



# The Effects Of Vocabulary Size And Depth On Efl Students Writing Performance

*Pengaruh Keluasan dan Kedalaman Pengetahuan Kosa Kata pada Keterampilan Menulis Siswa*

**Ayu Rahayu\*, Asfah Rahma, Kisman Salija**

Pendidikan Bahasa Inggris, Magister Program, Pascasarjana Universitas Negeri Makassar, Makassar, Indonesia

\*Penulis Koresponden : [ayu.rahayu33@yahoo.com](mailto:ayu.rahayu33@yahoo.com)

## ABSTRACT

This paper aims to document a research investigation regarding the impact of vocabulary knowledge (including productive vocabulary size and depth) on EFL college students' writing performance. The research was conducted on EFL fourth-semester students at Universitas Negeri Makassar (UNM) in the 2021/2022 academic years. The sample of this study approximately 28 students, Were the technique to take the sample was random cluster sampling, and the instrument of the research tested. In analyzing the data, this research used correlation analysis and multiple linear regression to test whether all-around aspect of vocabulary knowledge had a significant effect on students writing performance in an argumentative essay. The result found a positive correlation between vocabulary knowledge and students' writing performance. Further, the vocabulary depth aspect is dominant over vocabulary size, which means that the student's vocabulary size has a lower effect on student writing performance. However, multiple linear regression analysis found that vocabulary size alone accounts (12%) and vocabulary depth showed around (24%) variance in EFL students writing performance. Therefore, the study revealed evidence that vocabulary knowledge is a significant predictor of performance in writing.

**Keywords:** Argumentative text, Writing skill, Vocabulary size, Depth vocabulary

## ABSTRAK

Penelitian ini bertujuan untuk menginvestigasi peran keterampilan kosakata (Keluasan Kosa Kata dan Kedalaman Kosa Kata) terhadap keterampilan menulis siswa. Subjek penelitian merupakan mahasiswa semester empat Sastra Inggris Universitas Negeri Makassar Tahun Ajaran 2021/2022. Subjek penelitian terdiri dari 28 siswa, dipilih menggunakan cluster random sampling dan menggunakan instrumen tes. Dalam menganalisa setiap data, peneliti menganalisa hubungan antara setiap variabel dan menggunakan analisis multiple linear regresi untuk menyimpulkan apakah keseluruhan aspek keterampilan kosakata berpengaruh terhadap keterampilan menulis siswa. Hasil penelitian menunjukkan bahwa keterampilan kosa-kata siswa memiliki hubungan dengan keterampilan menulis siswa. Keterampilan Kedalaman kosa-kata berkontribusi lebih baik dibandingkan dengan keterampilan Keluasan kosa-kata. Selanjutnya, analisis multiple linear regresi menunjukkan bahwa Keterampilan kedalaman kosa-kata memprediksi pengaruh signifikan sekitar 24% dan untuk keterampilan keluasan kosa-kata menunjukkan 12% variasi dalam keterampilan menulis. Oleh sebab itu, penelitian ini menunjukkan bukti bahwa keterampilan kosakata siswa keseluruhan memiliki signifikan efek terhadap keterampilan menulis siswa.

**Kata Kunci:** Teks Argumentatif, Kemampuan Menulis, Keluasan Kosa Kata, Kedalaman Kosa Kata

## 1. INTRODUCTION

People who desire to learn other languages have a variety of reasons; it might be to improve their chances of getting jobs, or to gain insight into the knowledge of a different culture. Still, the common reason is for communicating in that language. However, to do an effective communicate with others, particularly in foreign languages, we should study four skills in language communication spoken and written forms. The spoken form is considered to be a more accessible, more practical, and effective way to communicate in any language, which is the opposite of the writing form that is not as simple as the spoken one.

Still, writing also can be an effective way to communicate. Writing form is particularly done in the form of a memo, letter, newspaper, and formal proposal. Through writing, people can convey ideas or express their feelings systematically and get a feel for it so they can practice it whenever they need it. Hence writing is not a natural talent. Harmyn and Syarif (2013) said that Writing skills could not be obtained by students naturally and unconsciously. There are some procedures and rules that must be taught to them. Absolutely, it is not easy to teach those procedures and rules.

