EFFECTS OF CONTEXTUALIZED READING TASKS ON INCIDENTAL VOCABULARY LEARNING: IRANIAN EFL LEARNERS IN FOCUS

Shahrzad Hosseini, Hadi Salehi

1,2 English Department, Faculty of Humanities, Najafabad Branch, Islamic Azad University, Najafabad, Isfahan, Iran

ABSTRACT

This study aims to examine the relationship among the incidental vocabulary learning, time devoted on tasks, and vocabulary retention by Iranian EFL learners. Therefore, using a quasi-experimental design, sixty EFL learners in six intact classes in Zabansara language institute in Isfahan, Iran were selected. They were at an intermediate level of proficiency based on the institute’s continuous assessment criteria. All groups were using the same textbook (i.e., Passages books) in that institute, and all followed the same instructional procedure. Three classes were respectively exposed to dictionary-based, fill-in-the-blank, and sentence-making tasks with time restrictions, and the other three classes were respectively exposed to dictionary-based, fill-in-the-blank, and sentence-making tasks without time restrictions. Having experienced their relevant treatments, the participants were asked to take an immediate vocabulary test. Since timing was an independent variable and vocabulary learning/recall was the dependent variable of the study, two-way ANOVA was used to compare the learners’ vocabulary scores on the immediate vocabulary test. The results revealed that time restriction exerted a significant effect on the performance of the learners in all the three groups on the immediate tests. In addition, learners in the groups without time restriction significantly outperformed those in the groups with time restriction. The findings of this study have theoretical as well as pedagogical implications in the field of foreign language teaching and learning.

Keywords: Incidental vocabulary learning, Immediate vocabulary test, Task type, Time devoted on tasks, Vocabulary retention.

1. INTRODUCTION

Vocabulary is much more than just single word. Recent vocabulary studies draw on an understanding of lexis, the Greek for word, which in English “refers to all the words in a language, the entire vocabulary of a language” (Schmitt, 2000). So it will probably not surprise you to learn that vocabulary also includes lexical chunks, phrases of two or more words, such as Good morning and Nice to meet you, which research suggests children and adults learn as single lexical units. Phrases like these involve more than one word but have a clear, formulaic usage and make up a significant portion of spoken or written English language usage. Also called formulaic sequences (Schmitt, 1998) they are central to English vocabulary learning and therefore worth teachers’ attention as they teach vocabulary (Schulman, 1971). Therefore, vocabulary can be defined as the words of a language, including single items and...
phrases or chunks of several words which convey a particular meaning, the way individual words do. Vocabulary addresses single lexical items—words with specific meaning(s)—but it also includes lexical phrases or chunks.

Knowing words is the key for understanding and being understood. After decades of relative neglect, lexis is now recognized as central to any language process. Some research has shown that intermediate and advanced L2 learners enlarge their vocabulary to a great extent through incidental learning during reading activities. Incidental vocabulary learning does indeed take place but only incrementally and in small quantities. Thus, given the undeniable usefulness of incidental vocabulary learning for the improvement of automatic word recognition and vocabulary enlargement, the educationally relevant question remains as how this incidence of incidental vocabulary learning can be improved for the best retention of vocabulary items. At institutes, most of the time, EFL learners learn vocabulary intentionally. Most of the time, lists of vocabularies are given to them to be memorized. No success in vocabulary learning and the experience of some other researches indicated that students would forget these words very quickly.

By studying previous studies on the effect of contextualized reading tasks on L2 learners’ incidental vocabulary learning, one notices that through the limitations of the previous studies, more studies are needed to enrich the literature. Therefore, this study aims to investigate whether incidental vocabulary learning through employing different tasks establishes and strengthens the lexical form-meaning connections in the student’s mental lexicon and increase the likelihood of vocabulary retention.

