

THE EFFECT OF MONOLINGUAL AND BILINGUAL DICTIONARIES ON VOCABULARY RECALL AND RETENTION OF EFL LEARNERS

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Abstract

The study focuses on the contribution that using bilingual versus monolingual dictionaries might lead to recall and retention of vocabulary. In the meantime it is checked whether or not the speed corresponds to any one of the two dictionaries. For this purpose, 100 Iranian students studying English as a Foreign Language (EFL) at Shahid Chamran University of Ahvaz were asked to take part in an experiment. From this population 60 intermediate students were selected on the basis of their scores on TOEFL and then were divided into two groups of monolingual and bilingual. The results indicated that students learned a number of words while reading, whether they used a bilingual or a monolingual dictionary. But the two groups learned nearly the same number of words. Thus dictionary-types have no significant effect on learners' vocabulary recall and retention. Regarding the second hypothesis, results indicated that speed had a direct relation with bilingual dictionaries. Two important by-products of this study are as follows: First, in both groups the number of words decreased by the passage of time. Second, the performance of monolingual group, contrary to the bilingual one's, has not showed a significant difference in interval of the last two tests ($p < 0.05$).

Introduction

Scientific investigation of learning the foreign language vocabulary, the building blocks of communication, has been largely neglected in the favor of research in other areas of language acquisition in the first three decades of the second half of the century. Holley (1973) observes the role of vocabulary learning in foreign language education, which is held to be secondary. That is because of the first language acquisition research findings, which have misled the teachers. In fact, in first language acquisition, children start acquiring with a small range of vocabulary until structural patterns are mastered; so by relying on these findings, the role of vocabulary is pushed into the background (Carter and McCarthy 1988).

According to Eeds and Cockrum (1985) while there exists a wide variety of ways to deal with vocabulary, the use of dictionary as the conventional method of instruction, in both first and second language learning, has been triggered. Marckwardt (1973), for example, comments:

Dictionaries often supply information about the language not found elsewhere. Dictionaries often supply information about grammar, usage, status, synonym discrimination, application of derivative affixes, and distinctions between spoken and written English not generally treated in textbooks, even in a rudimentary fashion (cited in Bensoussan, Sim and Weiss, 1984: 263).

Laufer (1990), similarly, believes that when word looks familiar but the sentence in which it is found or its wider context makes no sense at all, the learner should be encouraged to consult a dictionary (p.154). Consulting a dictionary during an independent reading helps readers to find the meaning of the difficult vocabulary, ascertain the meaning of the unfamiliar word based on contextual information and

provide further exposure for the word in other contexts, with different collocates and constructions, by making the student think about the words in relation both to the passage being read and the dictionary.

In regard to the use of dictionary in second language learning, there are a number of studies reported in literature. For instance, Luppescu and Day (1993) conducted a study, which focused on the contribution to vocabulary learning of the use of bilingual dictionaries during reading by 293 Japanese university students studying EFL. The results of the study showed that the students who used a dictionary scored significantly higher on vocabulary tests than those who did not. In Knight's investigation (1994), which blocked the students on the basis of their level of language proficiency, similar results were obtained. Students who used a bilingual dictionary scored higher on all the vocabulary tests administered than those who did not.

Therefore, the present research attempts to indicate the usefulness of the dictionaries by comparing monolingual and bilingual types, which may have an effect on vocabulary recall and retention of intermediate language proficiency level. Studies regarding monolingual and bilingual dictionaries are very few in number and this paucity is astounding given the significant role of dictionaries in foreign language learning. Of these studies, some educators have supported the contribution of monolingual dictionaries to vocabulary learning. Underhill (1985) states that many high frequency words may be given appropriate treatment in monolingual dictionaries. Baxter (1980) also claims that a monolingual dictionary not only demonstrates definitions as alternative to the use of lexical items but also provides the means to employ definitions. He believes that more encouragement should be given to the use of monolingual dictionaries because it promotes fluency by offering definitions in context; in contrast, bilingual dictionaries tend to channel learners towards single-word translation equivalents that may not be appropriate in the discourse in question. Baxter supports this view from his own survey of EFL students in a Japanese university setting and couples it with justification for more instruction in the required reference skills (cited in Luppescu & Day 1993: 275).

