

The Effect of Teaching Learners' Breadth and Depth of Vocabulary on Reading Comprehension via Online Classroom

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Abstract

With respect to the fact that breadth and depth are considered as two interconnected dimensions of vocabulary knowledge, knowing a large vocabulary cannot assist learners a lot if their knowledge is not sufficient and rich. Therefore, while the size of vocabulary knowledge is an important factor in predicting success in reading comprehension, depth of vocabulary plays an important role as well. This article attempts to find out and compare the effects of the two vocabulary teaching methods in line with breadth and depth on Reading ability of 70 students studying at Islamic Azad University of Tonekabon, Iran. Experimental group received breadth of vocabulary teaching while Control Group instructed through teaching depth of vocabulary. During the online lessons different method of vocabulary presentation techniques used including mind-mapping, Persian equivalents, and English synonyms as well as definitions. Subsequently, the teacher utilized method for teaching vocabulary in order to increase breadth and depth. The results of T-tests and ANCOVA for the comparison of the effect of instruction on reading comprehension through online sessions indicated that there was no significant difference in the two methods at .05 level of significance. The results of this study have several important implications for the classroom practice and make a strong case for vocabulary instruction.

Keywords: Teaching Breadth and depth of Vocabulary, Reading Comprehension, Web-Based Instruction

1. Introduction

Vocabulary has been considered as a component of language proficiency, both in L1 and L2 language acquisition. Knowledge of words is now regarded the most important factor in language proficiency and school success, particularly because of its close relation with text comprehension (Bernhardt, 2005). Without knowledge of words, understanding sentences or passages is not possible. Based on several researches, it has been notified that knowledge of words is multidimensional and includes various types of knowledge. Thus, researchers such as Greidanus and Nienhuis (2001), Read (2000), Vermmer (2001) and Wolter (2001) have tendency toward viewing vocabulary knowledge as consisting of two paradigms of breadth (how many words are stored in memory) and depth (how well is a word acquired).

With respect to the fact that breadth and depth are considered as two interconnected dimensions of vocabulary knowledge, knowing a large vocabulary cannot assist learners a lot if their knowledge is not sufficient and rich. Therefore, while the size of vocabulary knowledge is an important factor in predicting success in reading comprehension, depth of vocabulary plays an

important role as well. Some studies have been conducted on the depth and breadth of vocabulary knowledge and their relationship to reading comprehension. But as far as the review of related literature is concerned, no study has been done on the relationship between the depth and breadth of vocabulary knowledge and reading comprehension in input-poor environment. Therefore, the present study attempts to find the effectiveness of the two aspects of vocabulary knowledge on Iranian EFL learners' reading comprehension. The results could contribute to the improvement of instruction in the teaching and learning of foreign languages in general and the teaching and learning of English as a foreign language in particular. as consistently effective way as possible that will allow them to boost the acquisition and retention of functional language and beyond.

The study specifically asks questions on the effects of teaching of vocabulary with strategic task on comprehension, immediate retention, delayed or long-term retention, which have important implications for language learning.

2. Literature review

This section discusses various dimensions of teaching vocabulary breadth and depth in line with reading comprehension.

Vocabulary acquisition is the tremendous and most significant task confronting the language learner. (Swan and Walter 1984). Perhaps the vital element we can accommodate students for succeeding, not only in their academy achievement but more widely in lifespan, rich and active vocabulary and the strategies are for enhancing in academic setting. Our natural capability to apply in today's complex social and economic world is mightily influenced by our language skills and word knowledge. If language structures build up the skeleton of language, then it is vocabulary that provides the vital organs and the flesh (Harmer 1993). Therefore, the role of vocabulary is more crucial than the other elements of language, without grammar very little can be conveyed, without vocabulary nothing can be conveyed (Wilkins 1972).

This chapter goes both empirical and descriptive studies related to the study. Its unerring accuracy leaves beyond the scope of limited studies of vocabulary that have direct connection on the issue. Nevertheless, each of the studies sheds on a particular aspects and acknowledge an exclusive contribution in the elucidation of the issues as far as it concerns to the researcher. The chapter sheds an image on the relationship between **Vocabulary Knowledge** and **Reading Comprehension**. Next, the chapter reviews some general considerations about **Vocabulary Size** and Reading Comprehension. The chapter then reviews **Vocabulary Depth** and Reading Comprehension. Afterward, it goes to the significance of relationship between Depth and **Breadth of Vocabulary Knowledge**.

