

The Effects of Different Presentation Methods on Second Language Vocabulary Acquisition Based on Contextual Theory

Xiaojuan Yin^{1*}, Yafang Su²

¹ College of Foreign Languages, Minjiang University, Fuzhou, Fujian, 350108, P.R. China

² Huaqiao Middle School, Jinjiang, Fujian, 362216, P.R. China

*Corresponding author :Xiaojuan Yin, Email: yinxiaojuan@mju.edu.cn

ABSTRACT

Based on Contextual Theory, this study compared the effects of three different presentation methods on second language vocabulary acquisition of college non-English majors. The study has been applied in three classes of 155 second-year students in an ordinary college in Fuzhou, China. These classes have been instructed on words in three different techniques; one of which is teaching vocabulary in the context of an essay (the essay group), the second is teaching vocabulary in the context of sentences (the sentence group), whereas another is teaching words by providing only the words' definitions and Chinese equivalents (the glossary group). A vocabulary test composed of three parts has been constructed and applied after the instruction. Three vocabulary tests are applied: a pretest to show the selected words are unknown by the students, an immediate test to assess the short memory of the target words and a delayed vocabulary test to evaluate the retention of the words. According to one-way AVOVA analyses and paired t-tests of SPSS, there is a statistically significant difference between the essay group and the glossary group as expected in the immediate test concerning the overall performance in vocabulary tests. Unexpectedly, no significant difference was revealed either between the sentence group and the glossary group or between the sentence group and the essay group in the immediate test. Furthermore, there is no significant difference of overall performance among the three groups in the delayed test. However, the group differences vary in the three parts of the vocabulary tests in both immediate and delayed tests. As a result, the presenting methods of the target words in context and by definitions or meanings have different effectiveness on learners' overall performance in vocabulary acquisition.

Keywords: *presentation methods, second language vocabulary acquisition, Context Theory, college non-English majors*

1. INTRODUCTION

Vocabulary acquisition is a basic key element in second language learning that has long received attentions from applied linguistics, yet it has been largely neglected by recent research. On one hand, learners themselves admit that they experience considerable difficulty with vocabulary acquisition. On the other hand, teachers are confused on how to effectively present new words in classroom teaching. As in China, the usual procedure in teaching vocabulary includes students' preview, teachers' explanation on words' usage, students' repetition of the words by reading and writing, teachers' checking through word dictation or word exercise. The result is that students may memorize a lot of new words, but they cannot use

them appropriately. In fact, the ultimate goal of vocabulary acquisition is applying words in proper context. Early in last century, British sociolinguist Malilowski (1923) put forward the contextual theory and argued that the meaning of any word can only be fully understood when it is put in the context ^[1]. Since then, research into the process and the outcomes of second language vocabulary acquisition has consistently proved the significance of context. Some research focused on effects of the vocabulary learning strategies adopted by learners on vocabulary acquisition, while more studies examined the various presentation modes and their corresponding effectiveness in words' retention (Meara,1980) ^[2]. Then, how to apply context-based method in English vocabulary teaching and how to help learners improve their lexical competence has a great deal to be explored.

2. CONTEXT AND VOCABULARY ACQUISITION

It is commonly recognized that context plays a significant role in vocabulary teaching and learning. Researchers (Brown, 1972; Nagy, et al., 1987; Nation, 2004) ^{[3][4][5]} agree that it is more efficient to learn vocabulary by guessing the words from the context. Therefore, other researchers put forward different effective context clues of guessing the new words' meanings (Schmitt, 1997; Harmer, 2011; Betlach, 2012) ^{[6][7][8]}, from word formation, to drills, to collocations. Though these studies emphasize the application of context theory in studying and teaching vocabulary, they mainly focus on inferring meanings of the new words. In fact, researchers (Hatch & Brown, 2001) believe there are five basic steps of learning vocabulary: encountering the new words, getting the word form, getting the word meaning, consolidating the word form and meaning in memory, and using the word ^[9]. Considering the fact that words' meaning is only the preliminary objective of vocabulary acquisition, more research have been conducted to explore how to help learners learn to use the target words under the guidance of context theory. Among them, some research examined the various presentation methods and their effects on vocabulary acquisition in a more comprehensive way and their findings are impressive.

