

# THE RELATIONSHIP BETWEEN EFL SAUDI UNIVERSITY STUDENTS' VOCABULARY KNOWLEDGE AND LISTENING COMPREHENSION

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**Abstract:** *The present study purports to examine the relationship between Saudi University students' text-based vocabulary knowledge and their listening comprehension in English. It aims at revealing the basic component (Breadth or Depth) of vocabulary knowledge in listening comprehension. Forty preparatory year Saudi University students at Prince Sattam bin Abdulaziz University took three tests: Breadth of vocabulary knowledge test, Depth of vocabulary knowledge test, and Listening comprehension test. Both vocabulary knowledge revealed a strong relationship (Breadth = 0.73, Depth = 0.59) with listening comprehension. The study found that breadth and depth of vocabulary knowledge can explain (0.54) of the variance in listening comprehension. Moreover, the findings suggest breadth of vocabulary knowledge might be the basic component in listening comprehension. In teaching English, the need is to focus explicitly on learners' breadth of vocabulary knowledge that enables them to achieve successful listening comprehension outcomes.*

**Keywords:** *Breadth of Vocabulary Knowledge, Depth of Vocabulary Knowledge, and Listening Comprehension*

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## Introduction

English as a foreign language is used pervasively for many global purposes; Saudi Arabia is one of many countries where English -as a foreign language- is taught in all educational institutions. To acquire a satisfactory level of English, learners must concentrate on four key skills i.e. reading, writing, speaking, and listening. Listening comprehension is vital to students' grasp of the language, but Saudi English learners have limited contact with the language outside of the formal classroom settings. Hence, their capability and exposure to the language remains

inadequate. This creates difficulties for L2 learners in acquiring the language, most notably attaining an adequate understanding of the listening comprehension skills.

Describing and understanding the influence of the linguistic and non-linguistic factors in the nature of second or foreign language comprehension has been pervasive among researchers and language teachers in order to improve both instruction and remediation. Confirmation of the important relationship between the linguistic knowledge i.e. vocabulary knowledge and language comprehension encompassing listening comprehension Coakley & Wolvin (1986), Samuel (1984) inspired researchers to design empirical studies to scrutinize this issue. Along the same lines, the current study has been conducted to probe the contribution of vocabulary knowledge as a linguistic factor in EFL listening comprehension, one of the important language skills.

### **Problem Statement**

An overall review of the research into the correlation between vocabulary knowledge and listening comprehension has identified two areas of agreement among researchers. The first is that vocabulary knowledge is significant for language proficiency i.e. Meara (1996) acknowledged it as an important factor. In addition, Vandergrift & Baker (2015) while they sought to empirically investigate some learner variables and the success in L2 listening have confirmed that L2 vocabulary has a robust role in L2 listening comprehension. Actually, this significant contribution of vocabulary knowledge in listening comprehension provides a justification to conduct an empirical study to analyse and better understand the nature of this role in-depth. Furthermore, loss of agreement in the literature about the exact percentage of vocabulary knowledge on listening comprehension increases the need to more investigation. Stæhr (2009) stated that 51% of the variance between vocabulary knowledge and listening comprehension. On the other hand, Farvardin & Valipouri (2017) accounted for 41% of the variance.

Conversely, the literature has largely indicated that not enough studies have been conducted to understand the nature of the correlation between vocabulary knowledge, especially of the two dimensions i.e. breadth and depth, and the degree of listening comprehension. Thus, lack of studies that optimize the multidimensional nature of vocabulary knowledge in relation to listening comprehension gives this study another justification to examine the influence of breadth and depth of vocabulary and word knowledge in listening comprehension.

Furthermore, assuming a constant nature of language comprehension, Lund (1991) and the difficulty in testing listening has led to listening research, to a great degree, to be based on the results of the reading research. This is despite the fact that whilst there are similarities there are also differences between the two modalities, reading and listening. Both reading and listening require decoding and interpretation as receptive language processing, using linguistic knowledge and world knowledge to comprehend a text, applying top-down and bottom-up processing to the language input and also requiring flexible cognitive processing and additional factors such as motivation and metacognition. On the other hand, listeners need more cognitive processing because he/she is trying to comprehend spoken input. A listener does not have a chance to listen to what was said again, which imposes more demands and effort. Additionally, a listener does not have the luxury of spaces between words, therefore the connected input requires the ability to segment the sound into meaning in a quick process. Moreover, a listener has to be sensitive to stress and intonation which provide information as prosodic features. The current study examines the subjects' breadth and depth of word and vocabulary knowledge in

relation to their listening comprehension scores without using dictation or any reference to the findings of the reading studies.