2.1 The term vocabulary

The definition of vocabulary, in the Longman dictionary (2010), connects to diversified perspectives about the nature and use made of vocabulary which can be compromise on all words someone knows and uses; vocabulary is defined as all the words that someone knows, learns or uses. The Oxford Dictionary (2011) defines vocabulary as the body of words used in a particular language or in a particular setting.

2.2 Vocabulary Knowledge and Reading Comprehension

In first language vocabulary acquisition research, it has been notified that level of vocabulary knowledge is strongly interrelated with level of reading comprehension (Nagy and Herman, 1987). Nagy and Herman underscore that multiple exposures result in a large quantity of vocabulary growth and depth, which in turn enhances subsequent reading comprehension (Nagy and Herman, 1987). In foreign language reading, the "threshold hypothesis" claims that a certain amount of vocabulary knowledge is needed for minimum comprehension

(Alderson, 1984). For learners of low proficiency, it is particularly true that the L2 reading problem always becomes a language problem, specifically in academic setting such as university and college. Therefore, we ponder that there is a close relationship between vocabulary knowledge and reading comprehension. That is, the extent of vocabulary size and depth can predict the level of reading comprehension. Nevertheless, in L2 research, very few studies have been devoted to investigating this relationship. Among them, Laufer specifically researched the relationship between vocabulary size and reading comprehension (Laufer, 1992). She used Nation's Vocabulary Levels Test (Nation, 1990) to test one group of subjects, and Meara and Jones' Eurocentres Vocabulary Test (1990) to measure the vocabulary size of the other group of native Arabic speaking university students.

With regard to the relationship between vocabulary knowledge and reading comprehension, Koda's (1989) study on 24 college students learning Japanese as a foreign language found equally strong correlations between vocabulary knowledge and reading comprehension. Gelderen *et al.* (2004) administered tests of English vocabulary knowledge and reading comprehension to 397 Dutch students from Grade 8 to Grade 10 in secondary education and found a correlation of .63.

Snow (2002) found that the strength of the relationship between a kindergarten vocabulary measure and reading comprehension increased substantially as the children advanced in grade level. The correlations for first graders, fourth graders, and seventh graders were .45, .62, and .69, respectively.

Recently, several researchers, educators, and teachers have been eager to know the extent to which reading comprehension depends on vocabulary knowledge. Huang (1999) measured the vocabulary size of university students and their reading comprehension ability by considering the effects of vocabulary knowledge and content knowledge on reading comprehension. The subjects were 246 university juniors who were non-English majors. They took Nation's (1990) Vocabulary Levels Test, an English passage, a recall protocol, and the Inventory of Content Knowledge and Interest Questionnaire. The results show that university students' comprehension of any English text depends on vocabulary knowledge and content knowledge, but their comprehension depends more on vocabulary knowledge than on content knowledge. He also found that in Taiwanese students' reading comprehension scores 69% of the variance was explained by their vocabulary knowledge. Clearly, L2 reading comprehension depends strongly on vocabulary knowledge.

The study aims to investigate answers of the following questions

1. Does breadth vocabulary affect Iranian EFL learners' reading comprehension?

2. Does depth of vocabulary affect Iranian EFL learners' reading comprehension?

3. Design of the study

This study endeavors to *compare the effects of the two vocabulary teaching methods in line with breadth and depth on Reading ability of 70 students studying at Islamic Azad University of Tonekabon, Iran. Experimental group received breadth of vocabulary teaching while Control Group instructed through teaching depth of vocabulary. During the online lessons different method of vocabulary presentation techniques used including mind-mapping, Persian equivalents, and English synonyms as well as definitions. Subsequently, the teacher utilized method for teaching vocabulary in order to increase breadth and depth.* Participants of study were chosen from 100 students of Tonekabon Azad University, Iran whose major are English Translation. They were all native speakers of Persian who were learning English as a foreign language. They were homogeneous group in terms of English education backgrounds. Three instruments were used in this study, one is Reading test in order for diagnosis of reading ability of subjects of research, and two questionnaires, namely, Vocabulary size Test, and DVK test.