Teaching this skill is intended to help students develop their competence in writing by applying procedures and rules such as grammar and vocabulary to combine sentences and organize their idea. In addition, Hinkel (2011) noted that a person's vocabulary and grammar level could be detrimental to their writing skills. This argument above mentions that writing also has an important component that should be considered: grammar and vocabulary.

For instance, a teacher focuses only on correcting the wrong grammar rules and ignoring the context of the words used by students whether they are appropriate for the topic or not, so that students can convey their ideas in an appropriate context. Hence, Susanto (2017) argued that Grammar is usually used to measure students' current English achievement. It could be because of the ease of theory conveying and measuring student achievement. Some still need information about students' language strengths and weakness (Sothan, 2015).

Since Nation (2001) argued that the learner should know various aspects of vocabulary, he also suggested

breadth vocabulary is not enough to establish an adequate vocabulary repertory; instead, the words are complex and rich. Moreover, learners must acquire depth vocabulary to improve their language learning proficiency. Hence, if the learners are not exposed to the opportunities of learning the depth of vocabulary knowledge, their vocabulary or lexical size does not expand (Caro, 2017). This was also supported by Nation (2013) who noted that over 30% of amounts of the research on vocabulary since 1900 was published in the previous but some issues still require substantiation through empirical research.

Many studies have inquired into the effect of vocabulary knowledge on reading and listening comprehension; meta-analysis has systematically examined the impact of vocabulary knowledge on receptive skill of second language. Zhang and Zhang (2020) summarized that the finding on 126 independent quantitative studies that were conducted between 2018 and 2019 and found that the average effect size was 56-67, which indicates all three mastery levels of form-meaning knowledge include meaning recognition, meaning recall, and form recall had moderate to high correlations with L2 reading and L2 listening. Besides, there have been a number of studies that examine the relation between vocabulary knowledge and productive skill. Johnson et al. (2016) conducted research to find whether the vocabulary knowledge could be a good indicator for writing performance of second language learner. Zeini and Jadidi (2017) used an M-C vocabulary test, wherein the recent study will use two kinds of vocabulary test based on high to low frequency words list by Nations and David (2012), including other test to measure vocabulary depth.

Other researches have investigated the role vocabulary knowledge as a predictor in speaking and writing skill by Kiliç (2019) which sample was approximately 54 B2 level Turkish learners of English as a foreign language (EFL). Vocabulary size/ breadth test will be adapted from 10.000 headword list of BCN/ COCA (Nation, 2016). As for measuring vocabulary depth, the test will be adopted from Barouni Ebrahimi (2017). The test aims to know which vocabulary types are more influential on the learner writing performance.

## 2. PERTINENT IDEAS

### 2.1. Theories dealing with vocabulary

Knowing words usually is equal with knowing its meaning and its meaning is believed to be one of the most crucial concepts to understand the nature and limits of psychology (Miller, 1999). Oxford Advanced Learner's Dictionary (2005) stated that vocabulary is: (1) all of the words that a person knows and uses; (2) all of these words in a particular language; (3) The words that people use when they are talking about a particular subject; and (4) List of words with their meaning, especially in a book for learning a foreign language. Vocabulary Knowledge is defined as "knowing a word". Commonly, online dictionary such as Dictionary (2016) describe that it is "the words that are known or used by a particular person." Jackson and Amvela (2000) suggested that vocabulary, lexis, and lexicon are synonymous. The idea is supported by Larsen-Freeman and DeCarrico (2019) stated when writing vocabulary, "not only syntax and morphology that should be considered but also phonetics, phonology, semantics and lexis (that is, vocabulary). Furthermore, Moghadam et al. (2012) mentioned some aspects that characterize this view of lexical vocabulary/ lexical.

Cronbach (1942) for instance created five component of vocabulary knowledge: generalization, breadth of meaning and precision of meaning (word meaning), application and viability (use). However, this framework was criticized due to it focuses mainly of word meaning and minimally on other aspects of word knowledge such as collocation and morphology. Other frameworks emphasize the complex nature of lexical knowledge. Richards (1976) added more vocabulary knowledge components including associations, morpho- syntactic, and register frequency level. Then, another idea was created by Nation(1990) to support the new characters of lexical knowledge, register and word frequency. Nation (2001) took further steps by using a process model of three different types of vocabulary knowledge: form, meaning, and use. Hence based on Nation's analytical frameworks of vocabulary knowledge, Daller et al. (2007) suggested the idea of a lexical space which describe the person's knowledge of vocabulary as a three-dimensional space , namely lexical breadth, lexical depth and fluency which refers to person's automaticity and readiness to use the known word in spoken and writing form.