In this study, empirical data was used to uncover the connection between vocabulary knowledge on the one hand and listening comprehension on the other. It has not only elucidated the vocabulary knowledge in general but, it also has separately scrutinized both the breadth of vocabulary knowledge and the depth of vocabulary knowledge in relation to listening comprehension. Thus the purpose of determining the basic component of vocabulary knowledge in successful listening comprehension has easily been achieved. In fact, some studies such as Stæhr (2009) viewed vocabulary size as a basic component and other studies such as Farvardin & Valipouri (2017) and Teng (2014) considered vocabulary depth is the basic component in listening comprehension.

The listening texts that were used in the listening comprehension test and questions were all adopted from TOFEL tests. In addition, the current investigation was done at the Prince Sattam Bin Abdulaziz University in Saudi Arabia. There have not been other studies that have collected data from Arabic University English as foreign language students in order to examine the role of EFL vocabulary knowledge and EFL listening comprehension.

### **Research Questions**

This study has been guided by two questions:

#### **Question 1:**

What is the relationship between the two factors of vocabulary knowledge: breadth and depth and listening comprehension?

#### **Question 2:**

Which variable is the basic component of vocabulary knowledge in listening comprehension? The vocabulary size or the depth of vocabulary?

### **Significance of the Study**

The significance of this study is in its exploration of the connection between both breadth and depth knowledge and EFL Saudi University students' listening comprehension. The current study contributes in describing and understanding the influence of linguistic factors i.e. breadth and depth of vocabulary knowledge in the mastery of listening comprehension. It sheds light on the importance of the dimensions of breadth and depth of vocabulary knowledge and gives an explanation for some of the difficulties experienced in listening comprehension. In teaching and learning English as a foreign language, the findings of this study give awareness for curriculum designers, teachers and students of the significance of both breadth and depth of vocabulary knowledge and provide insights for good instruction and potential remediation.

### **Limitations of The Study**

There are several limitations of the present study:

(1) The participants of this study are Arab male undergraduate –university students. They share a native tongue, religious standards, financial status and social customs. Furthermore, they all attend university-level academic English classes at Prince Sattam Bin Abdulaziz University, in the preparatory year program, during the second semester of 2018 – 2019.

(2) This study is not text-based in nature; it investigates the participants' knowledge based on standardized vocabulary tests used previously in other studies. But, the study focuses on examining the learners' knowledge aurally instead of the quality of their writing skills.

(3) The study considers the multidimensional nature of vocabulary knowledge, so it tests both the breadth and depth of vocabulary knowledge in relation to listening comprehension skills.

## **Literature Review**

### ***Vocabulary Knowledge***

The 'word' is seen as a sub-knowledge that includes spoken and written knowledge, morphological knowledge, meanings, collocation, grammatical knowledge and connotative and associational knowledge Nation (2013). While 'word family' is the base form of a word and its inflected and derivational forms as a result of using affixes with the same core meaning Schmitt (2010). Awareness of the multidimensional nature of vocabulary knowledge led to a common acceptance of the distinction between breadth and depth of vocabulary knowledge among researchers such as Qian (1999), Read (1993), and Wesche & Paribakhat (1996).

### ***The Breadth of Vocabulary Knowledge***

Debates on the direct relationship between vocabulary size and English proficiency in English language skills have informed the development of the vocabulary tests. In 1983, Paul Nation designed a diagnostic vocabulary test that was published again in his book in 1993. Then Read (1988) added some developments to the test to make it more valid and reliable. Then the vocabulary level tests became popularly used in research studies and also in English language teaching institutions which motivated the revision of the vocabulary tests, exploring their validation, such as made by Beglar and Hunt (1999) and others. The applications of the vocabulary level tests are various. Thus, Language teachers, in designing instruction depending on the vocabulary size tests, may estimate how much vocabulary is needed to cope with listening or reading tasks. As well, these vocabulary tests give insights into some of the deficiencies that require further investigation. In addition, researchers utilize the vocabulary tests to uncover more about the correlation between the knowing vocabulary and adequate language comprehension.