Instrumentation

3.1 TOEFL PBT Version

As the criterion to measure the participants' performance on reading comprehension an actual TOEFL test by Bruce Rogers (2012 version) was used. The TOEFL measure consisted of five reading passages, and it included 50 multiple-choice questions. In order to evaluate reading ability of the participants.

3.1.2 The Measure of depth of vocabulary knowledge

The test takers' depth of receptive vocabulary knowledge, DVK was used. The test was the one developed in <http://www.lexutor.ca/rand/classic/>. This test contained 40 items.

3.1.3 The vocabulary levels test (Version III)

In this study the third version of the Vocabulary Levels Test (Paul Nation 2009) was used. This test has been widely used to make inferences about the participants' vocabulary breadth (size). This measure is composed of five frequency levels (2000, 3000, 5000, Academic, 10000). At each level, there are thirty definition items and six choices. In this study the format of the test was changed and an answer sheet was provided in order to facilitate test scoring.

3.2 The design of the study

Attempt to find out and compare the effects of the two vocabulary teaching methods in line with breadth and depth on Reading ability of 70 students studying at Islamic Azad University of Tonekabon, Iran. Experimental group received breadth of vocabulary teaching while Control Group instructed through teaching depth of vocabulary. During the online lessons different method of vocabulary presentation techniques used including mind-mapping, Persian equivalents, and English synonyms as well as definitions. Subsequently, the teacher utilized method for teaching vocabulary in order to increase breadth and depth. Specifically, this research used four groups for the study whom they classified into low and high depth and breadth of vocabulary knowledge.

3.3 Procedure

As above-mentioned participants took part in this study, 100 students were randomly selected from sophomore university students of Azad Tonekabon majoring translation. They were given two vocabulary test, namely the test takers' depth of receptive vocabulary knowledge, DVK and third version of the Vocabulary Levels Test (Paul Nation 2009). Based on their scores 80 students gained entry into the next level of research, they were divided into four groups, low-depth of vocabulary knowledge, high-depth of vocabulary knowledge, low-breadth of vocabulary knowledge, and high-breadth of vocabulary knowledge, then they were given TOEFL Reading Test, and their scores were analyzed to investigate the answer of research question.

3.5 Analysis of Data

Test scores of two group of 70 students were analyzed to determine if a statistically significant gain existed. The t-test was used to determine if each group of scores was significantly different from one another.

Conclusion

The entire span of this research project lasted approximately two weeks. This time included the time allowed for the all details of data gathering, and the data analysis. The same amount of classroom time was spent on each questionnaire.

4. Data analysis and results

The dependent variable was the reading comprehension measured by the posttest scores after the treatment. The analysis would use two methods to data analysis in order to answer the research questions: the independent T-Test and ANCOVA. Independent T-tests were used to answer the first and second research question.

Research question 1: Does teaching breadth of vocabulary affect Iranian EFL learners' reading comprehension?

As viewed in Figure 4.1, the histogram forms a symmetric shape confirming that the scores are normal. For answering question one, two sets of test scores of two groups' students were analyzed to determine whether a statistically significant gain existed. The independent t-test was used to determine if the mean gains of the two groups of scores were significantly different from one another. According to (Table 4.2), observed t value equals 2.343. A comparison made between this t value and the critical t value in the table (Table 4.4) adopted from Hatch and Farhady (1981, p. 272) shows that the critical t value equals 2. In other words the observed t is higher than the critical t value.

Research question 2: Does teaching depth of vocabulary affect Iranian EFL learners' reading comprehension?

Table 4.4 shows comparisons between the pretest and the posttest mean scores for the control groups. The purpose of this comparison is to find out whether the participants in CG made changes in reading comprehension after treatment. There is not a statistically significant difference between the pretest and posttest performance of the group ($p > .05$). This means the EG did significantly improve their vocabulary knowledge after the treatment.

