Activating Receptive Vocabulary through Online Writing Tasks that Focus on Collocations

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Abstract Receptive vocabulary (RV) of English language learners (ELLs) cause difficulties in language production. Although collocations are a key component of vocabulary knowledge, their research and teaching remains limited. We measured how RV production of ELLs changes when collocations are directly presented. Three groups of Japanese college freshmen were respectively given (1) RV only (RE), (2) RV with Japanese translations (JA), and (3) RV with collocations (CO). Then each group wrote two identical tasks online. CO used collocations more frequently than RE and JA, but the absolute number was low. RE and JA both showed high ratios of restricted RV use. We suspect that collocations are best acquired when ELLs know what collocations are, their advantages, and how to use them.

Key words: Language education, Development of educational materials, Teaching method, Quantitative research

1. Introduction

Receptive vocabulary (RV) and productive vocabulary (PV) respectively refer to parts of vocabulary that enable English language learners (ELLs) to passively receive or actively produce vocabulary items -- that is, RV contains phrases that we can only hear or read, while PV contains phrases that we can also say or write (Nation, 1990).

Vocabulary assessment tools have been developed to measure RV and PV (Hatami, 2015). Both RV and PV increase in size as ELLs become more proficient, but particularly among advanced ELLs, PV growth stagnates while their RV continues to grow, and results in PV/RV ratios considerably below that of native speakers (Laufer & Paribakht, 1998).

Because incomplete vocabulary knowledge hinders language production (Laufer 2013; Nation 1990), we need to raise the PV/RV ratio by transferring part of RV to PV (Schmitt, 2010). This transfer (which we call activation) has received little attention (Pignot-Shahov, 2012).

When choosing words to activate, we should focus on activating collocations, which are combinations of words that occur frequently, increase the fluency of the phrase, and narrow the meaning of the word (Nation, 1990). For instance, "fast" and "quick" have similar meanings, but "a fast train" and "a quick shower" are more fluent and less ambiguous than "a quick train" and "a fast shower", even though both pairs are syntactically acceptable. Insufficient collocation knowledge has been reported in ELLs' writing at all levels (Fan, 2009; Kayo, 2003).

Learning collocations is probably cost-effective. There is evidence that collocations are stored in long-term memory as single units (Hatami, 2015). The cognitive workload of learning a collocation may be approximately identical to that of learning a single word.

Webb (2007) claims that providing ELLs with L1 translations facilitates production of collocations. Although we prefer to teach wholly in L2 because we believe that code-switching is detrimental to language learning, we are open to using L1, provided doing so is effective.

This study proposes a teaching method for activating RV that focus on collocations. Our ELLs were given RV words (some with their collocations) to activate. We included writing tasks because they deepen vocabulary acquisition (Kim, 2008; Lee & Muncie, 2006). We included speaking tasks because they motivate and reinforce use of vocabulary. Part of the learning took place online, and part in face-to-face classrooms.

The remainder of this article states the materials and methods (section 2), results and discussion (section 3), and conclusion (section 4).

2. Materials and Methods

927 college freshmen (L1 Japanese, L2 English) participated in a 3-step experiment.

Step 1: All ELLs took a vocabulary survey (Lin & Kawai, 2016) that extracted RV words (not collocations) that are common among most ELLs.

Step 2: The ELLs were divided into 3 groups, and were given a set of identical RV words, plus L1 translations or L2 collocations as shown on Table 1.

Step 3: ELLs wrote and said sentences using RV words via in-class and online tasks.

Table 1 shows the type of vocabulary information provided to the control group (RE) and two experimental groups (JA and CO).

Group	Receptive Vocabulary	L1 Translation	L2 Collocations
RE	yes	no	no
JA	yes	yes	no
CO	yes	no	yes

Table 1. Types of vocabulary information given to the control (RE) and experiment (JA, CO) groups. RV was given to RE, JA, CO. L1 translations were given to JA only. L2 collocations were given to CO only.

In class, ELLs worked in pairs and said their sentences to each other. Spoken language was not analyzed. On an online forum running on our learner management system (LMS), ELLs wrote paragraphs using RV. Figure 1 is a screenshot of the online writing task. Their text was analyzed with programs ran on python 3.5.