Findings suggest difference exist in different presentation modes of words. Siebert (1930) ^[10] observed that learning the vocabulary by associated pairs is better than either the method of learning it through a sentence or a mixed method of half associated pairs and half in context. Thorndike and Lorge (1944) found that oral repetition of the new words is most effective ^[11]. Later, Atkinson (1972) argued that compared to the random procedure, two computer-controlled strategies yielded more gain of vocabulary acquisition than learner-control instruction ^[12]. With the developments of studies on lexical semantics and mental lexicon, semantic network map, or semantic grid strategies, which present and organize new words in terms of maps or grids of interrelated lexical meanings have become recent focus. Although some evidence does show their effectiveness, other studies have warned of the danger of presenting closely related new words at the same time (Gu & Johnson, 1996) ^[13]. Unfortunately, most previous research either ignores or overlooks the fact that second language (L2) learners are fundamentally different from mother-tongue (L1) learners of vocabulary, and teachers may adopt different modes of vocabulary presentation while teaching English as a foreign language in the classroom. Although there is some empirical evidence on superiority of presenting words in contextual situation while teaching English as a foreign language as shown in a study (Fu, 2017), it only compared two presentation

methods (English words with Chinese meanings and a mix methods of English words with Chinese meaning and an example sentence) ^[14]. Actually, most teachers adopt more than the two presentation methods mentioned above in real classroom, then how other methods affect students' vocabulary learning outcomes? This question has not been investigated in any depth, but it is definitely worth looking at more closely.

3. EXPERIMENT DESIGN

3.1 Research Questions

(1) Do all the three presentation methods in the study are good for vocabulary retention for students?

(2) Are there any different effects of different presentation methods on the retention of vocabulary? If so, how does that influence outcome?

To the best of the author's knowledge, among a wide range of vocabulary presentation methods, college English teachers usually employ several ways or a mixed one, from using a glossary provided in the textbook, to example sentences including the target words, to a reading task of an essay incorporated with new words, and to a writing task incorporated with new words, etc. According to the author's own teaching experience of more than 15 years, the first three methods are mostly employed in a real classroom teaching context, because a writing task is more demanding than reading tasks and it takes up too much time in a class. Therefore, the vocabulary presentation methods of a glossary, sentences with new words, and an essay with new words will be compared in current study.

3.2 Participants

The subjects of this experiment were 155 second-year non-English majors from three intact classes in a university in Fuzhou, China. Another 10 students from a parallel teaching class participated in the pretest of the experiment to test the feasibility of the study. In order to investigate the English proficiency of these subjects, the author conducted a one-way analysis of their English performance in the final examination of the previous semester, and the results showed that there was no significant difference in their English proficiency ($F=0.2309$, $p=0.064>0.05$). The three experimental classes were randomly divided into three experimental groups (the glossary group, the sentence group and the essay group), and each experimental group completed a learning task. Because four students in the experiment did not complete either the immediate vocabulary test or the delayed test as required, only 151 experimental data were included in the data analysis of this study. There were 47 in the glossary group, 52 in the sentence group and 52 in the essay group.

3.3 Methods

3.3.1 Materials

The target words in this experiment are selected from the vocabulary list after the pretest. The glossary for group 1 is chosen from Unit 5 Text A in New Horizon College English Book III (Reading and Writing, the third edition). The example sentence presentation material for group 2 was selected and edited by the author by using the Collins Dictionary online. The story with the target words for group 3 were written by the author, too. Vocabulary test materials are also designed for the experimental group. In the pretest, the students argued that there was no problem of the content of the presentation materials nor the vocabulary test materials. According to the suggestions of the students, the researcher has only partially optimized the font and typesetting of the materials.

3.3.2 Target Words

Ten target words in the experiment were selected through the vocabulary pretest, which were: *extraordinary, eclipse, sprawl, recession, stunning, cluster, erode, literature, reputation, sparsely*. These target words include verbs, nouns, adjectives and adverbs, which are all within the required vocabulary list of a well-recognized national English proficiency test in China, that is College English Test Band 4 (CET-4). Therefore, these target words are quite representative in vocabulary learning process for non-English majors in Chinese colleges.