The Breadth of vocabulary knowledge refers to learner's vocabulary size or the number of words that a learner has, at least, knowledge of their meanings. Vocabulary size was viewed as a basic dimension of lexical knowledge which means if a learner has more vocabulary, he/she will be more proficient in the language and vice versa Meara (1996). Additionally, many studies, such as Stæhr (2008), were conducted to capture the nature of the correlation between vocabulary size and EFL learners' competency and established a positive relationship between the two variables.

### ***The Depth of Vocabulary Knowledge***

The depth of vocabulary knowledge has been seen as how much a learner understands of the various knowledge of a word or how well it is positioned in the learner's mental lexicon. For instance, Wesche and Paribakht (1996) viewed the depth of vocabulary as the richness of the representation of the known words or what one knows about words or concepts. To go into details, Snow and Locke (2001) classified the various aspects of deep word knowledge into a morphological structure, phonological representation and orthographic representation. Schmitt

(2000) further divided it into syntactic properties, possible collocations, pragmatic rules and semantic representation of the words.

To operationalize the depth of word knowledge, Read (2004) offers three possibilities:

1) *Precision of meaning* that refers to the varying degrees of word knowledge by differentiating between both having a lack of word meaning and clearer ideas of word meaning. Based on this path, researchers looked at the depth of vocabulary knowledge as stages on a scale, or continuum, so they captured the stages of the deep word knowledge either by measuring the degrees of sensitivity or through self-assessment scales.

2) *Comprehensive knowledge* includes both semantic features of a word and orthographic, phonological, morphological, syntactic, collocational and pragmatic features. Depending on this view, many studies such as Webb (2005) aimed at testing multiple components of word knowledge.

3) *Network knowledge* that focuses on the ability to relate a word to its related words in the mental lexicon and distinguishing its meaning and use from the related words. Adopting this approach motivated researchers to test the deep word knowledge by utilizing the word association tests either in relation to individual words or to the lexicon as a whole. This study adopted the word association tests with two dimensions: selective tasks and productive or free word association tasks to explore the elementary and advanced participants' ability to link stimulus words to other related words.

### ***The Role of Vocabulary Knowledge in Listening Comprehension***

In 2002, Bonk investigated the interaction between lexical familiarity and listening comprehension in a second language through dictation and recall protocols of the listening texts. The participants were 59 Japanese learners of English at different levels of L2 skilfulness. They were all enrolled at a university in Japan as English majors. Assessments were administered by using four listening paragraphs of increasing lexical difficulty and recorded on tape. The findings of the study confirmed many results; first, there is a significant correlation between the amount of familiar lexis in the listening text and the comprehension rating score even though the vocabulary threshold was not found. The participants who knew less than 80% of the different words in the listening text did not achieve high comprehension scores. Meanwhile, those participants who were familiar with 90% and more of the words in the listening text obtained good comprehension scores. And second, the association of the dictation scores and better comprehension was high. The analysis revealed an existence of a statistically significant difference in rating between dictation scores associated with Good ( $M = .913$ ) and the dictation scores associated with Inferior ( $M = .769$ ) but the correlation between the dictation scores and comprehension scores was modest. The relationship between the two variables was not easy to confirm because examinees' scores were varied. Some subjects knew under 70% of the words in the text and they achieved good comprehension while others knew more than 90% of the lexical word types in the input and did not achieve good comprehension scores.