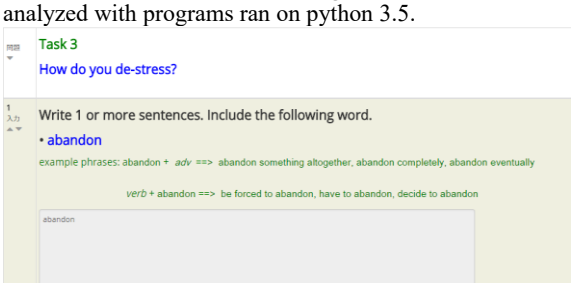

Figure 1. Screenshot of the online task given to the experimental group (CO). The topic of the task is “How do you de-stress”. The target RV word here is “abandon”. The collocations are given in green with grammatical form followed by example phrases.

3. Results and Discussion

Table 2 shows the total number of participants, the number of words and sentences produced by the participants and the average words per sentence.

Number of participants	927
Number of words	137,989
Number of sentences	15,497
Number of RV words	9,257
Average words per sentence	8.9

Table 2. The total number of words, sentences, RV words produced by 927 participants. The average words per sentence is 8.9.

Figure 2 shows the percentage of RV words that were activated using collocations. Table 3 shows an example of an RV word, and how often collocations were used when that word was activated.

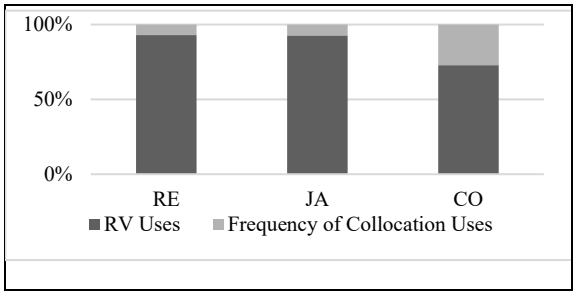

Figure 2. Stacked histogram of the percentage of RV words that were activated using collocations. All 3 groups were presented with RV words, and because ELLs were required to use those words in their writing, RV word activation was 99.86% in all 3 groups. When RV words were written, CO used over 4 times more collocations than RE and JA because CO benefitted from direct presentation of collocations. However, CO wrote collocations for only 40% of the RV words that were activated. We suspect ELLs need meta-knowledge of collocations -- that is, ELLs need to learn the advantages of using collocations, and the techniques for using them.

RE and JA produced essentially no collocations. Compared to RE and JA, CO produced more collocations, but not many -- collocations were produced for only 40% of the RV words that were activated.

RE		JA		CO	
n-gram	rate	n-gram	rate	n-gram	rate
I *abandon*	52%	I *abandon*	61%	I *abandon*	28%
want to *abandon*	14%	want to *abandon*	8%	*have to *abandon*	15%
and *abandon*	3%	some-times *abandon*	4%	*forced to *abandon*	15%

Table 3. The 1st, 2nd, and 3rd most-frequent n-grams written by ELLs for the RV word "abandon". N-grams marked with * are collocations shown to CO. The 1st and 2nd most-frequent n-grams comprise nearly 70% of RE and JA production. This shows that for RE and JA the variability of RV use is relatively limited. The distribution of the 1st, 2nd, and 3rd most-frequent n-grams for CO was flatter compared to RE and JA, partly because the 2nd and 3rd most-frequent n-grams were collocations that CO saw and were urged to use. It seems that asking ELLs to use collocations increases the variability of RV use. However, the 1st most-frequent n-gram in CO was not a collocation. This suggests that ELLs are unfamiliar with how to use collocations.

The near-zero rate of collocation use among RE and JA and the higher (but far from ideal) rate among CO suggests that when RV words are activated, they are unlikely to appear within collocations unless ELLs are given examples of collocations beforehand.

Koya (2003) says that the low production rate of collocations is because Japanese ELLs are reluctant to take risks. Such reluctance might be reduced by explicit instruction of the advantages of using collocations, and the techniques for using them (Sonbul and Schmitt, 2013).

We found no evidence that L1 translation facilitates collocation production. Our RE showed no significant difference compared to JA. Indeed, as shown in Table 2, the bulk of RV use was for non-collocations for RE. Contrary to Webb (2007), we are not convinced that L1 translations facilitate use of collocations.

Only when collocations were explicitly shown did CO produce collocations, and that was at a low rate. Hence, we believe that explicit instruction is a necessary but not satisfactory condition for activating RV words within collocations. We did observe a lower ratio of rule-based grammatical errors in CO, but this is inconclusive due to tasks and target word selection.

4. Conclusion

When RV words are activated, they do not appear within collocations unless collocations are explicitly shown to ELLs. L1 translations do not facilitate RV production. ELLs need meta-knowledge of collocations.

Form-focused activities and intentional learning helps acquire collocations (Nesselhauf, 2005). Our next step involves direct teaching of collocations before RV activation.

5. References

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