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## **The Significance of Vocabulary Knowledge in Reading Comprehension**

*Okuduğunu Anlamada Kelime Bilgisinin Önemi*

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### **Abstract**

Reading comprehension is one of the most problematic areas in foreign language learning; therefore, it has been an area studied by scholars studying the role of reading skills since the 1950s. The students must be aware of the vocabulary items and not treat them as separate items. Learners need to comprehend the vocabulary within a broader sense rather than the isolated words, and grasp the sophisticated and the deeper meaning created.

The study was conducted in two language preparatory classes at Bingöl University in Türkiye. The participants of the study were selected from these two preparatory classes. For the current study, the data was collected both qualitatively and quantitatively. The study consists of seven instruments, which are a questionnaire, two pre-tests, two post-tests and two delayed post-tests. The result demonstrates that vocabulary knowledge plays a significant role in reading comprehension. A positive and meaningful correlation is detected between all reading comprehension tests and vocabulary knowledge tests applied in this study. The more the students learn the lexicon, the higher marks they get on the reading exams. This study focuses on the relationship between vocabulary knowledge and reading comprehension.

**Keywords:** Vocabulary Knowledge, Reading Comprehension, EFL, Bingöl University

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## Okuduğunu Anlamada Kelime Bilgisinin Önemi

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#### Öz

Okuduğunu anlama, yabancı dil öğreniminde en sorunlu alanlardan biridir; bu nedenle 1950'lerden beri bilim insanları tarafından incelenen bir alan olmuştur. Öğrenciler kelime dağarcığı öğelerinin farkında olmalı ve bunları ayrı öğeler olarak ele almamalıdır. Belirtilen konuya ışık tutmak amacıyla yürütülen bu makale çalışması, Türkiye'de Bingöl Üniversitesi'ndeki iki yabancı dil hazırlık sınıfında yürütülmüştür. Çalışmanın katılımcıları bu iki hazırlık sınıfından seçilmiştir. Mevcut çalışma için veriler nicel olarak toplanmıştır. Çalışma; anket, iki ön test, iki son test ve iki gecikmeli son test olmak üzere yedi araçtan oluşmaktadır. Sonuç, kelime bilgisinin okuduğunu anlamada çok önemli bir rol oynadığını göstermektedir. Bu çalışmada uygulanan tüm okuduğunu anlama testleri ile kelime bilgisi testleri arasında pozitif ve anlamlı bir ilişki görülmektedir. Öğrenciler, sözlüğü ne kadar çok öğrenirlerse okuma sınavlarında o kadar yüksek puan alırlar. Bu çalışma, kelime bilgisi ile okuduğunu anlama arasındaki güçlü ilişkiye odaklanmaktadır.

**Anahtar Kelimeler:** Kelime Bilgisi, Okuduğunu Anlama, EFL, Bingöl Üniversitesi

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## **Introduction**

While reading a text, learners need to know and apply some strategies and understand the meaning of the words from the context. Otherwise, reading will be very tough, and they may lose their motivation to read. Students must be aware of the vocabulary items and not treat them as separate items. Tremonti (1965) says that one of the commonly faced traits of poor readers is that they read the words for the sake of the word. Since the reader focuses on the meaning of the word, s/he misses the meaning of the context and cannot obtain the main idea of the text.

Similarly, Qian (1999) claims that vocabulary knowledge plays a significant role in readers' comprehension of a text. Schreiner (1988) defines the complexity of the reading comprehension process, referencing many other scientists who divide this process into sub-categories. These categories consist of some component skills. Some of them are vocabulary and structure knowledge, content/world background knowledge, formal discourse structure knowledge, and metacognitive knowledge. Significantly, vocabulary knowledge has a critical role in reading comprehension. It helps the readers to get active and have a detailed processing of meaning in multiple contexts. On the contrary, low vocabulary knowledge causes fear for the reader. A reader with poor vocabulary knowledge can fail to understand the intention of the text if there are several unknown words, illustrative examples or metaphors. Nation (2019, p.15) states that proficiency in language is associated with varying degrees of strength, detail, and fluency. Teachers aim to enhance students' vocabulary by using a holistic strategy in their language instruction. Furthermore, he emphasises that it is not crucial to possess extensive knowledge in all areas, since their significance may differ. Three crucial components of word knowledge that demand our attention are breathing, depth and fluency.