Stæhr (2009) conducted an empirical study to examine the role of the breadth and depth of vocabulary knowledge in listening comprehension. The 115 (90 females and 25 males) advanced Danish learners of English were administered three tests: First, the Vocabulary Levels Test that is composed of 2000 level, 3000 level, 5000 level, 10000 level and Academic words level. Second, the Word Associates Test that has a similar format to Read's Word Associates Test (1993, 1998). And third, the Listening comprehension Test was taken from the Cambridge

Certificate of Proficiency in English containing 25 questions. The study confirmed the importance of vocabulary knowledge in successful EFL listening comprehension in which both breadth and depth of vocabulary knowledge account for 51% of the variance in listening scores. Analysing the role of each dimension of vocabulary knowledge shows that the vocabulary size is *the* basic component of vocabulary knowledge in listening comprehension and accounts for 49% of the variance in listening comprehension. In contrast, the depth of vocabulary knowledge adds very little, representing only 2% to the variance already accounted for by vocabulary size. Finally, the relationship between the vocabulary knowledge and listening comprehension is linear in that knowing the most frequent 2000, 3000, 5000, 10000 word families in English provides relatedly a lexical coverage of 90%, 94%, 98%, 99% of the listening input texts. Thus, there is not a dramatic change, but the results indicate that knowing the most frequent 5000-word families, that provide a lexical coverage of 98%, is significant to better comprehension.

Teng (2014) researched 88 tertiary-level EFL learners (20 males and 68 females) Chinese participants to investigate the breadth and depth of vocabulary knowledge and its relationship to listening comprehension. The study used three instruments; 1) The Vocabulary Size Test that was replicated from Nation (1983). It contains five levels: a 2000-word, 3000-word, 5000-word, university words, and 10000-word levels. 2) The Depth of Vocabulary Knowledge Test with two sections: an elaborated seven-scale test was used to determine the learners' phases in their knowledge of the tested words and the Word-Associates Test that contained 50 items in which each stimulus word has eight associates put into two groups. And 3) the Listening Comprehension Test selected from the International English Language Testing System. The results suggested that the learners at the 5000-word vocabulary level gained almost double the mean score (32.10%) in the listening comprehension test than the learners in the 3000-word vocabulary level (16.81%). Thus, knowing a word level of 5000 word families is sufficient for Chinese EFL learners in academic listening comprehension. In addition, the results of this study confirmed the hypothesis that having the vocabulary size knowledge at a higher correlation ( $r=0.86\%$ ) means having the depth of vocabulary knowledge with a higher correlation to the listening comprehension ( $r=0.91\%$ ). The analysis found that the variance of vocabulary depth added more than 2.6% to the variance of the vocabulary size in predication of the listening comprehension test. As a result, the depth of vocabulary knowledge is the more powerful predictor of the listening comprehension scores.

Wang (2015) presented an empirical study to investigate the correlation of the breadth and depth vocabulary knowledge with the listening comprehension innovatively using quintile regression models. The total of subjects was 120 non-English majors in a medical university at various levels and different majors in medicine. Nation's Vocabulary Level Test (1990) was used to measure the vocabulary breadth, The Productive Levels Test by Laufer and Nation (2001) was administered to measure the subjects' vocabulary depth and the listening comprehension test was taken from CET4 (held on December 19th, 2014) that is considered to have high validity and reliability as a test of English proficiency in China. The analysis confirmed the significant relationship between the two independent variables, namely the breadth and depth of vocabulary knowledge scores and the dependent variable, namely the listening comprehension score. Generally, the depth of vocabulary knowledge has the greater effect on the listening comprehension scores than that of the vocabulary breadth. In addition, the vocabulary breadth knowledge affects high-level students in the listening scores more than the students' at middle and low levels. On the other hand, the vocabulary depth did not have a significant influence at the three levels of the listening scores.

In Iran, Farvardin & Valipouri (2017) recruited 80 lower-intermediate EFL learners of English to probe the correlation between vocabulary knowledge and listening comprehension. The study selected the Listening Comprehension Test from the Longman TOFEL PBT (Phillips, 2001), the version 1 of the Vocabulary Levels Test Schmitt et al. (2001) and the version 4.0 of Read's (1998) Word Associates Test. The results showed a significantly moderate relationship between the marks of the three tests, so both vocabulary size and vocabulary depth are statistically significantly correlated (accounting for 41% of the variance) with listening comprehension. On the other hand, the analysis showed that depth of vocabulary knowledge has a higher correlation (0.43) with listening comprehension than that of vocabulary size (0.32). The vocabulary depth accounts for 0.28% of the difference in listening comprehension that is suggested as the basic constituent of vocabulary knowledge in listening comprehension.