3.3.3 Vocabulary Tests

The immediate vocabulary test is carried out soon after presenting target words to the three groups, and the test consists of three parts: part one is to write out the Chinese meanings of 10 target words, 1 point for one item; part two is to select the target words and complete the blank filling in sentences with their correct forms, 2 points for one sentence; part three is to complete the blank filling task in a passage by selecting 10 target words from the given 15 words, and there are 3 points for each blank. Then, two weeks after the experiment, the three groups of students were required to finish the delayed vocabulary test. The delayed vocabulary test was exactly the same as the immediate vocabulary test

except that the orders of target words in the three parts were changed.

3.4 Procedures

Before the formal experiment, the author invited 10 students from another teaching class who had similar English proficiency as the subjects to take the pretest. The contents of pretest include: whether the reading materials is appropriate; whether the choice of target words is reasonable; whether the instruction requirements of tasks are clear; whether the time required for task completion is feasible.

The steps of the experiment mainly included the following three steps: 1) the presentation of target words: (1) The experimenter handed out the materials to the glossary group (presenting target words' meanings in the form of glossary). The students were required to study independently within 10 minutes. (2) The experimenter handed out the materials to the sentence group (presenting target words in sentences), and asked the students to complete the study within 10 minutes. (3) The experimenter gave the materials to the essay group (presenting the target words in a story). The students were required to finish the reading within 10 minutes. 2) the immediate vocabulary test: after presenting the vocabulary, the experimenter took back all the vocabulary learning materials, and three groups of students completed the timely vocabulary test within 25 minutes. Then, the author collected the students' immediate vocabulary test papers. 3) the delayed vocabulary test: two weeks later, the students were required to complete the delayed vocabulary test papers within 25 minutes so as to investigate the students' retention of the target words.

3.5 Analyses

After the experiment, the author graded the three groups of students' immediate vocabulary test and delayed vocabulary test and collected the data, then the SPSS17.0 statistical software was used to conduct One-way ANOVA analysis and paired-samples t-test. Based on the results, the author compared the different effects of the three different presenting ways on participants' short-term memory and long-term memory of the vocabulary.

4. RESULTS AND DISCUSSION

4.1 Results Analysis of Immediate Vocabulary Test

4.1.1 Mean Scores of the Three Groups in the Immediate Vocabulary Test

Table 1 Mean scores of the three groups obtained in the immediate vocabulary test

	Glossary Group (Group 1)				Sentence Group (Group 2)				Essay Group (Group 3)			
	part 1	part 2	part 3	total	part 1	part 2	part 3	total	part 1	part 2	part 3	total
Mean	8.57	10.15	4.98	23.70	6.37	9.88	6.75	23.00	7.33	10.81	7.50	25.63
Std. Deviation	2.10	4.42	3.97	7.97	2.56	3.56	4.11	7.93	2.49	3.90	4.70	7.71
Minimum	7.96	8.85	3.81	21.36	5.65	8.89	5.61	20.79	6.63	9.72	6.19	23.49
Maximum	9.19	11.45	6.14	26.04	7.08	10.88	7.89	25.20	8.02	11.89	8.81	27.78

Note: the full mark of the test is 60. Part 1: 10 points; Part 2: 20 points; Part 3: 30 points

Table 1 shows the mean scores of three parts as well as the mean scores of total scores obtained by the three groups in the immediate vocabulary test. Moreover, the standard deviation, minimum value and maximum are also shown in table 1. It can be seen that the three vocabulary presentation methods have different effects on students' immediate vocabulary acquisition. With respect to the mean of the total score, the essay group obtained the highest score than the glossary group, and the sentence group obtained the lowest ($25.63 > 23.70 > 23.00$), so it can be concluded that the presentation of an essay with the target words is more effective than the other two groups, but the gap is not very big. Concerning the mean score of each part, in part 1, the average score of glossary group is 8.57, while the average score of sentence group is 6.37, and the average score of essay group is 7.33. It is obvious that the average score of glossary group is the highest and the standard deviation (2.10) is the smallest in part 1. That's to say, as for the acquisition of words' meanings, the presentation of glossary is more effective. Maybe it is because the way of glossary presentation is relatively simple and direct, and students can remember the meaning of the target words more accurately in a short time. In part 2, the average score of glossary group is 10.15, with 9.88 for the sentence group, and 10.81 for the essay group, which means the presentation mode of an essay with target words more effective in terms of word usage. In other words, the essay with target words