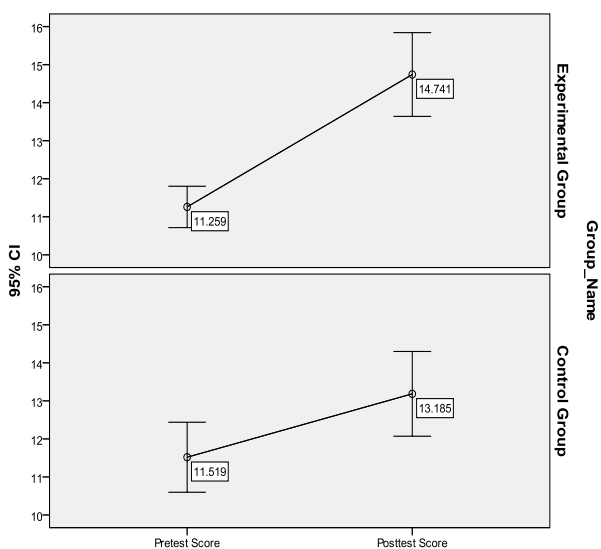


Figure 4.1: Distribution of scores

We can come to a conclusion that both the teaching vocabulary depth and breadth teaching technique brought reading comprehension gains to the students in both groups. This finding is in line with the viewpoint of Carter and Nation (2001).

Conclusions and discussions

This study has shown that teaching depth of vocabulary, the learners in the condition showed better understanding in reading. The great portion of the

immediate comprehension is explained by the fact that the modality they used provided them with most of the information needed and thus they made less mental efforts in the memorization of the target words. The limited processing associated with reading comprehension did not favor stronger memory traces. The control group gained a small amount of vocabulary but mostly secured understanding than the depth group members who initially gained more comprehension. The study suggests that both depth and breadth modalities have advantages in teaching reading. This appears to be the one that helps to retain more items from the test and consequently, is the best. The results obtained by the depth group shows students gained reading comprehension moderately better, while the breadth group gained more vocabulary words immediately but also forgot more of them by the time of the delayed retention task. This part of the result is in line with Schmitt and Schmitt (1997) who states that newly acquired words and expressions will slip out of memory easier if they are acquired with less effort. Hunt and Beglar (2005) provide a framework, Scott (1989), Paribakht and Wesche (1997), Zimmerman (1997), Nation and Waring (1997), (Souleyman 2009), and Watanabe (1997) suggest the combination of both modalities for a better reading comprehension.

This result provides reasons to consider that while striving to understand the reading passage and meaning of the target words, the subjects in the experimental group applied a deeper level of involvement and processing in learning the chosen words. These levels of involvement and processing must have created stronger memory traces in the subject's minds; some kind of memory traces not easy to fade away. This kind of access to the target information can be considered as a justification for the slightly longer retention of most of what the experimental group members retained with the reading exercise.

Instruction maximizes the pedagogical intervention, improves learning, and needs to be structured in accordance with the expected outcome of the teaching and learning activity, and learner characteristics. In addition to the question of instruction, the results of the present study raise that of choice and adaptation of materials, definition of affective conditions in language teaching and learning, as well as the teaching and learning environment, all around the learner.

Based on the results of the present study, it is suggested that any task that aims to provide learners with opportunities to learn subconsciously needs to be structured in a way that attracts or even pushes the subject toward noticing the individual key features that will serve to understand the information under study in order to reach the covert objective while completing the overt task and aiming at the goal of this overt task increased involvement. This configuration will focus the learner's attention into noticing the information that is, in

fact, the actual objective of the overall task, and the actual objective will be achieved as a by-product of the task.

The results of the present study show that teaching depth of vocabulary is better than teaching breadth of vocabulary because it seems to be associated with more premature slippage in memory. In the end, the two modalities prove not to be notably different. In an attempt to support individual difference, the combination of the two can provide the subjects with additional learning strategies, opportunities to deeply process the information by creating in them the need to ponder over specific elements of interest such as key features, keywords, key notions, and especially key processes that will push the learners into intensive cognitive activities.

Learning is about storing knowledge indefinitely, and this is a defining reason for striving to find out a pedagogical procedure that may favor longer-term retention rather than gaining knowledge to only lose it not so long afterward.

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