2. LITERATURE REVIEW
2.1. Importance of Vocabulary Learning

Lexical knowledge is an important factor in language teaching and learning. As Nation (2001) points out, "vocabulary learning is not a goal in itself; it is done to help learners listen, speak, read, or write more effectively" (p. 362). Therefore, learning a language depends on learning its vocabulary. According to Coady and Huckin (1997) enhancing vocabulary knowledge is, to a great extent, necessary for both native and nonnative speakers. Furthermore, Kaivanpanah and Alavi (2008) asserted that the significance of vocabulary knowledge in reading comprehension in L1 and L2 settings is equally undeniable. As a result, vocabulary instruction and learning is important in both L1 and L2 language learning settings. Hulstijn et al. (1996) stated that "if one does not know the meaning of the words occurring in a text, understanding is severely hindered" (p. 54). Therefore, learners should pay attention to the words as a part of a message and individual words as well (Nation, 2001).

Many studies have investigated the effect of different methods on vocabulary learning (Zimmerman, 1997; Nation, 2001). Zimmerman (1997) pointed out that reading along with interactive vocabulary instruction can help develop vocabulary learning. Furthermore, Nation (2001) believed that incidental vocabulary learning activities such as role play and oral retelling activities are useful means of vocabulary learning. One important technique to put emphasis on vocabulary is utilizing exercises. Exercise has a significant effect on enhancing vocabulary learning. According to Chastain (1976), new incoming data should be closely related to previous ones in order to be retrieved. In order to connect new knowledge with existing knowledge, it should be supported with some exercises. Hulstijn et al. (1996) stated that exercises direct learners’ attention to specific vocabulary items and assist them comprehend the meaning of these words through different tasks. In addition, Nation (2001) emphasized that “to remember a word, one needs to encounter it 5 to 16 times in activities or texts” (p. 2). Logically, if new vocabularies are encountered in different exercises and tasks, learners’ vocabulary knowledge will be improved to a great degree. Besides, some researchers are of the idea that teaching vocabulary through reading text along with exercises and activities will be more efficient (Zimmerman, 1997; Paribakht and Wesche, 1999). Vocabulary instruction and learning is one of the main focuses in language teaching and learning studies. Providing different tasks and activities can be effective and
beneficial in this regard. Since few studies (Hulstijn, 1992) have been carried out in this regard; therefore, this study intends to compare exercise types through recognition exercises (fill-in-the-blank exercises and matching exercises) and production exercise (glossing and paraphrasing) on EFL learners’ vocabulary retention.

### 2.2. Relationship between Reading Tasks and Vocabulary Retention

One of the earliest findings in educational research is the strong relationship between vocabulary knowledge and reading comprehension. Vocabulary knowledge is important for reading comprehension and determines how well students will be able to comprehend the texts they read. Comprehension is much more than recognition of words and remembering their meanings. However, if a student does not understand the meanings of a considerable number of the words in the text, comprehension becomes impossible. Experts agree that successful reading comprehension is dependent on a person’s already knowing between 90 and 95 percent of the words in a text. Knowing the meanings of at least 90 percent of the words lets the reader get the main idea from the reading and guess the meanings of the unfamiliar words correctly that will help them learn new words. Readers who do not understand at least 90 percent of the words will not only face difficulty comprehending the text, but also will miss out the opportunity to learn new words.