proves to better help the subjects memorize the meanings of the target words as well as the usage of the words because it provides a better context. Therefore, the essay group performs better in part 2 than the other two groups. In part 3, the average scores of three groups are much lower, with 4.98 for the glossary group, 6.75 for the sentence group, and 7.50 for the essay group. Clearly, part 3 is the most difficult part in the vocabulary test, so there is no surprising that the glossary group cannot perform as well as in part 2 as it does in the part 1. Still, the essay group performs best in part 3 because the presentation of the essay with targets words are more helpful for the students to master the usage of the words in the context of the story. It is well-known that college students have had a certain amount of knowledge reserve, so teachers can present words in the passage so that students digest words by themselves, which in turn, can not only promote the memory effect of words, but also enhance students' reading ability. However, the overall mean scores of three groups are not high considering the fact that the total score of part 3 is 30 scores. On the one hand, it may be due to the complexity of the task, which requires students to use the target words in the text. On the other hand, the presentation time is only 10 minutes, students may not have the time to process the words deeper enough. Even if students remember the meaning of words in a short time, it is difficult to complete the task of part 3 with high quality.

4.1.2 One-way ANOVA Analysis of Results of Immediate Vocabulary Test

Table 2 One-way ANOVA: results of LSD post-tests on the scores of the immediate vocabulary test

Groups	items	Standard error	p
Group 1 vs Group 2	part 1	0.48375	0.000**
	part 2	0.79709	0.741
	Part 3	0.86151	0.042
	Total	1.58302	0.658
Group 2 vs Group 3	part 1	0.47137	0.043
	part 2	0.77670	0.237
	Part 3	0.83947	0.373
	Total	1.54253	0.090
Group 1 vs Group 3	part 1	0.48375	0.011
	part 2	0.79709	0.410
	Part 3	0.86151	0.004**
	Total	1.58302	0.224

Significance level: $p \leq 0.005$

Note: Group 1: Glossary Group; Group 2: Sentence Group; Group 3: Essay Group.

Full scores: Part 1: 10 points; Part 2: 20 points; Part 3: 30 points

In order to analyze the group differences, the author also carries out a one-way analysis of the scores obtained by the three groups in the immediate vocabulary test. The results are shown in table 2. As can be seen, the group difference between the glossary group and the sentence group is not significant ($p=0.658 > 0.005$). Similarly, no significant difference is found between the sentence group and the essay group, either ($p=0.090 > 0.005$). Moreover, there is no significant difference between the glossary group and the essay group ($p=0.224 > 0.005$). Obviously, the three groups showed no significant different effect on the short-term memory of the target words. However, it is noteworthy that there are some different group differences in sub-sections. In part 1, the standard errors between the glossary group and sentence group is 0.48375, and the difference is statistically significant ($p=0.000 < 0.005$). Interestingly, the standard errors between the sentence group and essay group is 0.47137, and the group difference is not significant ($p=0.043 > 0.005$). Again, the standard errors between the glossary group and the essay group is 0.48375, and no significant group difference is found ($p=0.011 > 0.005$). In other words, the result shows that there is significant difference in the memory effect between the glossary group and sentence group, while there is no significant differences between neither the sentence group and essay group, or the glossary group and essay group in part 1. It is well acknowledged that the process of information processing and coding is a relatively

complex process, and it is also a process of connecting new and old information. Therefore, when the subjects learn and memorize the target words in the word list in a short time, the information received by the sensory organ is more concise than sentence presentation and essay presentation, so the memory capacity is relatively large in a short time. When the target words are presented to the subjects in the form of discourse, the information received by the sensory organs is relatively complex, vulnerable to the influence of other words, and the memory in a short time is relatively less. In part 2, the standard error between the glossary group and sentence group is 0.79709, and the difference is not significant ($p=0.741 > 0.005$). Again, there is no significant difference between the sentence group and essay group ($p=0.237 > 0.005$). Moreover, the standard error between the glossary group and essay group is 0.79709, and no significant difference is observed, either ($p=0.011 > 0.005$). Obviously, in part 2, there was no significant difference among the three groups. As for part 3, there is no significant difference either between the glossary group and sentence group ($p=0.042 > 0.005$) or between the sentence group and essay group ($p=0.373 > 0.005$). Nevertheless, the significant difference between the glossary group and the essay group is found here ($p=0.004 < 0.005$). The results show that the presentation of essay with target words proves to be more helpful for the participants to learn to use the target words in the passage because it may present a better context of learning as we have discussed earlier.