On the contrary Thompson (1987) believes that all the information that a monolingual dictionary is claimed to include can equally be given in a bilingual dictionary. Furthermore, he believes that although the defining vocabularies in monolingual dictionaries are restricted, the grammatical structures used are not, and this makes understanding of the definitions provided seem difficult. He concludes:

Monolingual dictionaries are simply not cost-effective for many learners in terms of rewards (correct choice of word) versus effort (p. 284).

In Yorio's (1971) and Bensoussan et al's (1984) study, when the students were put in a free choice of using bilingual or monolingual dictionaries, more than half of them showed a distinct preference for bilingual dictionaries. Yorio (1971) concludes:

Although frequently inaccurate or misleading, the bilingual dictionary seems to give them security of a concrete answer, while the monolingual dictionary often forces them to guess the meaning, adding more doubts to the already existing ones (p.113).

Despite all of these arguments and the other findings of certain investigations of dictionary use (Bensoussan, Sim, & Weiss 1984; Laufer 1990; Narenji 1998), there are two crucial questions about which little or no inquiry has been made. They are as follows: (1) what dictionary-use conditions (bilingual or monolingual) affect vocabulary recall (immediate and delayed) and retention of students at intermediate level? and (2) what is the relationship between speed and dictionary-use conditions? The lack of such inquiries is especially noticeable in the quantitative study of using or learning English as a Foreign Language (EFL).

The present study was conducted among foreign language learners. It not only focused on the effects of bilingual and monolingual dictionaries on vocabulary recall and retention, but it also aimed at an empirical exploration concerning the relationship between speed and the two dictionary-types. Unlike many other studies that have been confined to the effect of only one type of dictionary on vocabulary

learning or reading comprehension, this study compared the effects of both dictionary types (bilingual and monolingual) in reading a short text.

Methodology

Subjects

A total number of 100 Iranian B.A. students majoring in English at Shahid Chamran University of Ahvaz participated in this study. All the students were adults, both males and females, and differed in terms of age. On the basis of their scores on TOEFL, sixty subjects whose scores ranged between half a unit of standard deviation above and below the mean were selected to account for the homogeneity of the population at intermediate proficiency level. Then they were divided into two groups (each 30) and these two groups were randomly assigned to one of the two dictionary-use conditions (bilingual and monolingual).

Instrumentation

At the first phase, the TOEFL, a test of 100 items on structure, vocabulary, and reading comprehension served as the criterion test in this study. To ensure that the target words in the text-set were indeed unknown to the students, in the second phase a vocabulary test was administered which would give relatively no information about the meanings of words tested. It would also be sensitive to partial word knowledge, that is, subjects would tend to make a word as known if they would have even a partial grasp of its meaning (Anderson & Freebody 1983: 25).

At the third phase, the subjects were asked to read a short text, whose readability was formally analyzed by Fog Index readability:

$$\text{Text difficulty} = \left(\frac{\text{number of words}}{\text{number of sentences}} \right) + \left(\frac{\text{number of 3-syllable words}}{\text{number of words}} \right) 40$$

At the fourth phase, three vocabulary tests of supply-definition type were used, namely, immediate recall, delayed recall, and retention tests. Each included 14 items to be defined.

Procedures

In the first phase the subjects took the TOEFL. The rationale behind this phase was twofold. It was decided to choose a homogeneous group of subjects to begin with. Moreover, due to the purpose of this study only the intermediate proficiency level subjects were selected.