Reading has long been regarded as a main source of vocabulary development. Nation (1994) for instance, believes that extensive reading, if presented along with by large quantities of suitably graded input, provided across a range of various genres and topics, and supported by some language-focused activities, is an essential, worthwhile strand of a language course. Incidental vocabulary learning takes place when the mind focuses elsewhere, e.g., on understanding a text or using language to get one’s ideas across. There is no doubt that, as second language speakers, we have not been explicitly taught the majority of words we managed to know. Furthermore, after gaining a certain level of proficiency in a second or foreign language, vocabulary is mostly learned implicitly. It should be noted, however, that explicit learning is considered to be necessary in the beginning stages of language learning. A two-thousand-word base is required as the minimum threshold that enables incidental language learning to occur. Exposure to a word is a key factor for incidental learning to take place. In fact, lack of exposure is a common problem facing language learners. One useful strategy to solve this problem is to expose students to extensive reading, sometimes termed as the book flood approach, whereby reading is done extensively over a specific period of time Wodinshy and Nation (1988). Learning vocabulary through the book flood approach can help students across different proficiency levels. The reading material can be presented in the form of graded readers. Simplified reading books can assist students step by step develop their lexical knowledge. Low-proficiency learners can use graded readers in order to expose themselves to a large amount of high-frequency input (Coady and Huckin, 1997). It has been recommended that intermediate students read abundant authentic texts on the same topic because in such texts topic-specific vocabulary is repeated throughout. Advanced learners, on the other hand, should be exposed to a wide range of authentic texts because encountering a word in different contexts enhances what is known about it Schmitt (2000). Extensive reading is arguably a source of incidental learning and a number of studies have proved the positive effects of extensive reading activities on vocabulary growth (Hulstijn et al., 1996; Zimmerman, 1997). However, selection of texts for extensive reading is an absolutely important decision to make. In this regard, literature can be utilized as a potentially invaluable, rich source of meaning-focused input. Literary texts are undeniably capable of providing students with real-life, authentic samples of language. Literary texts help students build up lexical knowledge because they make for more comprehensible input (Krashen, 1989).
3. METHODOLOGY

This study aimed to investigate the effects of different contextualized reading tasks and timing on Iranian EFL learners’ incidental vocabulary learning. Using a quasi-experimental design, sixty intermediate EFL learners in six intact classes in Zabansara language institute in Isfahan, Iran were selected. Three classes were respectively exposed to dictionary-based, fill-in-the-blank, and sentence-making tasks with time restrictions, and the other three classes were respectively exposed to dictionary-based, fill-in-the-blank, and sentence-making tasks without time restrictions. After the treatment, the participants were requested to take an immediate vocabulary test.

3.1. Participants

Sixty Iranian male EFL learners from Zabansara institute in Isfahan participated in the study. Their first language was Persian and their age range was 18 to 20 years. Based on the continuous assessment criteria in the institute, they were all at an intermediate level of language proficiency. The teachers in the institute also confirmed that the participants were capable of carrying out the tasks.

3.2. Instruments

For the purpose of this study, the reading text, target words, tasks and vocabulary tests were used as instruments and materials which will be discussed in the following.

3.2.1. Reading Text

The reading passage was an article selected from a reading-comprehension book, *Reading Master* (Liu et al., 2002) which had already been used by Scholfield (1997) in a study with a similar purpose. The passage is about the suppression of emotions and the potential threats of such behavior to the mental and physical health of human beings. The reason for the selection of this topic was that it was of a general nature and was understandable to the participants, who could relate it somehow to their own personal experiences.

The text consisted of 331 words and was selected based on two criteria: (i) participants are supposed to have some general ideas of the topic yet little knowledge of the words relevant to the issue; (ii) learners are capable of writing about their personal experience pertinent to this topic.

Five multiple-choice reading comprehension questions were adopted from the same reading material. The understanding of the ten target lexical items is generally relevant to the completion of the comprehension questions. The criterion for modifying the text is the number of occurrences for each target word. The passage was revised in such a way that all the target words and their roots would appear only once.

3.2.2. Target Words

Ten target words were selected from the reading text, based on three criteria: (i) assumed unfamiliarity to the participants, (ii) ease of incorporating the words into a narrative gender of writing describing personal experiences, and (iii) ease of supplying a synonym or a definition in English as well as an appropriate translation in Persian in the immediate vocabulary test. Each criterion was judged mainly by two lecturers who have extensive experience in teaching English to university students.

The participants’ own teachers, who had wide experience in teaching English to Iranian students in institutes, were consulted regarding the above criteria. They assured the researcher of their appropriateness. The unfamiliarity of the target words to the participants was also ascertained by checking the target words and their respective word families against the list of each of the previously taught as well as their current textbooks. Besides, these ten words
were presented to a group of students of the same level who were not supposed to attend the study to ensure the participants’ lack of knowledge of these words.

The ten target words in the reading were *annoy, hostile, conflict, unfortunately, suppression, maintain, determination, circumstance, grit, and endure* (four nouns, four verbs, one adjective, and one adverb).