Reading comprehension is reading for meaning. It is essential while the readers assess their reading. Tremonti (1965) states that humans can comprehend what they read according to their precise perception of words and the meanings that emerge in their memory. One of the essential skills for academic learners of second languages is reading comprehension (Carrell, 1989). Because of the effect of audiolingualism, reading was generally taught to examine vocabulary and grammar in the texts (Silberstein, 1987). According to Silberstein, reading is an active process of comprehension. The reading process is very complicated, so many scientists have endeavoured to find out what the reading process is through some component skills. Grabe (1991) states that the researchers offer at least six types of general knowledge areas as a suggestion. Vocabulary and structural knowledge is one of the most significant of them.

Similarly, Barnett (1986) says that vocabulary development is a critical component of reading comprehension, claiming that vocabulary is an essential predictor of reading ability. Many scientists like Silberstein and Barnett demonstrate that there is a correlation between reading comprehension and vocabulary knowledge. Poor vocabulary knowledge is generally a remarkable matter for reading comprehension in ESL. A reader needs to look at a dictionary during the reading process. These words are defined as stopper words because they prevent the readers from reading fluently (Anders & Bos, 1986). According to Crow, “If proficient reading is an objective, proper vocabulary study is essential” (1986). Koda (1989) understands vocabulary knowledge as critical to reading ability. As understood from the research of Anderson and Freebody (1981), the readers can be fluent if they have a vocabulary knowledge between 10,000 and 100,000 in their first languages; however, this number is generally between 2,000-7,000 words in second language reading. Although the core words that are the most used might be useful while reading texts, it is not enough for readers who study English as a foreign language for academic purposes.

Therefore, what strategies and techniques the teachers and scientists use to get more comprehension in reading will be referred to in this study. Because since the 1980s, there has been a movement of research on reading comprehension. It is a general idea that the readers who use fewer techniques and strategies are ineffective in their reading comprehension. The readers who use strategies better are demonstrated as better readers (Carrell, 1989). Employing these strategies and techniques, the reading comprehension of the students increases thus and so.

## **Methodology**

### **Context of the Study**

The research design of the current study is an experimental research design. The study consists of seven instruments, which are a questionnaire, two pre-tests, two post-tests and two delayed post-tests. The Department of English Language and Literature has two preparatory classes. Nunan (1992) and Campbell and Stanley (1963) claimed that when it is not possible to assign subjects to experimental and comparison groups randomly, that is, in case of impossibility of conducting true experimental study, a quasi-experimental study can be conducted. Therefore, the quasi-experimental research design was preferred instead of the true experimental research design because the curriculum could not be intervened in the preparatory program. There was no alternative to apply random assignment.

## **Participants**

The participants of the study were selected from two preparatory classes of the Department of English Language and Literature at Bingöl University in Türkiye. The population of the study consists of students from the preparatory classes. The age average of the participants is twenty-two. The groups were formed as one control group and one experimental group. The background of all students is similar since all of them got similar points on the University Entrance Exam (LYS-DİL). The reliability and vitality of the study are higher as all the students are in the same class and take the same courses from the same lecturers using the same course materials. However, in further studies, the participants can be chosen from different grades to see if there is a correlation between the reasons and students' grades.

## **Instruments**

After identifying the problem of reading comprehension in the class, an inventory was initially employed for all students. Then, a pre-test was applied to understand the students' current level of vocabulary knowledge and reading comprehension prior to the study. Two weeks after the pre-test, a post-test and finally, a delayed post-test were applied to see the difference between the beginning and the result. In this way, the rate of vocabulary retention could be evaluated. All three tests contained the words that were taught in the lesson. Through the tests, the influence of vocabulary on the reading comprehension of the students could be evaluated. In the first weeks of the research, an inventory of the reading skills of the students prepared by the researcher himself was also conducted to the students to increase the value of validity of the results.

