the words through clued recall tests. The result showed that the retention of the wordlist was better than that of other two approaches, and that no significant difference was found between the semantic field approach and the context approach.

Zhao (2007) conducted a teaching experiment with 134 college students who were divided into two groups. One group was taught in a traditional way while the other group learned the target English words through images and clips of videos. The results showed that the traditional way of vocabulary teaching was more effective in terms of memory retention.

Liu (2014) compared the effects of image presentation, semantic field presentation and wordlist. Participants were exposed to the target words in turn through image, semantic and wordlist presentation. The results showed that image presentation was more effective in memorization of the new words while semantic field presentation and wordlist were more effective in memory retention.

Most of the above-stated experimental studies examined the effects of presentation on memory retention of

English words through immediate tests. When there were delay tests, the interval between tests was very short, only several hours or days. Moreover, in these studies, one group of subjects was exposed to new words with only one specific presentation mode. Different groups needed to experience all the intended ways of presentation so as to minimize the restrictions of the experiments. In addition, researchers should ensure that the words selected for the experiments should be new words to all subjects.

This study attempts to address the limitations discussed above. It is designed to compare three ways of presentation: words in context, words with images and words in semantic field through experiments, hoping to discover their respective effects on memory retention of Chinese learners of English. The subjects experience all the three ways of presentation, and after the presentation, there are three tests. The first is an immediate retention test, which starts 20 minutes after the presentation. The two delayed tests are implemented after 10 hours and 7 days respectively.

2. The design and implementation of the experiments

According to the Input Hypothesis put forward by Stephen Krashen (1981: 178), the progress in language learning maximizes when the language input is slightly higher than the existing level of the learner. Based on this theory, the target words selected for the experiments should be within the zone of "i+1."

Trier (1931: 14) formulated the concept of lexical field theory. The vocabulary of a language is a system, where some words are semantically linked to each other, forming a semantic field. The meaning of a word is determined in relation to the meanings of other relevant words. In general, the relations of words in a semantic field can be divided into four types: hyponymy, part-whole relation, antonymy and synonymy. It is assumed that words presented in the semantic field can assist learners to develop a tighter network of more words.

Neisser (1967: 254) put forward the term iconic memory. Iconic memory refers to the capacity of accurately recalling certain items after a brief visual exposure. It contains two main components. One is called visible persistence and the other is informational persistence. Visible persistence represents the duration of impression that a visual image persists in memory and it is more sensitive to the physical stimulus than informational persistence. Informational persistence means the duration of information about a stimulus that remains in memory. The duration of stimulus is the key to informational persistence. The visual code increases as the duration of stimulus stay longer and the informational persistence is crucial in visual short-term memory which can consolidate information for retention.

Words are situated in contexts. Learning words in contexts can be more effective than learning by rote.

The experiments in this study were designed to examine the effects of context, image and semantic field presentations on the memory retention of Chinese learners of English. The subjects were 36 non-English major students from North China Electric Power University, who had passed College English Test --- Band 6 (a nation-wide English test for third-year college students). The reason for the selection of them as subjects was that they had finished their English courses and they were supposed to be the most advanced English learners at the tertiary level. Their English learning experience and their relatively large vocabulary enabled them to learn the target new words in the experiments.

100 words were chosen from the glossary of the Syllabus for English Majors Band Eight (at the level of about 8000 to 10000 words). Vocabulary at this level of difficulty was in the comfort zone of language acquisition for the intended subjects as students who had passed College English Band 6 are supposed to have a vocabulary of 6000 or more. To ensure that the target words were new to the participants, a pre-test of the 100 words was given to the subjects. They were required to mark out the words they knew and provide Chinese translation of the known words so as to guarantee that they really knew them. There were 45 words left after the elimination of the known words.

The 45 target words were put into three groups of 15 words, and each of the three groups of 12 subjects was asked to consciously learn the three groups of words presented to them with semantic fields, contexts and images respectively. The three groups took turns to learn the three groups of words presented to them with three different approaches. Each experiment lasted about 10 minutes. Table 1 is the arrangement of the presentations for the experiments.

Table 1 Arrangement of the Presentations

Group	**Presentation of New Words**		
Group 1	Image	Semantic Field	Context
Group 2	Semantic Field	Context	Image
Group 3	Context	Image	Semantic Field

Twenty minutes after the subjects experienced each presentation, a test was given to them. The aim of this immediate test was to observe the results of the subjects in their short-term memory. The immediate test contained two items: multiple choice and translation. In the multiple choice part, the subjects were asked to choose the best answer from the four options given. In the translation part, the subjects were required to give the Chinese equivalents of the target words. The immediate test was to be completed in ten minutes and every

subject had to complete the test independently.

Ten hours after each presentation a delayed test (the first delayed test) was given to the subjects. The first delayed test was intended to compare the effects of different vocabulary presentations on the subjects' long-term memory. The form and content of the delayed test were identical with the immediate test except that the target words were arranged in a different order.

A week later, another delayed test (the second delayed test) was implemented. The aim of this delayed test was to examine the effects of different presentations on subjects' memory retention for a longer period of time. Again the form and content of the test were identical with the target words, but in a different word order.

After the immediate test and two delayed tests, the researchers interviewed some subjects individually to obtain further information about their experience.

3. Data Collection, Analysis and Discussion

The two items designed in the tests were of different degrees of difficulty. The translation exercises were more difficult than the multiple choices. Hence different value or weight was put to them in the design. The multiple choices item took up 60% and the translation 40%. The data was analyzed with Descriptive Statistics and ANOVA.

