



Reinforcing English Vocabulary Learning by Reviewing with Multi-media Software

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Abstract

Many college English learners found it difficult to retain English words. This study aimed to examine if multimedia vocabulary learning soft wares could help college English learners review newly learned words in a more efficient way in comparison with reviewing words in traditional mode with word list printed on paper and to examine learners' preferences and perceptions toward multimedia software. One control group and one experimental group were formed by 109 non-English major sophomores. The two groups were reviewing target words in different modes, one with multimedia software and the other with word list printed on paper. A test was taken by the participants to compare the performance of two groups and the results were analyzed with SPSS 25 software and learners' perceptions toward multimedia vocabulary learning software were collected through a questionnaire. Quantitative data were analyzed using Excel software, and themes that emerged from the qualitative data were identified. The quantitative findings revealed reviewing words with multimedia vocabulary learning software was more effective than reviewing with printed word list. The questionnaire data showed that learners expressed their preference of reviewing words with multimedia software and would like to continue their use in the future. The findings provide insights for college English professors in helping learners improve word reviewing efficacy with multimedia software.

Keywords: *vocabulary reviewing; multi-media vocabulary learning software; efficacy*

1 INTRODUCTION

Languages are tools to communicate and words are basic elements of a language. To learn a language well, one has to master its words. To English learners it is important to understand the exact meaning of English words, learn how to use them and memorize them for future use. Only when a learner has a good command of English words can he read, speak, listen and write in a satisfactory way [1]. To improve the efficacy of English vocabulary learning, studies have been conducted. For example, Wang Yu did a research on problems and strategies in college English vocabulary teaching [2] and Cheng Weijuan conducted a research on MI-based online teaching in undergraduates' English vocabulary.

By taking advantage of digital technology, college English professors can provide more opportunities for English learners to receive verbal information (e.g., spoken words, narrations, and sounds) through the ear and visual information (e.g., pictures, graphs, video animation clips, and on-screen texts) through the eyes, thus satisfying different needs of learners with different

learning styles and improving the learners' vocabulary learning effectiveness [3]. The effectiveness of multimedia in English vocabulary teaching has been proved in many studies. Liu Ling and Qin Xiaoqing concluded that when presenting new words, pictures and animation were powerful tools in helping learners learn and retention the new words [4]. Elke el. pointed out that electronic subtitles and captions could help learners learn vocabulary more efficiently [5]. Liu Fang summarized that studies have proved that computer-based language teaching and learning vocabulary with different Apps, electronic dictionary, games and subtitles and captions, etc. were all more effective ways in comparison with traditional vocabulary learning mode with electronic word list or word list printed on paper [6].

To English learners only when the words go into their long-term memory can they use them in the future, just as Schmitt put it when learners had mastered the exact meaning of the word the following step was to take pains to memorize it [7]. But many college English learners were complaining that it was really hard to retain new English words even after their professors had helped

them have a thorough understanding of the meaning and usage of the new words.

In a previous study, all together 189 college English learners were invited to answer a question online to find out by what means they reviewed newly learned words, with vocabulary learning soft wares or word list printed on paper. It was found that 80 (42.5%) out of 189 were reviewing new words with vocabulary learning soft wares and 109 learners responded that they were reviewing new words in a traditional way with word list printed, which revealed that majority college English learners had not taken full advantage of multimedia soft wares to improve their vocabulary learning efficiency. And it was also found in observation that the learners who failed to get the newly learned words into their long-term memory were those who didn't review the target words properly in a scientific way. Those learners did not realize how important it was to review frequently according to the Ebbinghaus Curve of Forgetting. And most of them had no idea about how to review in an effective way. Consequently, the result was they soon forgot the new words explained by their professors. Therefore, this study aimed to examine if multimedia vocabulary learning soft wares could help college English learners review newly learned words in a more efficient way in comparison with reviewing words in traditional mode with word list printed on paper and to collect their perceptions towards multimedia software after experiencing this mode of reviewing.