In-depth vocabulary knowledge is demonstrated since Nation proposed new concepts of lexical items. Nation (2013) description of what is involved in knowing a word is considered the most comprehensive account of depth. Freebody and Anderson (1981) suggested that a person has enough comprehensive knowledge of a word if the interlocutor conveys to him all the differences that will occur can be understood in normal circumstances. Depth of vocabulary knowledge is defined as the quality of learner vocabulary knowledge, Paribakht and Wesche (1996) defined depth is the types of vocabulary knowledge where knowing of words beyond surface and precisions meaning. Read (2004) suggested that three approaches to conceptualizing the construct-precision of meaning, comprehensive word knowledge, and network knowledge. The student's different learning stages, from not knowing all aspects of the word to completely mastery, such as using correct semantic precision and grammar Paribakht and Wesche (1996) Comprehensive word knowledge based on Read (2004) which elaborated the elements of depth knowledge since 1940's; they are (1) knowing the meaning of different words and ability to use them correctly Cronbach (1942); (2) word association, derived forms, collocations, and connotations Richards (1976); (3) form, meaning and use, with each sub-category all covering both productive and receptive word knowledge Nation (2013); and (4) morphological, syntactic, and semantic word knowledge Leider et al. (2013). Network knowledge was originally proposed by Meare (1992) which refers to the aspect of vocabulary depth as an organization. In this approach vocabulary depth knowledge is seen as the ability to link a word with other flexible context and to incorporate newly acquired words into a network of already known words Schmitt (2014). In addition, Read (2004) argued these three dimension approaches are highly overlapping.

Vocabulary size is often called the breadth of vocabulary knowledge; it is referred to as the number of words known by an individual at a certain level of language proficiency Nation (2001). Wang et al. (2009) stated that the breadth of vocabulary knowledge (vocabulary size) meant the approximate number of words known to the learner. A person who has an adequate vocabulary size must have good comprehension of any language, in terms of meaning (Cowie et al., 1988). By mastering many words, it is easier for a student to learn something new and learn a

language (Curtis, 2006). Besides, vocabulary size is also related to acquiring reading skills, writing skills, speaking skills, and influencing academic achievement (Saville-Troike, 1984); (Laufer, 1997); (CHANG & Read, 2006). Hirsh and Nation (1992) have divided vocabulary based on the frequency and communicative dimension, which differentiates between high-frequency vocabulary, academic vocabulary, technical vocabulary, and low-frequency vocabulary. According to Nation and Waring (1997), high school students need a vocabulary size of approximately 3,500-4,000 words. Laufer (1997) in one of his studies, stated that a student requires a minimum of 3,000 words and a maximum of 5,000 words to acquire reading skills more quickly.

In learning language, it is crucial to know how to use the appropriate word class in context to develop an appropriate grammatical language. Therefore, if language learner can use one word class correctly, it can be assumed that they also know other word classes of the same words as well. Hence affix contributions is important to determine how well language learner reads a new word and can expand their vocabulary knowledge (Mochizuki&Aizawa, 2000). Hence, Schmitt and Zimmerman (2002) argued that between derivative and inflectional forms, derivation takes priority. He also gave the fact that inflection and derivation impose different learning loads, as derivation is generally obtained after inflection (BERKO, 1958); (Ward&Chuenjundaeng, 2009). Other assumptions emerge regarding when a learner increases the size of their vocabulary; the new words to be learned need to be related and attached to the network of already known words, and some restructuring of the network may be required as a result (Agdam and Sadeghi, 2014). Fitzpatrick (2006) used the framework of Nation (2001) referred to what exactly involve of knowing the words as a basis for three major categories of associations: mean-based associations, position-based associations and form-based associations.

Other dimension of lexical items that should to be measured regarding depth knowledge is "collocations". Nesselhauf (2003) argued that a collocation is tendency indications of two or more words which coincide in discourse. Collocations as important part of formulaic language which is still being debated regarding the variety its definitions. Laufer and Waldman (2011) argued that collocation

does not have a simple and precise definition. In the same idea, Webb and Kagimoto (2011) stated that the universal definition of collocation has not been reached. Collocations can be thought of as syntagmatic associations.