The reason for including a second phase, i.e. the vocabulary test given to subjects two weeks prior to reading, was to validate the target words in the text, which were indeed unknown. Then 60 subjects were randomly divided into two groups: bilingual and monolingual. Later, they were given the short text and asked to read it for meaning. The bilingual group read it by the permission of using a bilingual dictionary (Aryanpour, English-Persian) and the monolingual group by a monolingual dictionary (Oxford Advanced Learner's, English-English). They were not told in advance that there would be any kind of test on the reading. The subjects were told to take as much time as they needed to read the passage. As part of the reading rate study, the subjects in both groups were asked to note the time when they started to read and the time they finished the passage. Immediately after reading the passage, they took the immediate vocabulary recall test. The target words in vocabulary test were chosen according to the following criteria:

* Checked as unknown by the subjects in the checklist test.

* Selected as unknown by the researchers.

After a two-week interval, the same vocabulary test was re-administered, namely, delayed vocabulary recall test and again after two weeks interval, the same test was re-administered not only to assess the subjects' retention but also to validate our results, i.e. vocabulary retention test.

Data analysis

To answer the question concerning the significance of the difference between bilingual and monolingual dictionaries on vocabulary recall and retention, the following analyses were carried out :

1. Four independent t-tests were conducted to investigate the effects of bilingual and monolingual dictionaries on vocabulary, namely immediate recall, delayed recall, retention, and speed.
2. Four paired t-tests were conducted to investigate the effects of passage of time on the performance of each dictionary-use group in every two tests.

Results

To compare the differences between the two sample groups' means on each test and the differences of each sample group on every two tests, two types of t-test called independent and paired were conducted respectively.

The t-values for the effect of bilingual and monolingual dictionaries on the first three tests (immediate recall, delayed recall, and retention) were not significant, because the t-observed value was less than the t-critical one. They were 1.36, 0.89, and 1.20 respectively ($P < .05$, t-critical = 1.96).

But for the effect of dictionary-type on reading rate t-value was significant. For t-observed value was higher than t-critical. It was 12.96 ($P < .05$, t-critical = 1.96). The results are presented in tables 1-4 (see appendix 1). Next, to find out the role of time passage on each group's performance in every two tests by interval of two weeks, four paired t-tests were conducted. As tables 5 and 6 (see appendix 1) indicate, in all comparisons t-observed value is significantly higher than t-critical except for the last one.

Discussion

Overall, using a dictionary apparently has a significant effect on people's performance on the vocabulary test (Bensoussan et al. 1984; Laufer 1990; Narenji 1998). But in comparison, the bilingual and the monolingual groups do benefit from both dictionaries equally. Although there was a slight difference between both groups' performances in three vocabulary tests, i.e. immediate recall, delayed recall and retention, it was not significant. The cause may be related to the students' proficiency level. As their proficiency increases, they may refer to a monolingual dictionary instead of a bilingual one for meanings, grammatical points, instances of use, spelling and other information usually contained by this type of dictionaries. Besides, by then s/he no longer knows that there is a one-to-one correspondence between words of two languages.

In spite of the above findings, results of testing the second hypothesis showed a significant difference between performances of the two sample groups. Surprisingly the difference in time that both groups took to read the same passage was so great: The students in group B (monolingual dictionary group) took nearly twice as long to read the passage as did group A (bilingual dictionary group). For the same short text, mean score of group B was 12.30, whereas mean score of group A was 5.30.

The finding provides empirical evidence, then, for the belief that using a monolingual dictionary while reading causes a decrease in reading speed. Therefore, the bilingual dictionary seems more beneficial when everything is equal and only time limitation exists. Since time is gold especially in intensive courses, the bilingual dictionary helps teachers and students allot the saved time for other class activities. The reason of the great difference between both groups can be due to the mother tongue (Persian) equivalents in bilingual dictionaries. The subjects seem to get the words meaning much easier and consequently quicker than the words which are defined in the monolingual dictionary in target

language (English). Therefore, the time one spends to read the passage by the help of a bilingual dictionary is shorter than the one who uses a monolingual dictionary.