2 MATERIALS AND METHODS

2.1 Methodology

This study employed a quasi-experimental mixed-methods research with a between-participant design to compare the performance of two groups of participants (one control group and one experimental group) that reviewing words in different modes. A questionnaire was utilized to examine learners' preferences and perceptions toward multimedia vocabulary learning software.

2.2 Research instruments

Several instruments were utilized to gather the data. First, at the beginning of the new term a vocabulary levels test was used to control for homogeneity and proficiency differences. Then, total of 672 target words to be learned in the term were glossed.

At the end of the term the second test was conducted to compare the performance of two groups of participants (one control group and one experimental group). At last, a questionnaire consisting of three closed-ended questions and one open-ended question focused on if the multimedia vocabulary learning software helped participants to review the words more easily, to retain them longer, to ascertain whether participants were

willing to use the software for future practice and the participants' perceptions toward the software. Participants were asked to rank their responses on a 5-point Likert scale (1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree).

2.3 Research participants

109 participants for this study were learners in their first term of their second year in college, who they did not use vocabulary learning soft wares to review new words after class. To have a good control of other variables, those participants were under the same English professor and learning the same materials. Data was collected from Sep. 2021 to Jan. 2022.

2.4 Data analysis

The researcher conducted an analysis of the test results using SPSS 25.0 software. The level of significance was set at an alpha level of $p < .05$. The findings of closed-ended questions in the questionnaire were analyzed and converted into percentages. The statements to the open-ended question was fully documented. The most frequent themes were underlined and kept for analysis. Only themes pertaining to the focus of this paper were discussed [8].

2.5 Research procedures

The grades of the vocabulary test at the beginning of the term were put in descending order with Excel software so as to put the participants into two groups based on odd and even numbers. Thus, two groups with no difference in English vocabulary level were formed. The two groups were experimental group with 55 members and control group with 54 members.

Under the guidance of the professor experimental group, Group A, put the 672 target words, which would be explained by the professor during the lectures in this term, into a vocabulary learning software (New Oriental Vocabulary Learning 5) and set to finish learning them in 112 days in line with the pace of the professor's lecture. Control group, group B, were reviewing words with paper word list as they did before. At the end of the term, a vocabulary test on those 672 target words were taken by two groups and an online questionnaire was taken by group A.

2.6 Results

The following analyses were performed: the between-participant comparisons to examine which reviewing mode contributed significantly to vocabulary retention and the questionnaire data.

1) *Comparing retention effectiveness between two reviewing modes:*

TABLE I. GROUP STATISTICS

group		N	Mean	Std. Deviation	Std. Error Mean
grade	1	55	68.2909	11.41745	1.53953
	2	54	62.0000	18.86696	2.56747

Table I shows Mean of Group A is 68.2909 and its Std Deviation is 11.41745 whereas Mean of Group B is 62.0000 with Std Deviation 18.86696.

TABLE II. INDEPENDENT SAMPLES TEST

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
grade	Equal variances assumed	5.974	0.016	2.110	107	0.037	6.29091	2.98083	0.38175	12.20007
	Equal variances not assumed			2.101	86.934	0.038	6.29091	2.99367	0.34061	12.24121

Table II shows F equals 5.974 and P is lower than 0.05 at 0.016. Equal variances are not assumed. Then t equals 2.101 and P is lower than 0.05 at 0.038, which indicates there is a significant difference between the grades of the two groups. Std. Error Difference is 2.99367 and 95% Confidence Interval of the Difference is from 0.34061 to 12.24121.

With respect to the participants' performance after a term, independent samples test results showed that Groups A was significantly different from group B. This revealed that multimedia vocabulary learning software was significantly more effective for retaining words than word list printed on paper for group A gained significantly higher means than group B on the test.

2) *Attitudes of Participants Toward multimedia vocabulary learning software:*

A questionnaire was used to examine learners' perceptions of the multimedia vocabulary learning software. 55 participants of group A responded to the questionnaire. The three closed-ended questions were:

Question 1 The multimedia vocabulary learning software helped me review the words easily.