All previous studies confirm the significant relationship between vocabulary knowledge as independent variables and the dependent variable with listening comprehension. But, they differ in estimating the percentage of the variance. For example, Stæhr (2009)'s study accounts for 51% of the variance while Farvardin & Valipouri (2017)'s study accounts for 41% of the variance. One potential reason for the aforementioned difference is that the studies relied on different students' levels to collect data. While Stæhr (2009) administrated the tests for advanced learners, Farvardin & Valipouri (2017) gave the research instruments to low-intermediate learners which may affect the results. Thus, empirical research is necessary to confirm the correlation between vocabulary knowledge and listening comprehension, focusing on calculating the exact variance of the independent variables and the dependent variable. This study can contribute in two ways: through the participation of native Arabic subjects learning English as a foreign language to investigate vocabulary knowledge and it's correlation with listening comprehension and also through the choice of participants at low, intermediate and advanced levels.

The studies also do not concur on what is the basic constituent of vocabulary knowledge in listening comprehension. For instance, Stæhr (2009) found that vocabulary size accounts for 49% of the variance in listening comprehension and depth of vocabulary knowledge does not have a separate role. In addition, Wen (2014) who conducted a study on 156 university EFL students found that vocabulary size has 24.5% of the variance in listening comprehension scores, but vocabulary depth has 23% of the variance. On the other hand, Farvardin & Valipouri (2017) found that vocabulary depth accounts 0.28% of the variance in listening comprehension while vocabulary size does not explain a significant variance accounts 0.13% in listening comprehension. As well, Teng's study (2014) stated that the depth of vocabulary knowledge gives a higher correlation ( $r=91$ ) with listening comprehension than the vocabulary size.

The studies in the literature relied on pervasive tests to examine the learner-based vocabulary knowledge, either breadth or depth. For example, Nation's (1990) Vocabulary Size Test and Schmitt et al.'s (2001) Vocabulary Levels Test are widely used to test the number of words that the participants know. Read's (1998) Word Associates Test was utilized to measure the learner's mental lexicon. These tests are valid, administering easily in a short period of time, reducing guess work and are used by many researchers. But, the need is to prepare instruments that examine the participants' vocabulary knowledge in text-based tests which may provide additional insights into describing the correlation between the variables. Thus, the current study designed the valid and credible breadth test and depth test based on the vocabulary used in the listening texts themselves.

## Methodology

### *Participants*

The present study was conducted at Prince Sattam Bin Abdulaziz University - Preparatory Year Deanship. The population of this research were Saudi-male undergraduate students during the second semester of 2018-2019. English language as a foreign language is taught in the preparatory year, alongside sciences classes, as part of an establishment year before students get admitted to either medical or engineering tracks at the university. For the second semester English program, the participants take a total of 6 hours English instruction per week that is distributed into 3 hours for listening and the other 3 is for speaking. Instruction is offered by native and non-native English instructors. The participants of the study were 45 male students at the Preparatory Year Deanship, aged 18-20 years old, and they had studied English in public and private schools for 7 to 10 years before they were accepted at the University.

### *Instrument and Procedures*

#### *Listening Comprehension Test*

The study adopted English conversations from Online TOFEL Tests that are registered trademarks of Educational Testing Services (ETS) 2014 Exam English Ltd (<https://www.examenglish.com/TOFEL/TOFEL>). These TOFEL tests are designed to measure the students' ability to understand spoken English so they assess basic comprehension, pragmatic understanding and connecting and synthesizing information. The listening in this study utilizes two conversations lasting about 3 minutes long and followed by 5 questions per conversation, the participants require around 20 minutes to answer both of them. In the first conversation Kitty, Li and Paul discuss the university project and what they have to do. In the second conversation, Amir asks the librarian to help him to find suitable books in the engineering section to write an essay on electrical distribution and transmission systems. Thus, both conversations deal with relevant ideas and contain words generally familiar for the study's participants who, as university students, do academic projects and visit libraries to research.