These findings, however, are not without complications. When we look at the performance of the individual group on three vocabulary tests, it is apparent that in the interval of each successive two weeks they functioned differently. In other words, the passage of time has affected their performance. This fact is based on the significant differences that are found between every two tests (immediate and delayed recall and retention). The results related to the monolingual group are similar in their significant difference to those of the bilingual group's except in the last comparison. This is an unexpected but interesting finding that in an interval of two weeks from the immediate recall test both groups' mean scores have decreased significantly; that is some of the newly learned words have been forgotten but from that session up to the next two weeks the monolingual group's results, contrary to the bilingual's, have not showed a significant difference. It means that from the delayed recall test to retention test the numbers of newly learned words have not changed significantly. Thus, we can infer from analyzing each group's performance that in order to keep words in the memory for a longer period of time, in our case four weeks, a monolingual dictionary is much preferred to a bilingual. This fact supports Chastain's belief (1988) that in order to learn a language a learner should be exposed to the target language as much as possible. But as it was mentioned a monolingual dictionary will be more effective only when time limitation does not exist.

Regarding the memory process, Chastain (1988) has claimed that the amount of time it takes has a positive direct relation with the depth of storage -- the deeper the storage, the easier the retention (p. 42). Therefore, our results verify his belief once more. For the recall purposes, in this study, whether for the immediate situation or a two-week testing period, bilingual dictionaries are more effective whereas for retention purposes, here four weeks, monolingual dictionaries are much preferred.

Conclusion

Concerning the research questions, the three major findings are as follows:

1. There is no significant difference between two dictionary-use groups in vocabulary recall and retention.
2. The use of bilingual dictionary while reading can facilitate the learning of vocabulary while EFL students are under time pressure.
3. The monolingual dictionary helps its users to process the words deeply for retention purposes only when time is not limited.

A word of caution should be stated here. Since both groups were identical in all respects except in the type of dictionaries they were permitted to use, we must conclude that any difference in vocabulary learning, as reflected in their performance on the present tests, was due to the use of dictionaries.

Pedagogical Implications

The present study provides guidance for teachers in the hope that they will make useful contributions to the issue of vocabulary learning in foreign language situation, Iran.

We learned that bilingual and monolingual dictionaries have an effect on vocabulary recall and retention but bilingual dictionaries against monolingual lead to a high reading speed. In general, dictionaries can serve as a means for checking the correctness of the guesses made, implanting the correct meanings in the learners' memories, and consequently fostering the process of vocabulary learning. In this way the teacher can turn the dictionary from a rote memorization vehicle into an active and reliable foothold for long-term retention of words meaning (Carter & McCarthy 1991). But Bensoussan et al. (1984) found that teachers believe that their students could not use dictionaries effectively, whereas the students felt they could. At the very least, teachers should not assume that a student knows how to use a dictionary; therefore exercises to familiarize the students with the dictionary must have a beneficial effect, because the task of finding the meaning of a word in a dictionary is a complex process. This process may entail looking for a suitable headword, comprehending the entry, locating the appropriate part of the definition, connecting the right sense to the context, and putting the word within the context. To prepare

students to learn how to use dictionaries, syllabus designers should provide exercises, which demand the learners think about and use the word meanings learned from the dictionary. Thompson (1987) provides some useful suggestions on how learners use dictionaries by setting up the following specification:

the dictionary should aim in one direction, easy to get in, easy to understand, give full information about the foreign language headwords, encourage the learner to refer to it, and at last avoid reinforcing the belief in a one-to-one relationship at word level between two languages.

Suggestion for Further Studies

In the course of this study many questions have risen some of which are included here with the hope that they will be pursued and investigated.

1. To begin with, similar studies can be done on other proficiency levels, namely elementary and advanced.
2. In order to have a comprehensive picture of the effect of both dictionary-types on reading rate, one can replicate the study with different types of texts, that is, texts that are longer, or have a different density of unknown words.
3. The other area would be a replication of the present study with a longer period of time between reading the text and taking the test.