## **Procedure**

Firstly, the required permission was received from the ethical committee of the university for employing the related data collection instruments that were applied to the students in the English preparatory classes. Afterwards, the participants were informed about the context, aim and outcome of the study. The questions in the inventory were directed to the students in order. The answers obtained from the students were recorded by means of camera recordings. Following the answers of the participants, their thoughts were coded as being suitable with the used inventory, and it was talked about which reading techniques and methods could be implemented in future reading lessons. The inventory content was generally about which styles and materials the participants used if they could answer the questions about the parts that they read, and some such questions. Afterwards, two pre-tests were given to the students to determine what their level was. The content of the tests was chosen among the words taken

from their course books. In this way, the test was suitable for their English language levels. Shortly after the pre-test, the students in the experimental group were exposed to some special lexicons that were asked later in the post-test and the delayed post-test. From the beginning, the experimental group tried to employ some vocabulary learning techniques, such as workshops, guessing from the context, translation, use of synonyms and antonyms, online applications, and vocabulary teaching games.

### **Data Analysis**

For the current study, the data was collected quantitatively. In order to see the possible role of vocabulary knowledge on students' reading comprehension, an inventory prepared by the author himself was utilised. The results of the inventory were compared to the results of six tests. The relationship between the tests and the thoughts of the participants was analysed. Then, it was examined if there was a meaningful relationship or not. Moreover, the results of the pre-test, post-test and delayed post-test were computerised and analysed through the IBM SPSS Statistics 22 program to reveal the mean scores, percentages, and frequencies.

It was firstly decided whether the data obtained in this chapter were parametric or not and whether they coincided with parametric test assumptions. Various methods are used to study the normal distribution of the data results. The distribution point is defined as normal when the coefficient of Skewness and Kurtosis is between +2 and -2 (Cameron, 2004). In addition, Can (2016) stated that if the data number is over 30, the values are in the tendency of normal distribution. If Z-points obtained from the division of Skewness and Kurtosis values into standard errors range between +1.96 and -1.96, the distribution is accepted as normal. In addition, in the Q-Q graphic, that the points obtained from the data stand at the 45-degree line or close means that there is a normal distribution (Büyüköztürk, 2016).

### **Results**

This research aimed to discover the role of vocabulary knowledge in reading comprehension. The English level of the participants was deemed to be the same in the current sample. The outcomes of the exams and questionnaire performed for both groups were evaluated using the SPSS (Statistical Kit for Social Sciences) software in the outcome portion of this report. The results, the correlation among the variables, the results of the t-tests, and the frequencies were determined, and the items in the questionnaire were analysed in depth through the SPSS program.

The study population consisted of one experimental group and one control group. The experimental group comprised 30 (50%) students, and the control group consisted of 30 (50%)

students. The experimental group consisted of 10 male (33.3%) and 20 female (66.7%) students, and the control group consisted of 12 male (40%) and 18 female (60%) students. The participants in both groups were chosen from two preparatory classes of the Department of English Language and Literature at Bingöl University. They were randomly classified as “experimental and control groups.” The descriptive statistics for the number of participants in both groups are given in Table 1.

*Table 1.*  
*Frequency Values of “Experimental and Control Groups” According to Their Genders*

GROUPS	Gender	Frequency	Per cent	Total
Experimental Group	Male	10	33,3	30
	Female	20	66,7	
Control Group	Male	12	40	30
	Female	18	60	
Total		42	100	60

Two pre-tests were applied to determine both the vocabulary knowledge and reading comprehension level of the participants and to find out whether there was a substantial difference between the two classes. Table 2 displays the pre-test scores of the participants in the experimental and control groups. The results of the vocabulary knowledge pre-test showed that the mean was  $M=61,83$  for the experimental group and  $M=62,50$  for the control group. Also, the reading comprehension pre-test results showed that the mean was  $M=69,83$  for the experimental group and  $M=68,67$  for the control group. There was no statistically significant difference between the vocabulary and reading pre-test scores of the students in the groups according to the group variable [ $t(60)=-0,087, p>.05$ ]. Based on these results, it can be inferred that the initial vocabulary knowledge of the students in the two groups was similar to each other.