Before the implementation of the experiments, a pre-test was given to the subjects, and the results clearly indicated that at the start of the experiments there were no significant differences among the three groups regarding the difficulty of the English (the significance level is 0.980).

The result of first immediate test shows that the image presentation is more effective than semantic field presentation and context presentation. The second immediate test also shows that the image presentation is more effective than other two presentation modes. For the third immediate test, image presentation is the most effective as well.

The results of the analysis of all the three immediate tests jointly indicate that the image presentation is significantly more effective than the context and the semantic field presentation in terms of short-memory retention of target words, and that the effect of the context presentation is a little bit better than the semantic field presentation.

The results of the first delayed test suggest that context presentation is significantly more effective than image and semantic field presentation and that image presentation is relatively more effective than semantic field presentation. The second delayed test shows that the effects of image presentation, context presentation and semantic field presentation are more or less similar in terms of a relatively longer period of time (7 days). Also, the mean scores in the second delayed test are dramatically lower than the immediate test and first delayed test.

In order to confirm the results of the experiments, the researchers interviewed five subjects. When they were asked which modes of presentation they preferred and why, two of them expressed their preference for the image presentation. They said that the meaning of a new word could be more vividly and clearly expressed with image presentation. The other three preferred context presentation, stating that context could effectively assist them in comprehending the meaning and usage of the new words. Two of them pointed out that semantic field presentation was too complex, making it hard to memorize the target words efficiently.

When they were asked which modes of presentation enabled them to remember more words, four subjects said that image presentation impressed them the most and was the most effective way to learn new vocabulary. The other subject considered context presentation to be most effective.

As to the main factors that affected long-term memory retention, all subjects deemed that frequent review of new words played an important role in long-term memory. Three high-score subjects in the second delayed test said that they reviewed new words intentionally so that they could remember most of the target words after a week. Those who got lower scores in the second delayed test said that they did not review any of target words after taking the first delayed test. Thus they could not recall the exact meaning of most target words.

The results of the experiments and the interview reflect that significant differences do exist in the mean scores of the tests on different modes of presentation. The order of significance level to immediate memory retention is: image, context and semantic field. Image presentation is significantly better than the other two presentation modes in terms of short-term memory and context presentation is slightly better than semantic field presentation. In terms of long-term memory retention, context is superior to image. Form the interview, we know that the major benefit of the image presentation lies in its vivid presentation of the pictures representing the meaning of the words, which contributes to the memory retention. The trouble with semantic field presentation is that the relations among the words in the semantic fields are too complex. Subjects were not familiar with this form of presentation, and they could not cope with it effectively.

These results support Tinkham's (1993) finding that it is not efficient for students to learn related words together with semantic field approach, and He's (1998) and Zeng's (2007) findings that context presentation are more effective on the retention of new words. The results also rally with Liu's (2014) finding that image presentation has desirable function in memorizing new words. Nevertheless, the results disagree with Dong's

(2006) result that there is no significant difference between semantic field method and context approach regarding the memorization of new words. The differences in the types of experiments may account for the differences between Dong's result and the results of this study. First, Dong's is a teaching experiment, where different approaches were adopted in the teaching process, and this study is a psychological experiment, where subjects were exposed to learn, on their own, the new words presented by various approaches. Second, the subjects in the two studies are different. Dong's subjects are middle school students, while in this study, the subjects are college students. People at different ages or at different levels of English proficiency may have different dispositions towards different modes of presentation.

4. Implications for learning English as a foreign language

The biggest advantage of image presentation is the vivid images that symbolize the meaning of words. Image presentation makes it easier for learners to comprehend the meanings of new words by iconic memory rather than remember them by rote through translation. Iconic memory strengthens visual persistence and transfers visual persistence into longer information persistence. The advantage of context presentation is that context creates associations between situational notions and meanings of new words. Images and situations contribute to memory retention. The problem with semantic field presentation is that learners have to spend extra time comprehending the complexity of the abstract logical relations between different words. This adds difficulty to memory retention. Therefore effective presentation should be simple, vivid and situational.

Two of the very important effective memory strategies in Oxford's (1990) classification are Creating Mental Linkages and Applying Images and Sounds. Creating mental linkages includes grouping words, associating and elaborating words, and applying new words in a context. Applying images and sounds includes using imagery, semantic mapping, using keywords and representing sounds in memory. Successful learners learn new words in context and always attempt to create imagery of the new words out of their own experience and apply the new words in an imaginary situation. In so doing, learners practice the mental linkage between the communicative notions and the meanings of the new words, and the association between the meanings and the forms of the new words. English teachers should include learning strategies in their instruction and demonstrate explicitly to their students how to create mental linkage, how to use imagery and how to apply new words in a context.

5. Limitations of the study

There are certainly some limitations in this study. First, the sample size is small, only 36 subjects, and they might not be representative of Chinese learners of English. The result might have had other possibilities if the study had been done in other institutions. Second, the tests for the experiments focus mainly on the understanding and retention of the new words, with no consideration of their usage and collocation. Third, no consideration is given to the learning habits of the subjects. Some students might prefer to learn words in the morning while others in the afternoon or at night. Besides, some students might have a disposition to learn new words at the moment, but some other students might not. Some might take the test more seriously while others might take it a little casually. The results can be affected by these factors. Finally, the sample of the target words is also small.

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