

An experimental study on constructing sense relations in vocabulary teaching

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Abstract

This thesis has focused on the study on teaching vocabulary through constructing sense relations of words. An experimental teaching is carried out to prove the feasibility and effectiveness of a new way of vocabulary teaching—the integrated approach. The higher scores of the experimental class on the immediate tests and the smaller loss of retention on the delayed test appear to indicate that the integrated approach leads to a more solid embedding, better long term retention and active use of the words.

Keywords

Sense relations; vocabulary teaching; integrated approach

1. Introduction

In this thesis, we design an empirical study to examine the effect of constructing sense relations in vocabulary teaching. Two groups of students—experimental group and controlled group were instructed with different vocabulary teaching strategies. The controlled group was taught with the currently popular vocabulary teaching method—traditional method, and the experimental group was taught with sense relation strategy. The teaching experiment lasted for two months. Then, at the end of the experiment instructions, tests were given to examine the teaching effects of the two vocabulary teaching strategies, and comparisons were made according to the testing results. If setting up sense relations has a great positive influence on vocabulary learning, the statistic data in the experimental group should be higher than that of the controlled group so as to prove the verity of the teaching method of setting up sense relations in English vocabulary teaching.

The present test is designed by means of slightly revising the version of Qian's (2002) depth-of-vocabulary-knowledge (DVK) test format. The depth-of-vocabulary-knowledge measure is intended to

contribute to inferences about the test taker's depth of receptive English vocabulary knowledge, as defined by Read (1995), by measuring three vocabulary elements: synonymy, polysemy, and collocation. Originally called the word association test (WAT), this measure was originally developed by Read (1993, 1995).

As shown above, our revised DVK mainly measures two aspects of depth of vocabulary knowledge: paradigmatic (synonymy, antonymy and hyponymy) and syntagmatic relationships (mainly refer to collocations) of words. As Qian (2002) mentions, these components are important because "they appeared frequently in discussions of vocabulary knowledge".

2. Subjects

This study involved 80 first-year students whose major is English from Dezhou University of Shangdong Province. All of them have half a year's study in university. (see table 1).

Table 1 Subjects' information (Average)

class	Age	Sex			
		M		F	
CC	19	30	37.5%	10	12.5%
EC	19	28	35%	12	15%
Total		58	72.5%	22	27.5%

Subjects from Class One, being set as controlled class, are hereafter called CC, and subjects from Class Two, being set as experimental class, are hereafter called EC. Judging from their performance in the previous exams, we know that the two groups of subjects are at the same level in their English proficiency. Subjects of the two groups enjoyed the same teaching service, the same teacher, the same classroom, the same teaching equipments, the same amount of instruction time in intensive reading classes as well as in other classes they take. The only difference lies in the way of vocabulary instruction

they enjoyed. EC was assigned to the sense relation strategy and EC the traditional method.

3. Material

In the tests, we use two groups of target words. The first group of target words were chosen from the words that had been taught during the experiment instruction. During the experiment instruction, both groups of the subjects were instructed to learn the new words in the word list from their textbooks for intensive reading for English majors—“Contemporary College English”, Book One (Lu Peimin, 2001). 36 words were picked out from the word lists and appeared in the immediate posttests (test I) and delayed posttests (test II). These 36 words were taken as target words in the immediate and delayed posttests for both groups of the subjects to examine the teaching and learning effect of the sense relation strategy with comparison to the traditional method. The other group of target words is for a third test (test III). They are chosen from a different intensive reading textbook—“Integrated Skills of English”, Book One (Zou weicheng, 1998) which is a new material for our subjects. These words are chosen as the target words for test III because we intend to explore the effect of sense relation strategy in promoting students’ vocabulary acquisition. We selected the same amount of words—36 words from the new intensive reading material as the target words to be tested in test III. The selection criterion is the same to the first group as is shown below. Both groups of the target words for the tests are those whose sense relations such as antonymy, hyponymy, synonymy and collocation are easy to set up. Adjectives are good candidates who are likely to have sense relations like synonymy, antonymy, and hyponymy and are likely to form collocations with other words. Thus both groups of words were adjectives. One native English instructor who teaches English courses at the university was involved in determining the target words.

4. Procedures

In the present study, treatment consisted of two different vocabulary-teaching strategies: (a) sense relation strategy, (b) traditional method. The vocabulary instruction lasted for two months. Each group of the subjects, being English majors, have six intensive reading classes every week, thus totally 48 intensive reading classes during the period of experiment. During the span of experiment time, 6 chapters of intensive reading material were covered. In the study of each chapter, under the researcher’s instruction, subjects

from both groups studied the new words from the word list. At the end of the two-month experiment, both groups of the students took a test of revised multiple choices. In this test, each DVK item consisted of one stimulus word, which is an adjective, and two boxes, each containing four words. Among the four words in the left box, one to three words can be synonymous, antonymous, or hyponyms/ collocations to the stimulus word.

