



The effects of task type and repetition frequency on improving FLL’s receptive word knowledge to productive mastery

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Introduction

The notions of receptive vocabulary and productive vocabulary are long established. Numerous empirical studies indicated that learners tend to possess significantly greater receptive knowledge compared to their productive knowledge. Practical research indicates that **FLT emphasis** should be changed from broadening learners’ vocabulary knowledge to promoting the transformation of receptive vocabulary to productive mastery(Fernandez and Schmitt (2020). Consequently, there is a pressing need to investigate methods for activating learners' vocabulary and fostering their productive mastery of receptively acquired vocabulary. However, existing related research has seldom explored the progression of vocabulary knowledge from receptive mastery to productive application. To address this research gap, the present study aims to examine the impact of learning tasks and repetition frequency on enhancing learners' productive mastery of words initially acquired receptively(Teng &Xu, 2022).

Methods

1 Participants

146 freshmen taking an EFL course (aged 17–19 years) enrolled in four classes.

2. Materials

- Target words(2 pre-tests, 18 target words)
- Vocabulary learning tasks
(4 kinds of exercises as learning tasks, 12 exercises, 6 questions corresponding to 6 targets)
- Controlled production tests
(3post-tests, each 18 sentences from BNC, Cronbach’s alpha).

Table 1. Sample of task types.

Task type	Instruction	Question format
Multiple-choice (MC)	Choose the appropriate word for each sentence.	He went to the door, opened it a ____, and peered in. (A) hole; (B) line; (C) crack; (D) slit.
Gap-filling (GF)	Choose a word from the list to complete each sentence.	He went to the door, opened it a ____, and peered in.
Sentence translation (ST)	Translate each sentence into English. Pay attention to the underlined part.	他走到门口，打开 <u>一条缝</u> ，往里偷看。
Sentence writing (SW)	Construct an English sentence with the word given.	crack (Example: He went to the door, opened it a crack and peered in.)

3. Design

This study adopted a mixed-design with task type (4 conditions) as the between-participants factor and repetition frequency (3 levels) as the within-participants factor.

4. Procedure

- The students took a post-test and their responses were first scored according to the total number of recalled targets(retrieval rate);
- The results were compared and all differences were discussed;
- The researcher and a native-speaking English teacher assessed the retrieval accuracy by evaluating the proper target word produced.

5. Data Analysis

Repeated measures ANOVAs were employed to examine the differences. The two measures (retrieval rate and accuracy) were separately analyzed(alpha level: 0.05). When a significant effect was detected, the **Bonferroni method of multiple comparison** was used to determine where the significant differences appeared.

Results

1 Task type

The ST and SW groups dramatically outperformed the MC and GF groups on both retrieval rate and accuracy, producing medium to large effect sizes ($0.72 \leq d \leq 1.59$)

Table 5. Summary of significant differences between task types based on retrieval rate and retrieval accuracy.

Repetition condition	Pair-wise comparison	p-value	Cohen's d
<i>Retrieval rate:</i>			
2 retrievals	ST > MC	< .001	.91
	SW > MC	.001	1.01
4 retrievals	ST > MC	< .001	1.18
	ST > GF	.008	.77
	SW > MC	< .001	1.44
	SW > GF	< .001	1.03
6 retrievals	ST > MC	.011	.72
	SW > MC	< .001	1.59
	SW > GF	< .001	1.08
	SW > ST	.004	.85
<i>Retrieval accuracy:</i>			
2 retrievals	ST > MC	.032	.64
	SW > MC	.027	.70
4 retrievals	ST > MC	< .001	1.01
	ST > GF	.026	.66
	SW > MC	< .001	1.61
	SW > GF	< .001	1.22
6 retrievals	GF > MC	.019	.63
	SW > MC	< .001	1.28
	SW > GF	.037	.63
	SW > ST	.012	.85

Notes. MC = multiple-choice. GF = gap-filling. ST = sentence translation. SW = sentence writing.

2. Repetition frequency

The students performed significantly better with four retrievals than they did in the two-retrieval situation, producing effect sizes ($0.70 \leq d \leq 1.70$). However, when the frequency increased from four to six repetitions, only three task groups significantly improved their performance on retrieval rate, with effect sizes ($0.78 \leq d \leq .97$), and none did so on retrieval accuracy.

Table 6. Summary of significant differences between levels of repetition frequency.

Task type	Pair-wise comparison	p-value	Cohen's d
<i>Retrieval rate:</i>			
Multiple-choice	4 rs > 2 rs	< .001	.91
	6 rs > 4 rs	< .001	.78
Gap-filling	4 rs > 2 rs	< .001	.82
	6 rs > 4 rs	< .001	.97
Sentence translation	4 rs > 2 rs	< .001	.94
	4 rs > 2 rs	< .001	1.40
Sentence writing	6 rs > 4 rs	< .001	.89
<i>Retrieval accuracy:</i>			
Multiple-choice	4 rs > 2 rs	.004	.70
Gap-filling	4 rs > 2 rs	.001	.75
Sentence translation	4 rs > 2 rs	< .001	1.00
Sentence writing	4 rs > 2 rs	< .001	1.70

Notes. 2 rs = 2 retrievals, 4 rs = 4 retrievals, 6 rs = 6 retrievals.

Discussion

The discussion revolved around the two research questions:

- Do types of learning tasks have differential effects on promoting productive mastery of learned words in terms of retrieval rate and accuracy?
- Does increased repetition frequency promote productive mastery of learned words in terms of retrieval rate and accuracy?

1 The effects of task type

Productive learning not only contributes to helping learners master unknown words but also promotes their mastery of words they got receptively. When sufficient repetitions are conducted, some forms of productive learning are more effective than others.

2 The effects of repetition frequency

A reasonable number of retrievals can effectively help master the learned words. Three or four retrievals of words can lead to considerable learning; the effect may begin to decline after four retrievals.

Conclusions

Pedagogical indication:

- Productive tasks conduced to memorably high scores than receptive tasks, and some forms of productive tasks were more effective than others;
- Repetition contributed to promoting students’ productive mastery of words acquired receptively, but its effects began to decline after the first several retrievals.

Limitations:

- We cover a very limited number of various forms of productive activities.
- This study examined the effects of various vocabulary learning exercises by speakers of only one L1.

Bibliography

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