Fitzpatrick et al. (2015) in clarifying the approach to measuring response association data, compared paradigmatic responses with syntagmatic responses and stated that collocations can be included in syntagmatic responses that may be found in the same phrase as the cue. It is supported by Schmitt (2010) who defined syntagmatic associations as sequential relationships with stimulus words that usually have different word classes. Webb et al., (2016) defined that collocation from a statistical point of view. This definition has been widely accepted in the field of corpus linguistics, Halliday (1966) since the measures show that the two words appear together more often than would be expected by chance alone.

Some previous studies stated that high-frequency word is approximately 76,1% to 82,5% text coverage, wherein academic word lists (570-word families) represent 8,5 to 10% token in various academic text. Low-frequency words rarely appear in textbooks and have low test coverage (Husnanissa, 2020) . Hirsh and Nation (1992) often found that 2,000 words do not provide adequate coverage for pleasure reading, and the students need to have vocabulary size around 5000-word families. Besides, Laufer (1992) stated the students need to be familiar with 95% of the text's words for unassisted reading. In addition, O'Dell et al. (2000) suggested that Dictionary-based sampling is usually used to estimate the vocabulary of native speakers, while for EFL students, frequency-based sampling is usually used. However, a recent research proposes a number of at least 3000-word family to pass a specific test such as Cambridge first certification, and a work of 5000-word family for TOEFL or IELTS (Thornbury, 2006).

According to Byrne (1979), writing is the act of forming letters, combination of letters, or making marks. It is more than the production of a graphic symbol. It is supported by Linderman (1983) who stated writing is the process of communication which uses a conventional graphic system to convey a message to a reader. Addition writing is much like speaking because it is a way to expressed and conveys the ideas. However, in speaking, people get the information from

oral communication but in writing through a paper (Mayer et al., 2005). Nunan (1989) supported this idea; starting successful writing then involves mastering the mechanism of letter formation, mastering and obeying convention of spelling and punctuation, using the grammatical system to convey one the student intended meaning (Nunan, 1989). It means the components of language will facilitate the ability of writing. Some elements in good writing are content, form, grammar, style and mechanic (Harris, 1969). A good writing must express good characteristics as follow: Content; Form; Grammar; Style; and Mechanic. Harmer (2004) said that the writing processes are the stages a writer goes through in order to produce something in its final written form as follow: Planning; Drafting; Editing; and Final Version. One kind of writing is argumentative writing. Argumentative writing is part of crucial skill in learning language, particularly to produce writings product (Nippold et al., 2005). Academically, written argumentation helps students acquire knowledge (Schwarz et al., 2003) stimulates scientific thinking skills (Shanahan, 2004). Furthermore, written argumentation can increase intrinsic motivation and problem-solving performance in the academic setting (Chinn, 2006). According to Toulmin (2003), argumentation is composed of the following elements: a) Claim, which is the clear statement in response to the problems, b) Data, which includes the evidence or grounds on which claims are made, c) Warrant, which supports the link between the claim and data, d) Backing, known as support of the warrant, e) Qualifier, which is a term indicating the probable nature of the claim, and f) a Reservation, which refers to the conditions under which the warrant will not hold and cannot support the claim (Crammond, 1998).

However, it is reasonable to assume that vocabulary dimension also plays a significant role in productive skill, especially in writing ability, because vocabulary contain the basic information content of the meaning that foreign language writers wish to comprehend and express (Read, 2004). The leaner rhetorical method of writing was reported has big influence on writing depth, it was also suggested by Schneider and Connor (1990) conclude that depth of knowledge of vocabulary influences smooth topic development. For example. Studies investigated by Engber (1995); Daller and Phelan (2007) measured that the lexical sophistication of essays written by their participants and detected as significant correlation between scores for lexical