Whereas among the four words in the right box there can be one to three words that collocate with the stimulus word. There are always four correct answers in each item. However, these answers are not evenly spread. Three situations are possible: (a) the left and right boxes contain two correct answers; (b) the left box contains one correct answer, and the right box contains three correct answers; and (c) the left box contains three correct answers, and the right box contains only one correct answer. As Qian (2002) says, “This arrangement effectively reduces the chances of guessing”. An example follows.

jovial	
Joyful; grievous; emotion; logical	Mood; wrongs; sleep; temperature

The correct choices for this item are joyful, grievous, and emotion in the left box and wrongs in the right box. In scoring, each word correctly chosen was awarded one point. The maximum possible score, therefore, was 144 for the 36 items. There was no penalty for providing incorrect answers. Based on the time required during the pilot study, students were asked to finish both tests within a time limit of 20 minutes. Both of the tests were re-administered two weeks after as delayed vocabulary posttests to measure retention of vocabulary knowledge. Students had prepared for the immediate posttests but were not informed of the intention to administer delay posttests. And the third test was carried out right after the delayed posttest with everything same to the previous two tests but one element—the target words which are from a different intensive reading material, which is new to the subjects. We design the third test to examine if the sense relation strategy is able to facilitate students’ maneuver on the words that had not been explicitly taught.

In the sense relation treatment, we taught new words by setting up sense relations of theirs following Brown and Payne’s five steps of lexical teaching: encountering new words, getting the word form, constructing sense relations, consolidating and using the words. The essential step in the sense relation treatment is constructing sense relations. In the step of

consolidating, the teacher provided appropriate exercises to train and consolidate the newly learnt words and helped the learners get a better retention on the newly learnt items.

5. Results and Discussion

In this study, the measure was administered to examine each treatment effect on EFL vocabulary acquisition after instruction. One point was given for a correct answer to each item on the test. Subjects received total scores ranging from 0 to 144 points on the test. In order to examine treatment effects on EFL vocabulary retention, the same test was re-administered two weeks after instruction as delayed vocabulary posttests. Besides the immediate posttest and the delayed posttest, we administered a third test to examine the effect of sense relation strategy in facilitating vocabulary acquisition. Immediate vocabulary posttests are labeled as test I, the delayed vocabulary posttests are labeled as test II and the third tests test III. In order to investigate the research questions, first of all, descriptive statistics (means and standard deviations) were computed. In addition, independent sample tests for all the three tests were run. The two groups of our subjects received the following scores on the immediate posttest (test I) on the 36 target words. (see Table 2)

Table 2 Results of the immediate posttests

Group Score Number	CC	EC
1	94.00	120.00
2	95.00	127.00
3	95.00	125.00
4	120.00	118.00
5	93.00	98.00
6	98.00	130.00
7	75.00	129.00
8	91.00	99.00
9	96.00	107.00
10	100.00	87.00
11	101.00	126.00

12	80.00	116.00
13	107.00	120.00
14	98.00	128.00
15	78.00	111.00
16	99.00	88.00
17	113.00	116.00
18	90.00	118.00
19	111.00	117.00
20	94.00	117.00
21	95.00	128.00
22	97.00	99.00
23	96.00	125.00
24	73.00	124.00
25	101.00	126.00
26	98.00	125.00
27	97.00	89.00
28	84.00	129.00
29	99.00	109.00
30	112.00	123.00
31	88.00	118.00
32	119.00	125.00
33	98.00	126.00
34	95.00	127.00
35	95.00	100.00
36	89.00	110.00
37	90.00	128.00
38	107.00	123.00
39	75.00	127.00

40	96.00	106.00
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Using the statistical analyzing software SPSS 11.0, we can get the following statistics:

Table 3 Descriptive statistics of the immediate posttests

T O P I C	Group	N	Mean	Std. Deviation	Std. Error Mean
	A	CC	40	96.3600	3.9597
L	EC	40	117.8000	5.2087	1.0311

Table 4 Independent sample test for the immediate posttests

		Levene's t-test for of equality of variances	Test for equality of Means		
T O P I C	Equal varian ces assum ed	F .391 -16.494	Sig. .535	df 48	Sig.(2-tail ed) .000

From the table above we can see that the mean for group A is 96.36, the mean for group B is 117.8. As is shown in table 3 by the t- value, which is -16.494, the differences between the two means are significant in a statistical sense. Thus in the immediate posttests, the mean scores of both the two groups were significantly different from each other. The mean score of EC was significantly higher than that of CC. The delayed posttests (test II) were carried out two weeks after. The retention scores were shown in the following table (see Table 5)