4.2 One-way ANOVA Analysis of Results of the Delayed Vocabulary Test

4.2.1 Mean Scores of the Three Groups in the Delayed Vocabulary Test

Table 3 Mean scores of the three groups obtained in the delayed vocabulary test

	Glossary Group				Sentence Group				Essay Group			
	part 1	part 2	part 3	total	part 1	part 2	part 3	total	part 1	part 2	part 3	total
Mean	8.53	9.94	1.79	20.26	6.02	9.60	3.06	18.67	7.50	10.67	3.06	21.23
The standard deviation	1.89	4.75	2.04	5.91	2.55	3.87	2.26	6.18	2.36	3.50	2.41	5.83
Minimum	7.98	8.54	1.19	18.52	5.31	8.52	2.43	16.95	6.84	9.70	2.39	19.61
Maximum	9.09	11.33	2.39	21.99	6.73	10.67	3.69	20.39	8.16	11.65	3.73	22.85

Note: the full mark of the test is 60. Part 1: 10 points Part 2: 20 points; Part 3: 30 points

According to table 3, it can be seen that the effects of three ways of vocabulary presentation on students' delayed vocabulary acquisition are different. With respect to the mean of the total score, the essay group scored higher than the other two group, and the sentence group obtained the lowest score (21.23 > 20.26 > 18.67). Previous findings agree that the deeper the information is processed, the longer the information lasts (Craik & Lockhart, 1972) ^[15]. When students learn vocabulary by the means of essay presentation, the words are presented in a vivid context. Although it may take more time for students to understand the story, it has a great impact on the long-term development of vocabulary understanding, memory effect. Therefore, the presentation of the essay has an advantage in the delayed test. With regard to the mean score of each part, in part 1, the average score of glossary group is 8.53, while the average score of sentence group is 6.02, and the average score of essay group is 7.50. The data shows that the average score of glossary group is the highest in part 1, and the maximum (9.09) and minimum (7.98) are higher than

the other two groups. Because sentence group and essay group are presented in a way that requires more efforts than the glossary group do, and the subjects need to exclude the interference of other words in the text. Therefore, the presenting method of glossary is more direct and helpful to memorize the meanings of the words. In part 2, the average score of glossary group is 9.94, with 9.60 for the sentence group, and 10.67 for the essay group, which means the presentation mode of an essay with target words has an advantage in part 2, but the differences among the three groups are not significant. In Part 3, the average score of glossary group is 1.79, with 3.06 for both the sentence group and the essay group. Therefore, in part 3, the glossary group had a worse effect than the other two groups. However, all the three groups had low scores in part 3 (full score was 30) because of the complexity of the task. Furthermore, the memory effects of the three groups of vocabulary presentation methods decreased in the delayed test as forgetting is normal in learning.

4.2.2 One-way ANOVA Analysis of Results of the Delayed Vocabulary Test

Table 4 One-way ANOVA: Results of LSD post- tests on the scores of the delayed vocabulary test

Groups	items	Standard error	p value
Group 1 vs Group 2	part 1	0.46136	0.000**
	part 2	0.81499	0.677
	Part 3	0.45293	0.006
	Total	1.20277	0.190
Group 2 vs Group 3	part 1	0.44956	0.001**
	part 2	0.79414	0.177
	Part 3	0.44134	1.000
	Total	1.17201	0.031
Group 1 vs Group 3	part 1	0.46136	0.027
	part 2	0.81499	0.367
	Part 3	0.45293	0.006
	Total	1.20277	0.419

Significance level: $p \leq 0.005$

Note: Group 1: Glossary Group; Group 2: Sentence Group; Group 3: Essay Group.