#### *Vocabulary Knowledge Tests*

The study is text-based, not learner-based. The vocabulary tests - either breadth or depth - examine the subjects' knowledge of all the words that are available in the listening conversations. To determine the lexical frequency, the two listening conversations used in the listening test are analysed by free online Vocabulary Profiler on the Compleat Lexical Tutor (<https://www.lextutor.ca/>). The analysis of the two conversations is as the following:

**Table (1): Analysis of the Two Listening Conversations**

Freq. Level	Families (%)	Types (%)	Tokens (%)	Cumul.Token (%)	Freq. Level	Families (%)	Types (%)	Tokens (%)	Cumul.Token (%)
<b>Conversation 1</b>					<b>Conversation 2</b>				
K1	115 (84.56)	136 (82.93)	351 (88.86)	88.86	K1	129 (83.77)	152 (80.42)	343 (86.84)	86.84



K2	10	13	20	93.92	K2	16	17	26	93.42
	(7.35)	(7.93)	(5.06)			(10.39)	(8.99)	(6.58)	
K3	9	10	14	97.46	K3	7	9	14	96.96
	(6.62)	(6.10)	(3.54)			(4.55)	(4.76)	(3.54)	
K4	1	2	6	98.98	K4	1	1	1	97.72
	(0.74)	(1.22)				(0.65)	(0.53)	(0.25)	
K6					K6	1	2	2	97.72
						(0.65)	(1.06)	(0.51)	

The vocabulary of the two breadth and the depth tests were all taken from the two listening conversations and they were equal in frequency level between stimulus words and choices. Actually, the tests took randomly from the first conversation only 40 tokens out of 351 tokens in K1 that represents 10.126% as well as only 40 tokens were taken out of 343 tokens represents 10.127% in the second conversation. In addition, 40 tokens in the levels of K2, K3 and K4 of both conversations were utilized in the two vocabulary tests. The total tokens that were used in the two vocabulary tests were 120 ones. It is worth noting that the two vocabulary tests utilized the words with no change in their parts of speech, instead they were used as their parts of speech in the two listening conversations.

#### ***The Breadth of Vocabulary Knowledge Test***

The format of the Breadth of Vocabulary Knowledge Test was adopted from Nation (1983) that was widely applied in testing EFL vocabulary knowledge. This test contains 20 questions; each question has 6 words that were written on the left and 3 definitions on the right which were taken from Online Oxford Dictionary (<https://en.oxforddictionaries.com/definition/electronic>). The participants have to match the three definitions with only three words out of six on the left. Each question has 3 points with one point for each response and the maximum possible score of the Breadth of Vocabulary Knowledge Test is 60 points. The test was checked by three experts in the Testing and Assessment Unit in Sattam bin Abdulaziz University and their notes were taken into consideration.

#### ***Depth of Vocabulary Knowledge Test***

The format of the Depth of Vocabulary Knowledge Test was adopted from Read's (1998) Word Associates Test (WAT). This test consisted of 60 items, each of which had a stimulus word followed by 8 other words allotted in two separate lines in a single box. Each line included only 4 words. The test-takers had to select only four words from the two lines that were related to the stimulus word and the other four words were not related. Thus, each question had 4 points and the maximum possible score was 240 points. The test was examined by three experts in the Testing and Assessment Unit in Sattam bin Abdulaziz University for validity and reliability.

It is important that the four related words for each stimulus words in the test were collected in a productive manner. Three native English-speaking instructors were asked to give related words for the target words. Then, the correct answers for each target word were checked to identify one of the categories between the stimulus words and the choices that were suggested by Verhallen (1994 as cited in Agdam & Sadeghi, 2014, p. 8). These categories were:

1. Paradigmatic relationship (subordinates; super ordinates; synonyms)
2. Syntagmatic relationship (the definitional aspect of a word and possible collocations)
3. Partonomic relationship (part-whole relationship)
4. Conceptual relationship e.g. sky/blue.

### ***Procedures***

The two vocabulary tests and the listening comprehension test were given to the participants in one session divided into two parts. In the former part, the subjects listened to two conversations and answered multiple-choice questions in 20 minutes. In the second part, the two vocabulary tests were completed by the participants in an hour and half. The researchers themselves administered the three tests in order that all participants received the same amount of time and also the same instructions.