Question 2 The multimedia vocabulary learning software helped me retain the words longer.

Question 3 I am willing to use the software for future practice.

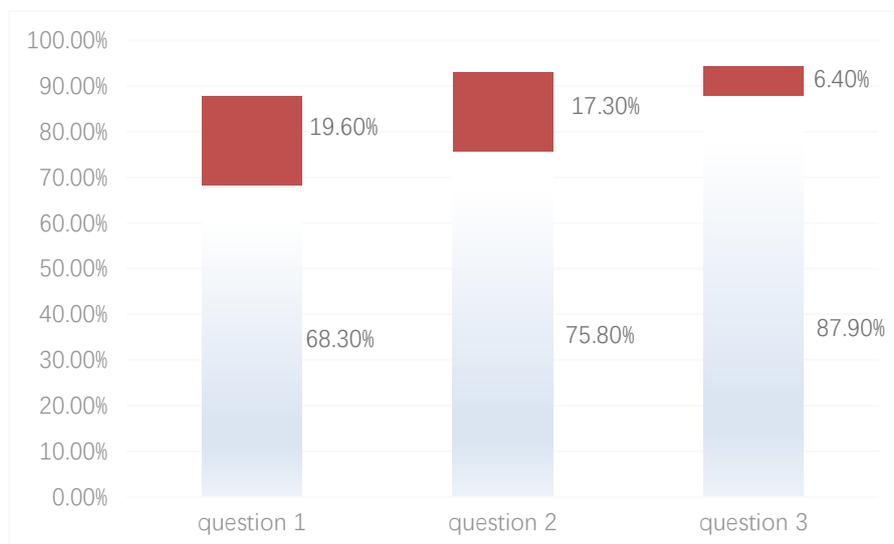


Figure 1. Summary of the findings of the three closed-ended questions.

(Note. Percentages represent the number of participants' responses who either strongly agreed or agreed to the statement.)

When asked whether multimedia vocabulary learning software helped participants review the words easily, 68.3% of participants strongly agreed and 19.6% agreed (total 87.9%). When asked whether the multimedia vocabulary learning software helped participants retain the words longer, 75.8% of the participants strongly agreed and 17.3% agreed (total 93.1%). Altogether 94.3% of the participants chose to use the multimedia vocabulary learning software for future practice.

The last question in the questionnaire, "What do you think about the multimedia vocabulary learning software", was open-ended attempting to better capture the participants' voices regarding their perceptions towards the multimedia software. Overall, the participants showed their likes towards the software. Most of the participants mentioned that with the software to review was convenient for there was no need for them to check up the pronunciation of words in a dictionary again and the software helped them plan scientifically which words to be learned and reviewed based on the Ebbinghaus Curve of Forgetting, which means they did not have to take pains to plan review materials on their own. Some respondents mentioned that reviewing via games and tests provided by the software was an enjoyable learning experience. Overall, the findings of the questionnaire indicated that those college English learners perceived reviewing vocabulary with the software to be more effective and interesting in comparison with reviewing with word lists on paper.

3 CONCLUSIONS

This study examined the efficacy of vocabulary reviewing with multimedia vocabulary learning software under the guidance of the professor. Based on the test, reviewing mode with multimedia software appeared to be significantly more effective than learning in the

traditional way with word list printed on paper. The results of the questionnaire also showed participants' preferences for the software vocabulary reviewing mode. This preference could be a result of benefits brought by software, e.g., no need for pronunciation checkup, no need for planning of words to be reviewed and pleasure and excitement derived from the games and tests, etc. The results also revealed that as long as the participants started to use multimedia vocabulary learning software, they would like to continue use it for practice in the future. Therefore, it is suggested that college English professors encourage and help English learners use multimedia vocabulary software to review words on a daily base, thus improving learners' vocabulary retention efficacy.

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