Full scores: Part 1: 10 points; Part 2: 20 points; Part 3: 30 points

In order to analyze the group difference in the delayed vocabulary test, the author also carries out a one-way analysis of the scores obtained by the three groups. The results are shown in table 4. As is readily seen, concerning the overall performance, the group difference between the glossary group and the sentence group is no significant ($p=0.190 > 0.005$). Similarly, no significant difference is found between the sentence group and the essay group, either ($p = 0.031 > 0.005$). In addition, there is no significant difference between the glossary group and the essay group ($p = 0.419 > 0.005$). Generally, there is no significant difference among the three presentation modes in the delayed test. These findings are different from the previous studies (Crow & Quigley, 1985), which argued that the semantic approach is more effective than the traditional group^[16]. Nevertheless, the findings are basically in line with another research (Hatime & Sema, 2009) in which presenting the target words in context and by definitions does not make a significant difference in terms of overall performance^[17]. However, it is noteworthy that there are some different group differences in sub-sections. In part 1, the standard errors between the glossary group and sentence group is 0.46136, and the difference is statistically significant ($p=0.000 < 0.005$). Again, the standard errors between the sentence group and essay group is 0.44956, and the difference is statistically significant ($p=0.001 < 0.005$). Interestingly, the standard errors between the glossary group and the essay group is 0.46136, and no significant group difference is found ($p=0.027 > 0.005$). Surprisingly, the result shows that there is no significant difference in the memory effect between the glossary group and the essay group, while there are significant differences between

either the glossary group and the sentence group, or the sentence group and essay group in part 1. The explanation maybe is, by presenting words with an essay, the story is logical and interesting, and students need to fully utilize their original knowledge and experience, understand the meaning of the whole story on the basis of each word, so as to learn the target words in the context, establish a meaningful connection between the original cognition and the new target words, so that the vocabulary can be kept in the brain for a long time. As for the surprisingly unsatisfactory performance of the sentence group in both vocabulary tests, one possible reason is the sentences with target words do not necessarily provide a context as good as the essay does. On contrary, it may waste some time and energy of the learners to process the sentences. As a result, the sentence group doesn't perform as well as the glossary group in part 1 because the glossary group pays more attentions to the meanings of the target words in a direct way. Anyway, more research is needed to solve the mystery. In part 2, the standard error between the glossary group and sentence group is 0.81499, and the difference is not significant ($p=0.677 > 0.005$). Again, there is no significant difference between the sentence group and essay group ($p=0.177 > 0.005$). Moreover, the standard error between the glossary group and essay group is 0.81499, and no significant difference is observed, either ($p=0.367 > 0.005$). Obviously, in part 2, there was no significant difference among the three groups. In part 3, there is no significant difference either between the glossary group and sentence group ($p=0.006 > 0.005$) or between the sentence group and essay group ($p=1.000 > 0.005$). And the difference between the glossary group and the essay group is not

found here ($p=0.006>0.005$). As for part 3, there is no significant difference in the three presentation methods.

In summary, despite the insignificant group difference, the essay group still has an advantage in the delayed test.

4.2.3 Paired-samples T-test on the Scores Achieved in the Immediate Vocabulary Test and the Delayed Vocabulary Test

Table 5 Results of t-tests on the scores obtained in the immediate vocabulary test and the delayed vocabulary test

Groups	Items	The standard deviation	Sig(p)
Glossary group	part 1	2.09510	0.890
	part 2	5.17912	0.779
	Part 3	4.48494	0.000**
	total	7.82640	0.004**
Sentence group	part 1	2.32535	0.288
	part 2	3.07639	0.502
	Part 3	4.14227	0.000**
	total	5.99582	0.000**
Essay group	part 1	2.80560	0.658
	part 2	4.13037	0.815
	Part 3	5.16175	0.000**
	total	7.46563	0.000**

*Mean difference is significant at the .05 level.

In order to further determine whether there is within-group difference between the immediate and the delayed tests, the author conducted a paired-samples t-test analysis. As shown in table 5, with regard to the total score, the standard deviation of group 1 is 7.82640, and a significant difference is found ($\text{sig}=0.004<0.005$). Similarly, a significant difference is found between group 2 in the immediate test and the delayed test ($\text{sig}=0.000<0.005$). In addition, there is also a significant difference within the essay group ($\text{sig}=0.000<0.005$). As is shown, there is significant difference within the three groups when the overall scores obtained in the immediate vocabulary test and the delayed test are compared. It is noticeable that their overall trend is declining. In other words, students have forgotten, which is exactly in line with the law of forgetting. However, the retention effects of target words in different parts vary. In part 1, the standard deviation of group 1 immediate vs group 1 delayed is 2.09510, and the difference is not statistically significant ($\text{sig}=0.890>0.005$). Again, the standard deviation of group 2 immediate vs group 2 delayed is 2.32535, and the difference is not statistically significant ($\text{sig}=0.288>0.005$). Moreover, there is no significant difference in group 3 immediate vs group 3 delayed ($\text{sig}=0.658>0.005$). Obviously, three presentation methods all have similar effects on the short-term and long-term memory of vocabulary in part 1 and they all have good retention of the vocabulary meaning within groups. In part 2, the