*Table 2.*  
*Mean of the Pre-Tests*

	GROUPS	N	M	SD	t	p	Cohen's d
Vocabulary Pre-Test	Experimental Group	18	61,83	14,70	-0,155	,877	-0,028
	Control Group	24	62,50	18,40			
Reading Pre-Test	Experimental Group	18	80	1,852	3,91	,000	1,193
	Control Group	24	70,542	1,852			



In the current study, in which the influence of vocabulary knowledge on reading comprehension was investigated, a paired sample t-test was performed to determine whether there was a difference between the means of the exam results before and after the application to the students in both groups. When Table 3 was analysed, it was found that the student scores that were initially similar to each other outscored the scores of the students in the experimental group. The results are given in Table 3.

Table 3.

*Comparison of Pre-test, Post-test and Delayed Post-Test Scores of both Groups*

Test	Groups	N	M	SD	t	p
Vocabulary Pre-Test	Experimental	30	61,83	14,70	-,155	.162
	Control	30	62,50	18,41		
Vocabulary Post-Test	Experimental	30	75,50	10,77	3,049	.175
	Control	30	66,17	12,84		
Vocabulary Delayed Post-Test	Experimental	30	84,83	8,55	6,958	.397
	Control	30	67,17	10,96		
Reading Pre-Test	Experimental	30	69,83	9,23	-,401	.097
	Control	30	68,67	12,99		
Reading Post-Test	Experimental	30	72,50	10,80	4,204	.016
	Control	30	70,47	15,22		
Reading Delayed Post-Test	Experimental	30	85,83	7,88	9,286	.800
	Control	30	72,80	9,03		

Table 3 reveals that the average score of the vocabulary knowledge pre-test of the students in the experimental group is 61,83, and the average score of the vocabulary knowledge post-test and delayed post-test of the students in the experimental group are respectively 75,50 and 84,83. There is a statistically significant difference between the post-test and pre-test scores of the students in the experimental group [ $t(30) = -,155, p < .05$ ]. Moreover, the average score of the reading comprehension pre-test of the students in the experimental group was 69,83, and the average score of the reading comprehension post-test and delayed post-test of the students in the experimental group were, respectively, 72,50 and 85,83. There is a statistically significant difference between the post-test and pre-test scores of the students in the experimental group [ $t(30) = -,401, p < .05$ ].

However, the results show that the difference is open in support of the experimental group. An improvement can be seen in the post-test and delayed post-test scores of the students in the experimental group, although the pre-test scores of both groups were almost the same at the beginning. When Table 3 is examined, it is found that there is no statistically significant difference between the pre-test scores of the students in both groups according to the group



variable [ $t(60) = -.155, p > .05$ ]. In light of these results, we can claim that the initial vocabulary knowledge of the students in both groups was equivalent to each other. The pre-test results show that there is a significant difference between both groups in the post-test and delayed post-test, although the level of both groups is very close to each other,  $p < 0,005$ . The mean of the reading post-test and delayed post-test for the experimental group is respectively  $M = 72,50$  and  $M = 85,83$ , while the mean for the control group is respectively  $M = 70,47$  and  $72,80$  [ $t(60) = 4,20, p > .05; d = 1,537$ ]. Cohen's  $d$  effect size calculated for the difference remarks a high effect size (Cohen, 1988). Based on these results, it can be said that the effect of vocabulary knowledge on language learners' reading comprehension is high.

To understand what the value level of reading is in the thoughts of the students, a questionnaire was submitted to them. Each item was firstly assessed individually and then as a member of their own groups. The frequency value of all items in the questionnaire is given in Table 4. Almost all items in which the mean for both groups were significantly similar; besides, the mean of all items is higher than 3 points on the scale of 5 point. Moreover, the questionnaire's reliability was calculated as .490. As well, the research benefitted from all items in the questionnaire.