### 3.2.3. Tasks

Three tasks with varying involvement loads were used to serve the purpose of the present study. The two main groups of the study shared identical tasks, along with the factor of time-on-task.

**Task 1: Dictionary-based reading comprehension.** It was performed by two of the six groups. Learners performing task were provided with a text and five multiple-choice comprehension questions based on the reading passage. These questions either incorporated some target words or paraphrased the original sentences in which these target words occurred. Accordingly, the successful completion of the questions entailed the understanding of the target lexical items. In the reading passage, the ten target words were highlighted in bold print. Students’ task was to read the text and answer the five comprehension questions. It had to be noted that all the participants in these two main groups had already been trained by their teachers how to use a dictionary.

**Task 2: Fill in the blanks reading comprehension task.** Students of other two subgroups performing this task were given the same text and the same questions as those performing Task 1. In Task 2, the ten target words were omitted from the text, leaving ten gaps to be filled in. The ten target lexical items, along with five distracters that did not appear in the original passage, were provided for the students with their English explanations. The task was to read the article, fill in the ten gaps with the words from the list of 15 words, and answer the same comprehension questions as the first group.

**Task 3: Sentence making with ten target words.** The participants in the last two subgroups performing this task were required to make sentence to express their feelings about the incidence in the passage using the target words given to them. The students were informed that grammaticality was of secondary importance, and that the clarity of the main idea of the sentences as well as the incorporation of the ten target words would account for the most part of the scoring criteria. The same ten words and their respective glosses were given as in Task 1, but with a sample phrase for each target word. The provision of a phrase rather than a sentence was to minimize the possibility that students might simply copy the sentences to their compositions, and thus reduce the need to elaborate processing of the words.

### 3.2.4. Vocabulary Tests

Immediate vocabulary tests were administered to measure the participants’ vocabulary knowledge upon their completion of the tasks and two weeks after their performing these tasks. No vocabulary pretest was given to the participants to avoid undue attention to the target words on the part of the students. The likelihood of target-word familiarity, nonetheless, was assessed among a group of learners of similar language proficiency. In immediate test, upon the completion of the tasks, the participants in both experiments were unexpectedly given an immediate test to assess the initial learning of the target words, which contained a list of twenty five words. The inclusion of 15 unrelated words along with the 10 target words in the test was to avoid the focus of the participants on the target words. In the test, the students were asked to provide the Persian equivalents or English explanations for these words, as well as to indicate whether they had known the words prior to the task.
3.3. Procedure

The six sub-groups in the two main groups (three groups each) were randomly assigned to perform one of the three tasks during regular English class sessions. The students followed their English teachers’ instructions to perform the tasks and were not informed of an on-coming retention test of the target lexical items in the reading passage. None of the tasks was presented as a vocabulary-learning task, with the first two tasks being introduced as reading activities and the third task as a writing exercise. As is delineated in the section on the tasks, time-on-task was not controlled in the first experiment. Consequently, the three sub-groups in the first main group spent 16, 28, and 30 minutes accomplishing their assigned task, respectively.

The time limit in the second experiment, nevertheless, was kept constant across different tasks (35 minutes). In both experiments, the work sheets were collected after the completion of the task, and the students were given a vocabulary test sheet with a list of twenty five lexical items, for which they were requested to provide meanings (either in Persian or English). The participants were also required to indicate whether they had known the words prior to the tasks. This practice was an additional check for the pre-knowledge of the ten target lexical items on the part of the learners. The test sheets were then collected and not returned to the students. The time limit for the immediate test was 10. The vocabulary tests were scored by the researcher. A word that was not glossed (either in English or Persian) or was wrongly glossed was assigned the score of zero. A correct response received 1 point. A semantically approximate response was awarded 0.5 point. If a learner gave a correct response but had also marked the target word as known prior to the experiment, the response was scored as zero.

3.4. Data Analysis Method

Relevant Analysis of Variance (ANOVA) statistical procedures were utilized to evaluate the hypothesis under investigation in order to find the differences in using three different tasks and the effect of time factor.

