An Empirical Study on the Effect of Vocabulary Input on English Productive Vocabulary Acquisition from the Perspective of Memetics

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ABSTRACT. The most basic structure of language is vocabulary, and vocabulary acquisition is the most basic part of foreign language learning. Vocabulary acquisition is an important part of English language acquisition, and having a certain amount of vocabulary is the premise and foundation of learning and adapting English. Explaining the usage of words from different angles, the transmission characteristics of genotype language memes are directly applied or the same information is transmitted in different forms. English vocabulary acquisition is explored from the perspective of meme transmission, especially the achievements of productive vocabulary acquisition are relatively rare, and there is a certain research space. Based on memetics theory, this paper makes an experimental study on the effects of English receptive and productive vocabulary acquisition, trying to find a more effective way of vocabulary acquisition by comparing different types of output tasks and ways of output tasks.

KEYWORDS: Memetics, Vocabulary input, Productive vocabulary acquisition

1. Introduction

Vocabulary is one of the three elements of language and the basis of all language activities. The lack of vocabulary directly affects the application of basic language skills and the improvement of language ability. Linguists point out that in the process of learning a foreign language, vocabulary often brings great difficulties to learners because of its large number, lack of systematic regularity and difficulty in controlling [1]. However, it is found that the conversion of vocabulary of language learners is not completely the case. In the primary stage of foreign language learning, the acceptance of vocabulary is directly proportional to the output. At present, college English students in China generally attach importance to vocabulary acquisition [2]. However, although they devote a lot of time and energy to memorizing vocabulary, the results of vocabulary acquisition are far from expectations and actual needs. The fossilization of language hinders the effective acquisition of words. The ineffectiveness of vocabulary teaching and the suppression of autonomy make vocabulary classroom teaching lack sufficient vitality and enthusiasm [3]. It is not feasible to spend a lot of time on words. From the perspective of memetics, this paper will study whether different output methods have different effects on the acquisition of receptive vocabulary and productive vocabulary from the perspective of output and interaction, hoping to explore effective ways to develop vocabulary knowledge, especially to balance the development of receptive vocabulary and productive vocabulary knowledge.

2. Meme Theory

Memetics is a new theory to explain the law of cultural evolution based on Darwin's theory of evolution. It attempts to interpret the universal connection between things and the evolutionary law of the essential characteristic of cultural inheritance from the diachronic and synchronic perspectives [4]. The core of memetics is meme, and meme propagation is selective. Only strong memes can be propagated. A strong meme must have three conditions: permanence, productivity and replication fidelity. The two main elements of memes are imitation and creation, and memes can exist as long as people's consciousness and thinking can reach them. But the content is the same. In terms of language output, it mainly encourages learners to use synonyms to express the same information in the same text, or to choose words suitable for the same style according to different styles [5]. Its connotation includes pronunciation, spelling, meaning, morphology, pragmatic collocation and word frequency. The memes we can encounter in our life are usually successful memes, that is, memes that can win in the competition of self-replication. These winning memes are called strong memes.

3. Experimental Study

3.1 Subject

A total of 124 non-English major freshmen were selected to participate in the experiment. Firstly, according to the final grades of last semester and the mid-term grades of this semester, 124 people from four parallel classes were selected to participate in the experiment. A total of 124 samples from four classes were randomly grouped. In order to reduce the influence of gender on test scores, each group should ensure the same number of boys and girls in each group, and the same number of boys and girls between groups. In order to facilitate the operation, this experimental study focuses on testing whether the practice output is helpful for college English students to memorize and control the spelling form, meaning and collocation knowledge of productive vocabulary compared with the traditional way of inputting vocabulary knowledge only.

3.2 Choice of Reading Articles

In order to make sure that the learners of the words to be tested have never learned and used them, and that the choice of vocabulary comes from the new college English curriculum standards as much as possible, we chose the articles in Oxford University English textbooks based on the new curriculum standards. The principle of choosing articles is easy to read and understand. Randomly select 10 words that can't be learned in middle school as target words, giving attention to nouns, verbs and adjectives, and each target word has collocation requirements. Then, students from another parallel class who did not participate in the experiment participated in the pilot experiment, and asked them to read the articles, complete the task of understanding and mark new words. As this experiment focuses on productive vocabulary acquisition, focusing on mastering the knowledge of the shape, meaning and collocation of the target words, it abandons the dictation or English-Chinese translation of words that can only reflect the mastery of the shape and meaning of words. Because of learners' learning habits and inaccurate guessing of word meanings, knowing word meanings is more conducive to learners' memory and understanding, etc., Chinese explanations of 15 words are provided at the side of the article.