standard deviation of group 1 immediate vs group 1 delayed is 5.17912, and the difference is not statistically significant ($\text{sig}=0.779>0.005$). Again, the standard deviation of group 2 immediate vs group 2 delayed is 3.07639, and the difference is not statistically significant ($\text{sig}=0.502>0.005$). Moreover, there is no significant difference in group 3 immediate vs group 3 delayed ($\text{sig}=0.815>0.005$). Obviously, there are no significant differences in the effects of these three presentation ways on vocabulary test in part 2. In part 3, the standard deviation difference between group 1 immediate vs group 1 delayed is significant ($\text{sig}=0.000<0.005$). Similarly, significant difference is found between group 2 immediate vs group 2 delayed, too ($\text{sig}=0.000<0.005$). In addition, there is also a significant difference between group 3 immediate vs group 3 delayed ($\text{sig}=0.000 < 0.005$). As we stated earlier, the levels of processing model (Craik & Lockhart, 1972) argued that the deeper information is processed, the longer a memory trace will last [15]. The meaningful context in the essay group help learners process the key words deeper, the retention of the vocabulary is better. However, there is significant difference among the three groups in part 3. The possible reason is that the vocabulary tests in part 1 and part 2 are relatively simple: writing down word's meaning and selecting words to fill in sentences. Part 2 of the vocabulary test is seemingly more difficult. However, it is comparatively easier than part 3 (filling blanks in a passage). As a result, if the learners

remember the words' meanings, they can score high in part 1 and part 2, and the retention effect is satisfactory. However, neither of the three presentation methods has a good retention effect on learners' vocabulary acquisition as far as their performance in part 3 is concerned. In other words, all three groups of students noticed the meanings of words, which help all the learners perform relatively better in part 1 and part 2. However, in the part 3, the task is relatively difficult, besides the meanings of the target words, learners are supposed to understand the whole passage to fill the blanks. During the limited time, all the learners may only notice the meaning of the words, but the words are not processed deeply enough to finish a more challenge task. As a result, the scores of the three groups in part 3 are not very good, and the retention effects within all the three groups in the part 3 are less satisfactory.

5. CONCLUSION

The current study presents some explicit answers to the research questions. On the whole, the three ways to present vocabulary (the glossary presentation, the example sentences presentation and the essay presentation) have different effects on students' vocabulary acquisition. The main findings are as follows: in both of the immediate and delayed vocabulary tests, the presentation of the essay with target words has the best effect on short-term memory, followed by glossary, and the example sentence with a target word was the worst. Compared the immediate vocabulary test with the delayed vocabulary test, all the three presentation methods showed a declining trend of vocabulary acquisition effects on the whole, and there are significant differences within three groups.

The implications are as follows :when teachers have more tasks and shorter time in classroom teaching, the presentation of glossary can be adopted, which is efficient for students' short-term memory; if time allows, it is advisable to present the target words in the form of short essays, and give students a certain amount of time to process and internalize the vocabulary, so as to form their own internal cognitive structure, which is conducive to students' long-term memory of the vocabulary.

This is an exploratory study, so there are still some limitations: the participants of the current study are non-English majors whose English proficiency is not high in a common college in China. Unfortunately, they may fail to represent those students with high English proficiency in key universities nor English majors. Therefore, it is suggested to compare the effects of three presentation methods on vocabulary acquisition of students with different English levels. In addition, the presentation method of sentences with target words is found to be least rewarding in the current study, and the three groups' overall performance in part 3 of the

immediate vocabulary test is not good, and the group differences of part 3 in the delayed test are not significant. The reasons behind may need further study.

Hopefully, more empirical studies in this field can be conducted in the near future.