4. RESULTS AND FINDINGS

As it was already stated, the purpose of the this research was to see whether there were any significant differences among vocabulary scores of learners in dictionary-based, fill-in-the-blank, and sentence-making groups on the immediate vocabulary test with and without a time restriction. The results obtained via two-way ANOVA are presented in the following tables.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Timing</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBG</td>
<td>WTR</td>
<td>7.1000</td>
<td>1.19722</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>WOTR</td>
<td>7.5000</td>
<td>1.43372</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.3000</td>
<td>1.30182</td>
<td>20</td>
</tr>
<tr>
<td>FITBG</td>
<td>WTR</td>
<td>7.0000</td>
<td>.66667</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>WOTR</td>
<td>7.6000</td>
<td>1.07497</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.3000</td>
<td>.92338</td>
<td>20</td>
</tr>
<tr>
<td>SMG</td>
<td>WTR</td>
<td>7.2000</td>
<td>.91894</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>WOTR</td>
<td>8.1000</td>
<td>1.19722</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.6500</td>
<td>1.13671</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>WTR</td>
<td>7.1000</td>
<td>.92289</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>WOTR</td>
<td>7.7333</td>
<td>1.22990</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.4167</td>
<td>1.12433</td>
<td>60</td>
</tr>
</tbody>
</table>
Abbreviations: Dictionary-Based Group (DBG), Fill-in-the-Blank Group (FITBG), Sentence Making Group (SMG), With Time Restriction (WTR), Without Time Restriction (WOTR)

The mean scores of the DBG, FITBG, and SMG members in the time restriction condition were 7.10, 7.00, and 7.20, respectively. In the same manner, the mean scores of the DBG, FITBG, and SMG members who had no time restriction were found to be 7.50, 7.60, and 7.73, respectively. The differences among the groups in both timing conditions do not seem to be considerably large. On the other hand, comparing the total mean scores of the timing conditions, it seems that the difference between all the groups in the time restriction condition ($M = 7.10$) and all the groups in no time restriction condition ($M = 7.73$) was quite larger. To find out whether the differences among the groups and between timing conditions were statistically significant or not, one has to examine the $p$ values in front of Groups and Timing under the Sig. column in the two-way ANOVA table below.

Table-2. Results of Two-Way ANOVA for Comparing the Immediate Vocabulary Scores of the Learners in Different Groups with Different Timing Conditions

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>8.28</td>
<td>5</td>
<td>1.65</td>
<td>1.34</td>
<td>.25</td>
<td>.11</td>
</tr>
<tr>
<td>Intercept</td>
<td>3300.41</td>
<td>1</td>
<td>3300.41</td>
<td>2688.12</td>
<td>.000</td>
<td>.98</td>
</tr>
<tr>
<td>Groups</td>
<td>1.63</td>
<td>2</td>
<td>.81</td>
<td>.66</td>
<td>.51</td>
<td>.02</td>
</tr>
<tr>
<td>Timing</td>
<td>6.01</td>
<td>1</td>
<td>6.01</td>
<td>4.90</td>
<td>.03</td>
<td>.08</td>
</tr>
<tr>
<td>Groups*Timing</td>
<td>.63</td>
<td>2</td>
<td>.31</td>
<td>.25</td>
<td>.77</td>
<td>.009</td>
</tr>
<tr>
<td>Error</td>
<td>66.30</td>
<td>54</td>
<td>1.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3375.00</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>74.58</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As is shown in table 2, there was not a statistically significant difference in the immediate vocabulary scores of the dictionary-based, fill-in-the-blank, and sentence-making groups since the $p$ value under the Sig. column in front of Groups was greater than the specified level of significance (i.e. $.51 > .05$). However, the $p$ value corresponding to Timing was indeed lower than the significance level ($.03 < .05$), implying that the groups without time restriction ($M = 7.73$) outscored those in the time restriction condition ($M = 7.10$). Moreover, the interaction between the two independent variables of the study (Groups and Timing) failed to exert a statistically significant impact on the performance of the learners on the immediate vocabulary test owing to the fact that the $p$ value in front of Groups*Timing appeared to be greater than the significance level ($.77 > .05$). The results obtained here are also graphically shown in figure 1.
This line chart shows that for time restriction condition (represented here by the blue line), the mean score of the SMG learners was greater than that of the DBG learners, which in turn was greater than the mean score of the FITBG learners. The differences among these three groups of learners, however, were not substantial. Besides, the green line, which represents the no time restriction condition, the mean score of the SMG group was larger than that for the FITBG members, whose mean score was in turn greater than the mean score of the DBG learners, and the differences among these three groups were not statistically significant, either. Nevertheless, all the three groups in no time restriction condition outperformed their corresponding counterparts in time restriction condition. The conclusion could be that on the immediate vocabulary test, task type was not shown to be an important factor, but timing did affect the learners’ performances significantly.