measures sophistication and assessment of teachers holistic judgments of composition quality, More recently, Johnson et al., (2016) supported this finding with a study that found a positive relationship between productive knowledge of high-frequency word families and L2 writing performance. Besides vocabulary plays a significant role in assessing writing works' quality (Nation, 2001). Laufer and Nation (1995) explored and operationalized vocabulary breadth and validation of the lexical frequency profile (LFP) by assessing vocabulary breadth in writing essays, using the means of percentage of words at the different level of word frequency. Batty (2007) examined the role of depth vocabulary in both writing and oral assessment; as a result, vocabulary depth could significantly predict vocabulary score on the writing section of the Kanda English proficiency test (international studies in Japan) but not on the oral section. In addition, Schmitt (2014) noted that it is interesting issue, but unexplored, question of the two (depth and breadth vocabulary). Writing is a very complex process that requires the coordination of many high-level metacognitive skills, to produce high-quality written essays, writers must generate and organize ideas, develop and take action plans, and review and revise their written product (Roth, 2000). Moreover, a rich repertoire of vocabulary knowledge is required to produce such high-quality essays.

## 2.2. Conceptual Framework

The main focus of this research is to find out whether the students' vocabulary size and vocabulary depth have simultaneous and partial effect students' writing performance, as illustrated in the diagram above. The student will be asked to do vocabulary test and compose writing. Then it will be assessed based on several categories, namely language use, vocabulary, organization mechanic and content. The vocabulary test includes size and depth vocabulary for productive skill.

## 3. RESEARCH METHOD

The purpose of this quantitative study was to investigate whether there is significant impact between vocabulary knowledge (include vocabulary size and depth) on students writing performance. The research was used Ex Post Facto design with quantitative approach, the method commonly used in causal relationships without being manipulated or treated (designed and implemented) by the researcher. Ex Post

Facto takes existing data and only focuses on taking the scores of students who have studied regarding all aspects of vocabulary knowledge (including morphology) and writing skills. However, the researcher only obtained data on the effect of the dependent variable on the dependent variable which was learned from the lecturer.

The population of this research was the students of English Education at Universitas Negeri Makassar. The sample of this research was the fourth semester of English foreign language, particularly students from English Literature A. The population was around 40 students, and the sample consisted of 28 participants. The researcher used random cluster random sampling as a sampling technique because the researcher chose the students of the 4th semester as a random sample from the entire English literature students of Universitas Negeri Makassar in the academic year 2021/2022. In order to achieve the purpose of the research and to answer the researcher question that addresses three major variables that need to be measured, i.e., writing ability (WA), depth and breadth (size) vocabulary, the recent study will use three kinds of instrument, including argumentative writing test, vocabulary depth and breadth (size) test level.

The procedure of collecting data is the first meeting, the researcher distributed the vocabulary size test to the students in the fourth semester of Universitas Negeri Makassar. The test consists of four aspects, which are word derivations, synonyms and antonyms, homonyms and collocations. The students were asked to provide a possible word for each target word and given approximately 30 minutes to answer the test. For the second week, the researcher came into the class for the next week to give another test. The first test was a vocabulary size test, consisting of 50 items and adopted from BNC/COCA headword list of 10.000th. The test was designed in fill gaps formats and administered via google forms test to make it more efficient for the students within a duration of approximately 23 minutes. The last test is writing argumentative, given after the students completed the previous test. The test asked the students to write their ideas or arguments based on the topic that has been given. They should write at least 250 words for the task, and they were given approximately 35 minutes to complete it.

Data analysis of size vocabulary, depth vocabulary and writing performance consists of several steps as follows: Score the student’s correct answer of each test;

Classify the raw score of the students; after collecting the data, the next step is to analyze them to determine whether there is a positive correlation between students’ vocabulary knowledge (including vocabulary size and depth) and their writing performance; a classical assumption test is a prerequisite for testing using multiple linear regression methods. The classical assumption test consists of; a normally distributed test, multicollinearity, and heteroscedasticity; finally, Multiple linear regression was used to find simultaneous effect of vocabulary breadth and vocabulary depth students’ writing performance. In addition, Turóczy and Marian (2012) argued that multiple regression analysis can be used for predicting and forecasting.