ACKNOWLEDGMENTS

Xiaojuan Yin is a lecturer in the College of Foreign Languages, Minjiang University. Her research areas include the second language acquisition and discourse analysis. She is now teaching College English courses at undergraduate level.

Corresponding address: College of Foreign Languages, Minjiang University (350108), Fuzhou, Fujian Province, PR China.

Tel: 13599408921 e-mail: yinxiaojuan@mju.edu.cn

Yafang Su is an English teacher at Huaqiao Middle school. Her research interest is English teaching methodology. She is now teaching English course at secondary school level.

REFERENCES

- [1] B. MALINOWSKI, Psycho-Analysis and Anthropology. *Nature*, 112(2) (1923) 650–651. <https://doi.org/10.1038/112650a0>
- [2] P. Meara, Vocabulary Acquisition: A Neglected Aspect of Language Learning. *Language Teaching*, 13(4) (1980) 221-246. <https://doi.org/10.1017/S0261444800008879>
- [3] H. D. Brown, Cognitive Pruning and Second Language Acquisition. *The Modern Language Journal*, 56(4) (1972) 218-222. <https://doi.org/10.1111/j.1540-4781.1972.tb05047.x>
- [4] W. E. Nagy, et al., Learning Word Meanings from Context during Normal Reading. *American Educational Research Journal*, 25(2) (1987) 237-270. <https://doi.org/10.2307/1162893>
- [5] I. S. P. Nation, Teaching and Learning Vocabulary. Beijing: Foreign Language Teaching and Research Press, 2004.
- [6] N. Schmitt, Vocabulary Learning Strategies (A), In N. Schmitt & M. McCarthy (Eds). *Vocabulary: Description, Acquisition, and Pedagogy (C)*: Cambridge: Cambridge University Press, 1997, pp. 199-227.
- [7] J. Harmer, How to Teach English: an Introduction to the Practice of English Language Teaching. London: Longman, 2011.
- [8] M. Betlach, Teacher's Handbook Contextualized

- Language Instruction. *TESOL Quarterly*, 28(4) (2012) 818-822. <https://doi.org/10.2307/3587569>
- [9] E. Hatch, C. Brown, *Vocabulary, Semantics and Language Acquisition*. Beijing: Foreign Language Teaching and Research Press, 2001.
- [10] L. C. Seiburt, An Experiment on the Relative Efficiency of Studying French Vocabulary Associated Paris Versus: Studying French Vocabulary in Context. *Journal of Educational Psychology*, 21(4) (1930) 297-314. <https://doi.org/10.1037/H0070517>
- [11] E. L. Thorndike, I. Lorge, *The Teacher's Word Book of 30,000 Words*. New York, Teachers College Press, 1944.
- [12] R. C. Atkinson, Optimizing the Learning of a Second-language Vocabulary. *Journal of Experimental Psychology*, 96 (1972) 124-129. <https://doi.org/10.1037/0033475>
- [13] Y. Gu, R. K. Johnson, Vocabulary Learning Strategies and Language Learning Outcomes. *Language Learning*, 46(4) (1996) 643-679. <https://doi.org/10.1111/j.1467-1770.1996.tb01355.x>
- [14] S. Y. Fu, Empirical Research on Second Language Vocabulary Acquisition Based on Context-Theory. *Journal of Minjiang University*, 161(3) (2017) 61-65. <https://doi:10.3969/j.issn.1009-7821.2017.03.009>
- [15] F. I. M. Craik, R. S. Lockhart, Levels of Processing: A Framework for Memory Research. *Journal of Verbal Learning and Verbal Behavior*, 11(6) (1972) 671--684. [https://doi.org/10.1016/S0022-5371\(72\)80001-X](https://doi.org/10.1016/S0022-5371(72)80001-X)
- [16] J. T. Crow, & J. R. Quigley, A Semantic Field Approach to Passive Vocabulary Acquisition for Reading Comprehension. *TESOL Quarterly*, 19(3) (1985) 497-513. <https://doi.org/10.2307/3586275>
- [17] R. J. Hatime, & P. A. Sema, Comparative Analysis of Teaching Vocabulary in Context and by Definition. *Procedural Social and Behavioral Sciences*, (1) (2009) 1568-1572. <https://doi.org/10.1016/j.sbspro.2009.01.275>