5. DISCUSSION AND CONCLUSION

This study was an attempt to investigate whether there were any significant differences among vocabulary scores of learners in dictionary-based, fill-in-the-blank, and sentence-making groups on the immediate vocabulary tests with and without a time restriction. In this research, the null hypothesis posited that there is no significant difference among vocabulary scores of learners in dictionary-based, fill-in-the-blank, and sentence-making groups on the immediate vocabulary test with and without a time restriction. In order to examine this null hypothesis and discover the effect of task type and timing as the two independent variables on vocabulary learning as the dependent variable of the study, a two-way ANOVA was utilized and the learners’ vocabulary scores on the immediate vocabulary test were compared across the groups.

In this regard, the results of the data analysis revealed that there was not a statistically significant difference in the vocabulary scores of the learners in the dictionary-based, fill-in-the-blank, and sentence-making groups on the immediate test. However, time restriction was found to exert a significant effect on the learners’ performance; in other words, it was discovered that all the three groups in no time restriction condition outperformed their corresponding counterparts in time restriction condition. Moreover, the data analysis results showed that the interaction between the two independent variables of the study (Groups and Timing) failed to exert a statistically significant impact on the performance of the learners on the immediate vocabulary test. Thus, it can be claimed that on the immediate vocabulary test, task type did not lead to significant differences in the learners’ performance, whereas timing did affect the learners’ performance significantly. The results of this study lend further support to findings of other researchers who have corroborated the effectiveness of incidental vocabulary learning (Hulstijn, 1992; Stern, 1992; Wesche and Paribakht, 2000; Laufer and Hulstijn, 2001; Mondria, 2003). The present findings are specifically in line with those of Fukkink et al. (2001) who conclude that incidental vocabulary learning as a by-product of contextualized language learning tasks or activities accounts for a substantial proportion of vocabulary acquisition. Furthermore, the present findings support the conclusions drawn from previous studies (Joe, 1995; Hulstijn and Laufer, 2001) revealing that text-based contextualized tasks that entail the active processing of the target words (i.e., tasks that induce generative processing) exert a significantly positive effect on L2 vocabulary learning. In other words, the most convincing explanation for our findings may come from the fact that incidental learning tasks involving motivational and cognitive dimensions stimulate word processing to a greater depth, which in turn, leads to better recall/learning. On the other hand, our findings showing insignificant differences among the three tasks with regard to their effects on vocabulary learning of the subjects, run counter to the findings of Hulstijn and Laufer (2001) who claimed that when learners engaged in an output productive task, such as sentence writing, they remembered words significantly better than when they performed a dictionary-based or fill-in-the-blank task. This can be justified by the Involvement Load Hypothesis (Hulstijn and Laufer, 2001) asserting that tasks with a higher involvement load
are more effective for vocabulary retention than tasks with a lower involvement load. With regard to time restriction as another factor investigated in the first research question of this study, the results of our study are in line with those of other researchers (Hulstijn and Trompetter, 1998; Hulstijn and Laufer, 2001) who claim that the group without time restriction had a better performance than the group with time restriction on immediate vocabulary test. A possible explanation for such findings is that for an identical task, longer exposure (i.e., longer time-on-task) generally leads to better learning because learners’ performance will not suffer from a time constraint that can negatively influence their performance.

Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no competing interests.
Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

REFERENCES

BIBLIOGRAPHY