Table 5 Results of the delayed posttests

Number	Group Score	
	CC	EC
1	86.00	107.00
2	95.00	71.00
3	69.00	109.00

4	91.00	108.00
5	93.00	98.00
6	87.00	113.00
7	85.00	106.00
8	91.00	109.00
9	110.00	108.00
10	86.00	87.00
11	90.00	126.00
12	83.00	116.00
13	75.00	120.00
14	91.00	128.00
15	88.00	111.00
16	99.00	75.00
17	113.00	106.00
18	90.00	108.00
19	111.00	107.00
20	92.00	107.00
21	89.00	108.00
22	89.00	99.00
23	96.00	105.00
24	73.00	104.00
25	101.00	76.00
26	88.00	125.00
27	92.00	89.00
28	84.00	109.00
29	79.00	109.00
30	112.00	103.00
31	88.00	118.00

32	109.00	125.00
33	98.00	106.00
34	75.00	97.00
35	85.00	100,00
36	89.00	110.00
37	90.00	78.00
38	97.00	123.00
39	75.00	107.00
40	86.00	106.00

With the help of statistical analyzing software SPSS 11.0 for windows, we got the following statistics:

Table 6 Descriptive statistics of the delayed posttests

T O T A L	Group	N	Mean	Std. Deviati on	Std.Error Mean
	CC	40	89.600	2.3274	.4655
	EC	40	106.440	1.8947	.3789

Table 7 Independent sample test for the delayed posttests

		Levene's Test t-test for equality of Means			
T O T A L	Equal variance assumed	F	Sig.	d	Sig.(2 -tailed)
		.379	.541	4	.000
		-28.056		8	

From the table above we can see: the mean scores for the two groups are 89.6 and 106.44, the mean of the

experimental group is 16.84 higher than that of the controlled group. If we come back to the immediate posttests, we can see that the mean scores of the two groups are respectively 96.36 and 117.8, and the mean of the experimental group is 21.44 higher than that of the controlled group. Comparing the results of the immediate and the delayed posttests, we find that the contrast of the mean scores between the two groups is less great in the delayed posttests. The advantage of sense relation strategy is not as notable in the delayed posttests as it is in the immediate posttests. And it shows that, in facilitating retention, sense relation strategy did not prove to be like what we had hypothesized as being able to greatly improve learners' long-term retention. However, the t-value, which is -28.056 in table 4.7, shows that the difference of the mean scores for the two groups is still significant in the delayed posttests. The mean scores of both of the two groups were significantly different from each other showing that sense relation method group still outshone the comparing group. Thus, sense relation strategy still helps long-term retention, even though the result of the delayed posttests is negative.

The third test was administered right after the delayed posttests. With the help of statistical analyzing software SPSS 11.0 for windows, we got the mean scores for the two groups are 93.96 and 104.96. The t-value, which is -17.542, shows that the mean scores for the two groups are still significant in the third test. Thus in the third test, the mean scores of both the two groups were significantly different from each other. In test III, sense relation strategy group still did better than the comparing group.

The difference between the effects of the two treatments is more significant in test I. This is because sense relation strategy treatment was rightly applying the teaching way of setting up word associations such as synonymy, antonymy, hyponymy and collocation, and students were quite familiar with the sense relations. Both of the two groups got lower scores in the delayed posttest, which shows that subjects from both groups lost some of the words they had learned during the experiment. However, EC still did better in the delayed posttest showing that even though they had some loss of the words, they had a better long-term retention under the guidance of sense relation strategy. And the scores of test III obviously show that EC did better in the test, presenting that even though both groups of the subjects had not been explicitly instructed on the target words, the experimental group still got higher scores. EC did better than CC because the former have formed the habit of constructing sense relations in dealing with vocabulary. A more important reason is that the students from EC have formed the

capacity of attaining deep level vocabulary knowledge and can thus obtain richer and more flexible word knowledge. Thus the scores of the immediate and delayed posttest as well as the third test put together to reveal a superiority of the performance in EC over that in CC in all of the three tests, thus showing a better effect of sense relation strategy in vocabulary teaching. And this implies that sense relation strategy still facilitates, to some extent, EFL vocabulary long-term retention. The present study compared two vocabulary-teaching treatments for intermediate level English majors acquisition and retention: traditional method and sense relation strategy. The conclusion drawn from this study shows an obvious picture. The immediate and delayed tests as well as the third tests' scores reveal that sense relation treatment is a better way in contributing to promoting subjects' vocabulary acquisition and retention than the traditional method. In contrast, the scores of immediate test and test III indicate that sense relation strategy is superior to traditional method in enhancing vocabulary acquisition to a significant degree. And thus, sense relation strategy, to some extent, facilitates long-term retention. Thus the findings of the present study reinforce the idea that constructing sense relations in vocabulary teaching is a better way in helping EFL learners learning English vocabulary.

6. References

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