3.3 Experimental Step

The experiment lasted nearly 2 months from the beginning of pre-test, post-test, delayed post-test and interview. All 48 students who are assigned to the same undergraduate English class according to the scores of freshmen's entrance English grading test are tested for English vocabulary knowledge. After the examination papers are collected and evaluated, the extreme scores are eliminated first, and then statistical analysis is carried out. Pre-testing the target vocabulary requires the subjects not to use a dictionary and not to review after class. It took about 20 minutes for the two groups to complete the test. Use the target words to cooperate orally to complete the task of article reconstruction (interactive oral output group); Explain the part-of-speech meanings and related collocation knowledge of the target words one by one in English (the requirements are the same as above), but students are required to cite examples close to their actual life and write them on draft paper. Two weeks after the end of the experiment (that is, the fourth week), the delayed post-test 2 is also a 30-minute test. Four weeks (i.e., the sixth week) after the end of the experiment, the test was conducted for 3,20 minutes after the delay. The interview will be conducted after delayed post-test.

4. Results and Analysis

4.1 Test Results of Different Task Types

In order to test the effect of different task types, we analyze the vocabulary test results made by different task types. Including average score, standard deviation, maximum and minimum, etc., and independent sample T test or ANOVA analysis will be made for comparison and analysis. The significant value is .701 > 0.05, so there is no significant difference between the input group and the output group. This shows that the vocabulary knowledge starting points of the input group and the output group are basically the same. The statistics of vocabulary knowledge post-test scores of input group and output group are shown in Table 1.

Table 1 Grouping Statistics Table

Group	Quantity	Average score	Standard deviation	Standard error
Enter group	62	14.33	4.17	.72

Outgoing group	62	13.82	4.06	.15

4.2 Statistics of Vocabulary Knowledge Delay Post-Test Scores of Input Group and Output Group

The most effective way to improve the quantity and quality of college students' vocabulary is comprehensible reading input. There are two ways of vocabulary acquisition: direct and indirect. In the process of language acquisition, learners need to learn and apply prefabricated chunks. This shows that there are significant differences in the acquisition and retention of receptive vocabulary between interactive output and personal output, whether oral or written. Different from homonym, homonym grafting is to spread different meanings in different contexts without any change in vocabulary form, and usually grafting from original meaning to derived meaning through association. Test results: Once again, the ANOVA measurement design is used to test the variable factors between groups and within groups, which shows that this test has a significant impact on the statistics of different task modes in different groups. Table 2 shows the statistics of vocabulary knowledge delay test scores of input group and output group.

Table 2 Statistics of Vocabulary Knowledge Delay Post-Test Scores of Input Group and Output Group

	Levene's variance equality test	Independent sample t-test						95% confidence interval	
	F	Significant value	t	df	Significant value	Average difference	Standard error	Low	High
Equal variance	.55	.41	4.16	26	.03	3.32	.63	.93	4.12
Unequal variance			4.07	24.83	.03	3.41	.71	.91	3.08

4.3 Will Interactive Output and Personal Output Lead to the Acquisition and Maintenance of Different Receptive and Freely Productive Vocabulary

The multiple comparisons in Table 3 show that the P values between the input group and the output group are both 0.000 (< 0.05) in the instant test and delay test of receptive vocabulary. In the instant test and delayed test of productive vocabulary, the P value of comparison between input group and output group is also 0.000 (< 0.05). This shows that there are significant differences in the acquisition and retention of productive vocabulary between interactive output and personal output, both orally and in writing.

Table 3 Multiple Comparisons Between Interactive and Personal Output: Instant and Delayed Vocabulary Acquisition

Variable	Group	average deviation	Standard deviation	P value	95% confidence interval	
					Lower interval	Upper interval
Receive immediate acquisition	Enter group	2.36	0.33	0.00	2.88	5.63
	Outgoing group	4.02	0.21	0.00	1.02	4.28
Acquisition of receiving delay	Enter group	3.01	0.54	0.00	2.01	5.51
	Outgoing group	3.32	0.61	0.00	2.21	5.03
Immediate acquisition of output	Enter group	4.20	0.17	0.00	2.30	3.96
	Outgoing group	2.88	0.82	0.00	1.81	4.47
Output delay acquisition	Enter group	2.5	0.74	0.00	2.61	4.05
	Outgoing group	3.12	0.26	0.00	2.4	5.66

5. Discussion

The results show that both the input group and the output group have acquired productive vocabulary and receptive

vocabulary, but the acquisition level is different. All post-test data confirm the positive influence of output on the acquisition of productive vocabulary and receptive vocabulary. It shows that in the short-term memory and application of students' target words, the new method of adding practice-based output link (that is, teachers explain the target words but students cite examples close to their actual life) is slightly inferior to the traditional method of only inputting vocabulary knowledge. Use it to live, work and communicate in the natural target language environment; While learning aims at systematically learning specialized language knowledge. When writing and expressing, it can be directly extracted from the brain corpus and used directly. Whether compared with all output groups or only with the output group with the lowest score in the non-interactive group, there are differences between the two groups: the average value of the control group (input group) is lower than that of the output group. The reader's reading strategy, language knowledge and background knowledge determine to what extent he can determine the meaning of the word, which is fullness [6]. Receptive vocabulary acquisition often occurs in the primary stage of vocabulary acquisition, while productive vocabulary acquisition often occurs in the middle and advanced stages. This requires teachers to screen the content according to the selective principle of memes, and explain the usage of words from different angles. The transmission characteristics of genotype language memes are direct application or the same information is transmitted in different forms.