### ***Data Analysis***

Data are analyzed by using the statistics software SPSS (version 19.0). The scores of the three tests; Listening Test, Breadth of Vocabulary Knowledge Test and Depth of Vocabulary Knowledge Test were all entered into SPSS software. One-tailed Pearson Product Moment Correlations were computed to examine the relationship between vocabulary size, depth of vocabulary knowledge and listening comprehension. Then, Multiple Regression Analysis was utilized to determine statistically the effect of breadth and depth of vocabulary knowledge on the variance in the listening comprehension. In the third step, Stepwise Multiple Regression Analysis was conducted to determine which the basic component of vocabulary knowledge in listening comprehension by recovering the exact contribution of breadth and depth of vocabulary knowledge.

### ***Results***

Cronbach's alpha on SPSS software was 0.812 which represents an acceptable level of reliability. Furthermore, the participants' scores were computed on SPSS software to determine the descriptive statistics. They are illustrated in table (2) below.

**Table 2: Descriptive Statistics of Listening, Breadth, and Depth**

Variables	MPS	M	SD
LC	13	07.150	02.860
BVK	60	37.025	11.919
DVK	60	42.900	09.150

Note. MPS = Maximum Possible Score, LC = Listening Comprehension Scores, BVK = Breadth of Vocabulary Knowledge, DKV = Depth of Vocabulary Knowledge

As illustrated above, the standard deviation of listening comprehension scores was 2.9 which reveals that the majority of participants' scores were close to the top score. And the standard deviation of breadth of vocabulary knowledge was 11.9 and the standard deviation of depth of vocabulary knowledge was 9.2 that reflects a small distribution of the scores away from the mean. This result indicates possible differences among participants based on their language proficiency.

***First Question: What Is the Relationship Between the Two Factors of Vocabulary Knowledge Breadth and Depth and Listening Comprehension?***

To answer the first question about the relationship between vocabulary knowledge and listening comprehension, Pearson product-moment correlations were conducted on SPSS software between the scores of three instruments: listening comprehension test, breadth of vocabulary knowledge and depth of vocabulary knowledge. And the results are stated in the following table.

**Table 3: Pearson Correlation**

Variables	LC	Sig.
BKV	0.726**	0.000
DKV	0.589**	0.000

Note. The result is significant at  $p < .01$  (two tailed). LC = Listening Comprehension Scores, BKV = Breadth of Vocabulary Knowledge, DKV = Depth of Vocabulary Knowledge, and Sig = Significance

It is clear that there is a positive, significant correlation between vocabulary knowledge and listening comprehension. More specifically, table (2) revealed a positive significant association between the participants' scores in the breadth of vocabulary knowledge and their scores in the listening comprehension ( $r = 0.726$ ). In addition, a positive significant association is illustrated in table (2) between the participants' scores in the depth of vocabulary knowledge and their scores in the listening comprehension test ( $r = 0.589$ ).

***Question 2: Which Variable: The Vocabulary Size Knowledge or The Depth of Vocabulary Knowledge, Is the Basic Component of Vocabulary Knowledge in Listening Comprehension?***

This question seeks to determine the exact contribution of breadth and depth in listening comprehension and offer an explanation. In other words, it asks if breadth or depth can explain the variance in the listening comprehension or is there no significant difference? A Stepwise multiple regression analysis was run on SPSS software and the results are illustrated in the following table.

**Table 4: Multiple regression analysis (N = 40)**

Procedure	Variables	R <sup>2</sup>	R <sup>2</sup> Change
Both Variables	BKV & DKV	0.54	0.54
Stepwise – step 1	BKV	0.53	0.53
Stepwise – step 2	DKV	0.35	0.35

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Note. MPS = Maximum Possible Score, LC = Listening Comprehension Scores, BKV = Breadth of Vocabulary Knowledge, DKV = Depth of Vocabulary Knowledge

Based on the results of the multiple regression analysis on table (3), both breadth and depth of vocabulary knowledge account for (54%) of the variance in the listening comprehension scores. This result means that a positive, strong relationship exists between the quality of the learners' listening comprehension and their vocabulary knowledge.