*Table 4.*  
*The Mean of All Items in the Questionnaire Comparing "Experimental and Control Groups".*

	Groups	N	Mean	Std. Deviation
1. How many years have you been reading in English?	Experimental Group	30	4,07	,450
	Control Group	30	4,17	,648
2. I am good at reading books in English.	Experimental Group	30	4,03	,809
	Control Group	30	3,27	1,048
3. I stop reading books in English that sound too difficult to me.	Experimental Group	30	4,30	,651
	Control Group	30	4,43	,728
4. I stop reading because of looking at dictionary too often.	Experimental Group	30	4,50	,572
	Control Group	30	4,57	,679
5. I like buying books on various subjects.	Experimental Group	30	3,53	1,137
	Control Group	30	3,60	1,354
6. I believe it is boring to read.	Experimental Group	30	3,93	1,048
	Control Group	30	3,63	1,299
7. I read slower than other students in my class because of lack of lexicon.	Experimental Group	30	3,80	,925
	Control Group	30	4,03	,964

8. When I read alone, I understand almost everything that I read.	Experimental Group	30	4,03	,928
	Control Group	30	3,20	1,215
9. I comprehend what I've read in English perfectly.	Experimental Group	30	3,80	,887
	Control Group	30	3,10	1,094
10. I think my reading ability will improve if I improve my lexicon.	Experimental Group	30	4,47	,629
	Control Group	30	4,60	,621

By using this questionnaire, it was aimed at getting their views about reading books, especially after class, and to reveal if they read by heart or force. Yet, the main aim of the questionnaire was to reveal if the students could understand the relationship between vocabulary knowledge and reading comprehension. The answers given for the questions in the items 3, 4 and 10 are close to each other. Most students complain about the lack of lexicon during their reading process. 56 (93%) students believe that the more they improve their vocabulary knowledge, the more they comprehend the texts they read. Therefore, the item is the top-rated one in the questionnaire. Furthermore, when items 8 and 9 were analysed, it was found that a small number of the students claimed that they could understand the texts that they read perfectly. Besides, 45 (75%) students declared that they read slower than their friends since their lexicon level is not as high as their classmates.

### **Conclusion and Discussion**

This article demonstrates that vocabulary knowledge plays a significant role in reading comprehension. A positive and meaningful correlation is detected between all reading comprehension tests and vocabulary knowledge tests applied in this study. Vocabulary knowledge is fundamental since a lack of lexicon causes an important obstruction to comprehending the texts that the readers read. It may be possible to understand the meaning without grammar knowledge, yet it becomes impossible if the reader does not have enough vocabulary knowledge. Without adequate vocabulary knowledge, the readers cannot understand any text effectively, regardless of their grammar level.

The results of the tests showed that vocabulary knowledge contributes to the students to read and understand better the books that are taught in the courses. The more they learned the lexicon, the higher the points they got on the reading exams. Besides, according to the answers to the questionnaire, it can be said that they feel more confident when they have an extended vocabulary knowledge. They can challenge their reading anxiety either in or out of the class. For this purpose, in order to improve their reading skills, students have to learn both broad and

deep vocabulary. Concerning their lexical knowledge, it is recommended that the students who study EFL in academic studies should learn the words relevant to their academic fields. Despite the small scale population of this study, the results indicate that students can increase and improve their vocabulary and reading skills through pedagogical intervention with multiword units.

However, it should be noted that knowing an extensive vocabulary will not benefit the readers with a significant effect if their understanding is weak and narrow, even though breadth and depth are two linking elements of vocabulary knowledge. As a finding supporting this, it was seen in the study that although their number is not much, a few students whose vocabulary knowledge size is high could not take higher points in the reading exams. Depending on the result, it is asserted that the students have to improve both their reading skills and vocabulary knowledge.

Although this study provides valuable insights into the significance of vocabulary knowledge in reading comprehension, there are several avenues for future research that could build upon the findings. Firstly, the sample of this study consisted solely of some tests and a questionnaire, and only the participation of two classes, so it would be beneficial to extend this research to other age groups and demographics. In line with this purpose, the extent of the study and the instruments used in the study could be expanded to measure and generalise the problem of the study. Secondly, the study focused only on the words chosen for the study, but there are likely some other words and phrases that influence students' comprehension. Future research could select words in a dense and detailed way. Thirdly, while the study looked at the effects of vocabulary knowledge on reading comprehension in a relatively short term, it would be interesting to extend the research period of the study to analyse each alter in the students more carefully. Therefore, all the facts mentioned above are suggested to be applied in further studies in a healthy educational environment in every sense.

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