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APPENDIX 1

Table 1- T-test for both groups' performance on immediate vocabulary recall test

Type	Mean	SD	N	df	t obs.	t crit.
Bilingual	8.47	2.93	30	29	1.36	1.96
Monolingual	9.37	2.11	30	29		
Total			60	58		

P<0.05**Table 2-** T-test for both groups' performance on delayed vocabulary recall test

Type	Mean	SD	N	df	t obs.	t crit.
Bilingual	6.64	1.73	28	27	0.89	1.96
Monolingual	6.19	2.09	27	26		
Total			55	53		

P<0.05**Table 3 -** T-test for both groups' performance on vocabulary retention test

Type	Mean	SD	N	df	t obs.	t crit.
Bilingual	6.73	1.45	22	21	1.20	1.96
Monolingual	7.39	2.17	23	29		
Total			45	43		

P<0.05**Table 4 -** T-test for both groups' performance on the reading rate

Type	Mean	SD	N	df	t obs.	t crit.
Bilingual	5.30	2.22	30	29	12.96*	1.96
Monolingual	12.37	2.05	30	29		
Total			60	58		

P<0.05 * Denotes: there is a significant difference (t obs.>t crit.).**Table 5 -** T-test for the bilingual group's performance on IR & DR and DR & Ret. tests

Test	Mean	SD	N	df	t obs.	t crit.
IR & DR	1.96	2.51	28	27	4.13 *	2.05
DR & Ret.	0.42	0.74	21	20	2.63 *	2.08

P<0.05 * Denotes: there is a significant difference (t obs.>t crit.).**Note:** IR= Immediate Recall DR= Delayed Recall Ret.= Retention**Table 6 -** T-test for the monolingual group's performance on IR & DR and DR & Ret. tests

Test	Mean	SD	N	df	t obs.	t crit.
IR & DR	3.14	1.97	27	26	8.28 *	2.05
DR & Ret.	0.6	1.53	20	19	1.75	2.09

P<0.05 * Denotes: there is a significant difference (t obs.>t crit.).

APPENDIX 2

Text

They were a couple in their late thirties, and they looked unmistakably married. They sat on the bench opposite us in a little narrow restaurant, having dinner. The man had a round, self-satisfied face, with glasses on it; the woman was pretty, in a big hat. There was nothing conspicuous about them, nothing particularly noticeable, until the end of their meal, when it suddenly became obvious that this was an occasion- in fact, the husband's birthday, and the wife had planned a little surprise for him.

It arrived, in the form of a small but glossy birthday cake, with one pink candle burning in the center. The headwaiter brought it in and placed it before the husband, and meanwhile the violin- and - piano orchestra played "Happy Birthday to You" and the wife beamed with shy pride over her little surprise, and such few people as there were in the restaurant tried to help out with applause. It became clear at once that help was needed because the husband was not pleased. Instead he was hotly embarrassed, and indignant at his wife.

You looked at him and you saw this and you thought. "Oh, now, don't be like that". But he was like that and as soon as the little cake had been put on the table and the orchestra had finished the birthday piece and the general attention had shifted from the man and the woman, I saw him say something to her under his breath - some punishing thing, quick and curt and unkind. I couldn't bear to look at the woman then, so I started at my plate and waited for quite a long time. Not long enough, though. She was still crying when I finally glanced over there again. Crying quietly and heartbrokenly and hopelessly, all to herself, under the gay big brim of her best hat.

Vocabulary Test

Please read the following words and write their meanings in Persian/English.

- | | |
|--------------------|------------------|
| 1. unmistakably : | 8. embarrassed : |
| 2. indignant | 9. conspicuous : |
| 3. curt : | 10. occasion : |
| 4. glance : | 11. meanwhile : |
| 5. heartbrokenly : | 12. beam : |
| 6. gay : | 13. applause : |
| 7. brim : | 14. glossy : |