For domestic second language learners, vocabulary learning is at the center, which means that English learners are "assimilated". For example, a vocabulary formation method commonly used in the teaching process at present, that is, derivation method, in which the same root/vocabulary meme is added with affixes to form new words or changes in parts of speech. Although receptive vocabulary acquisition and productive vocabulary acquisition are two stages of second language vocabulary acquisition, this does not mean that receptive vocabulary and productive vocabulary are independent of each other. This is different from the research results of Luo et al. [7]. This study found that oral output is better than written output in vocabulary acquisition, taking into account both the effect of word acquisition and task time. In the process of comparing the decline amount and the decline range of each group, we found that the average value of the input group dropped significantly after two delays. Because the meaning and formal usage of language are competing for the limited attention of learners, for learners who have not reached a certain level, they do not have enough cognitive resources to remember all aspects of language knowledge [8]. Learning is a conscious learning process in the process of language teaching, which can not be directly used for output, but for monitoring language output.

Train students to input prefabricated chunks. Teachers introduce the concepts and functions of prefabricated chunks to students through classroom teaching, and ask students to collect and sort out prefabricated chunks in each lesson, and ask students to recite them to enhance their memory and acquisition of chunks. Learning in English teaching class is the most direct, but what is seriously lacking is indirect acquisition, and indirect vocabulary acquisition is the essence of language learning. The load of information processing increased, but the time did not increase, which directly led to the test results reflected from the data contrary to the hypothesis. This shows that the output group performed significantly better than the input group in the two post-tests. This data also proves that the output task is more effective than the input task in keeping the long-term memory of the target words. Relatively speaking, its accuracy is lower than that of writing. Therefore, in the productive vocabulary test, there are more errors in the use of target words, especially collocation errors, in the oral output than in the written output [9]. Vocabulary only exists in the learner's mind in an isolated form, and the learner cannot communicate with native speakers normally, thus failing to achieve the communicative purpose of language. Input the information accumulated in the brain at ordinary times, actively copy the language memes stored by itself, and become a personalized language "expression" after processing and polishing.

6. Conclusion

The results show that the application of memetics in college English productive vocabulary acquisition can effectively improve students' English vocabulary production ability; In order to make vocabulary memes become strong memes and thus assimilated and absorbed by learners, learners need to adopt lexical chunk learning method or construct synonymous semantic fields in the process of vocabulary knowledge input, so that vocabulary memes have the characteristics of permanence, productivity and replication fidelity. On the basis of reading the article, we can improve the effect of vocabulary acquisition by designing some output tasks focusing on the target words; Different output forms have different effects on vocabulary acquisition, and the oral output form of interactive group is more significant than that of non-interactive group in terms of receptive and productive vocabulary acquisition, which shows that the quality of English vocabulary acquisition is greatly influenced by interaction. Moreover, this kind of output exercise can also make students keep a moderate degree of tension when listening to lectures, which helps them concentrate and improve their learning efficiency.

Acknowledgement

References

[1] Wang Yu, Sun Nannan. Research on productive vocabulary in college English writing based on memetics. Liaoning Economic Management Cadre College. Journal of Liaoning Economic Vocational College, Vol. 87, No. 05, pp. 132-134, 2016.

[2] Wang Hong. The learning model of English productive vocabulary from the perspective of language memetics. Campus English, No. 33, pp. 24-24, 2016.

[3] Zheng Jing. Meme transmission and second language productive vocabulary acquisition. Journal of Fuqing Branch of Fujian Normal University, Vol. 000, No. 001, pp. 77-82, 2017.

[4] Li Tong. An empirical study of college English vocabulary teaching based on memetics. Youth, No. 16, pp. 167-168, 2015.

[5] Deng Dafei. An empirical study on incidental English vocabulary acquisition from the perspective of memetics. Everyone, No. 16, pp. 130-131, 2011.

[6] Lian Xiuping. An empirical study on the impact of different language output methods on receptive and productive vocabulary acquisition. Journal of Southwest Agricultural University (Social Science Edition), No. 01, pp. 79-84, 2012.

[7] Luo Xianqing, Cheng Xinwei, Ma Qiwei, et al. Analyze the petrochemical process of second language vocabulary from the perspective of memetics. Jingchu Academic Journal, Vol. 13, No. 6, pp. 39-42, 2012.

[8] Li Wen. An empirical study of vocabulary acquisition from the perspective of "input hypothesis" and "output hypothesis" . Literary Circle (Theoretical Edition), No. 11, pp. 76-77, 2011.

[9] Lian Xiuping. An empirical study of the impact of different language output methods on receptive and productive vocabulary acquisition. Journal of Teacher Education, Vol. 10, No. 001, pp. 74-79, 2012.