The Stepwise (Step 1) reveals that the breadth of vocabulary knowledge alone can explain (53%) of the variance in listening comprehension based on the regression model at the first step (F change = 42.441,  $p < .01$ ). And the depth of vocabulary knowledge alone accounts for (0.35) of the variance in listening comprehension explained by (F change = 20.221,  $p < .01$ ). The breadth of vocabulary knowledge adds (18%) a significant increase to the variance. This increase suggests that breadth knowledge is the basic component of vocabulary knowledge in listening comprehension and depth does not have a separate role.

### **Discussion**

The study found a positive strong association between vocabulary knowledge and listening comprehension with low, intermediate and advanced EFL learners at the Preparatory Year at Sattam bin Abdulaziz University. Obviously, the study indicated that breadth and depth of vocabulary knowledge had a strong relationship, and the scores in the two vocabulary tests together accounted for a half of the variance in listening comprehension scores. This high correlation demonstrates that vocabulary knowledge plays a significant role in the acquisition of comprehension listening skills in English.

The results of this study found a statistically significant association of (0.73) between breadth of vocabulary knowledge and listening comprehension with a covariance of (0.53). Moreover, the present study found a strong relationship of (0.59) between depth of vocabulary knowledge and listening comprehension with a covariance of (0.35). This result confirms that the extent of depth of vocabulary knowledge significantly correlated to the quality of listening comprehension. The results in this study agree with many previous studies that investigated the correlation between vocabulary knowledge and listening comprehension. Literature in this field confirms the significant contribution of vocabulary knowledge (breadth and depth) in achieving high scores in listening comprehension tests in English. Thus the current study that was conducted in EFL classrooms at a Saudi university confirms their findings which demonstrate the strong relationship between learners' vocabulary knowledge and their scores in listening comprehension tests.

As illustrated in the literature, there is a difference in accounting for the variance of vocabulary knowledge in listening comprehension. The results of the current study - that found (0.53) variance- support Stæhr (2009)'s result in which advanced learners' vocabulary knowledge accounted for 51% of the variance in listening comprehension. On the other hand, this study did not support Farvardin & Valipouri's study (2017) in which low-intermediate learners' vocabulary knowledge accounted for 41% of the variance. The level of participant's language proficiency may play an important role in the different results. The current study was conducted in an Arabic setting and its participants were low, intermediate and advanced learners in English.

The results of stepwise multiple regression analysis for participants' scores, in the three tests, support the findings that breadth of vocabulary knowledge is the base component in listening comprehension. Breadth of vocabulary knowledge explained (0.53) of the variance in listening comprehension, while depth of vocabulary knowledge explained only (0.35) of the variance in listening comprehension. Breadth of vocabulary knowledge added (0.18), which represents a statistically significant difference. This result confirms Stæhr's result (2009) which indicated that vocabulary size accounts for 49% of the variance in listening comprehension whilst depth of vocabulary knowledge added only 2% to the equation. Saudi EFL learners often engage in learning English word definitions; and they are seldom interested in the cognitive networks that relate to a particular word. In addition, Teachers of English at Saudi schools and universities tend to teach English vocabulary in isolation, not within a context or the pragmatic uses of vocabulary. This may explain why Saudi learners' breadth or size of vocabulary knowledge is better than their depth of vocabulary knowledge. Thus, their breadth of vocabulary knowledge has a significant role in their listening comprehension.

### **Conclusion**

The current study was to scrutinize the association between Saudi EFL learners' vocabulary knowledge (breadth and depth) and their listening comprehension. The results revealed empirical evidence of a positive, strong association between L2 learners' breadth and depth of vocabulary knowledge and their listening comprehension. The study also supports the finding that breadth of vocabulary knowledge provides the main contribution to successful listening comprehension. In fact, the results in this study provide insights for the field of language teaching, especially teaching English as a foreign language. The findings can motivate teachers and learners to include explicit training on learners' breath of vocabulary knowledge in English classrooms, which will enable them to achieve higher scores in listening comprehension tests.

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