#### 4. FINDINGS AND DISCUSSION

##### 4.1 Findings

The vocabulary size test measures the students' surface vocabulary knowledge. The test consisted of 50 items, and the formats included the fill gaps test. In this part, the researcher presents the result of the descriptive statistic computation of the students’ vocabulary test. In the department of English literature, the scoring score classifying into the values letters as forms as below:

**Table 1.** Classifying score vocabulary size

No	Category	Letter Value	Frequency	Percentage
1	91-100	A	-	-
2	86-90	A-	-	-
3	81-85	B+	-	-
4	76-80	B	-	-
5	71-75	B-	1	4%
6	66-70	C+	1	4%
7	61-65	C	3	10%
8	56-60	C-	1	4%
9	51-55	D+	-	-
10	46-50	D	-	-
11	41-45	D-	6	21%
12	<40	E	16	57%
13	Total	-	28	100%

Based on the descriptions in the table above, among the fifth semester of English literature students in academic years 2021/2022.obtained a score on the

vocabulary size test, one (4%) student got a good score on the vocabulary size test, one (4%) student got C+, and three (10%) students got C which is a medium score. One (4%) student obtained C-, and the eighth (21%) student got D and around sixteen (57%) students had an E score, which is considered as a failure.

In the department of English literature, the scoring score classifying into the values letters as forms as below:

**Table 2.** Classifying score of vocabulary depth

No	Category	Letter Value	Frequency	Percentage
1	91-100	A	-	-
2	86-90	A-	-	-
3	81-85	B+	-	-
4	76-80	B	-	-
5	71-75	B-	1	4%
6	66-70	C+	1	4%
7	61-65	C	3	10%
8	56-60	C-	5	17%
9	51-55	D+	7	25%
10	46-50	D	8	28%
11	41-45	D-	1	4%
12	<41	E	2	8%
13	Total	-	28	100%

Based on the descriptions above concerning the rate percentage of the vocabulary depth among the fifth-semester English literature, one (4%) student got a good score and one (4%) student got C+, which represents a medium score. Three (10%) students got C, five (17%) students got C-, sixteen (57%) students got D and two (8%) students had E scores, which is perceived as failure.

In the department of English literature, the scoring score classifying into the values letters as forms as below:

**Table 3.** Classifying Score Of Writing

No	Category	Letter Value	Frequency	Percentage
1	91-100	A	1	4%
2	86-90	A-	2	8%
3	81-85	B+	2	8%
4	76-80	B	4	14%
5	71-75	B-	1	4%
6	66-70	C+	3	10%
7	61-65	C	4	14%
8	56-60	C-	3	10%
9	51-55	D+	2	8%
10	46-50	D	1	4%
11	41-45	D-	1	4%

12	<41	E	4	14%
13	Total	-	28	100%

Based on the descriptions above concerning the rate percentage of the writing test among the fifth-semester English literature; one (4%) students got an excellent score, two (8%) students got A- which represents excellent too. Two (8%) students got B+, four got B scores, and only one (8%) got B-, which is considered a good score. Then three (10%) students got C+, four (14%) students got C, and three (10%) students obtained a score C-, which is considered good and medium score respectively. Then eight (16%) students got D and four (14%) students had E score, indicating a failure.

**1) Correlations between students' writing performance and vocabulary depth**

To measure the correlation between these two or more variables, Pearson's product moment correlation is used, as illustrated in table.

**Table 4.** Pearson correlation between vocabulary size, depth and writing

Correlations				
		x1	x2	y
x1	Pearson Correlation	1	.443*	.464*
	Sig. (2-tailed)		.018	.013
	N	28	28	28
x2	Pearson Correlation	.443*	1	.554**
	Sig. (2-tailed)	.018		.002
	N	28	28	28
Y	Pearson Correlation	.464*	.554**	1
	Sig. (2-tailed)	.013	.002	
	N	28	28	28
*. Correlation is significant at the 0.05 level (2-tailed).				
**. Correlation is significant at the 0.01 level (2-tailed).				

Based on the table above, it shows that the product moment correlation index is 0,464 and 0,554 with a significance level of  $0.02 < 0,05$ . means there is a positive and significant relationship between vocabulary size, depth and writing abilities with medium level of correlation.

2) Multiple liner regress analysis

Correlation analysis aims to see the relationship between these three research variables. They are; vocabulary size (X1) vocabulary depth (X2) and students writing performance(Y). The calculation of this research found the strong relationship between the three variables. Hence the results of the multiple correlation analysis are as follows:

Table 5. Multiple correlation between vocabulary sizes and depth on writing performance

Procedure	Variables	R <sup>2</sup>	R change
1. All variable	VS, VD, WP	367	316
-stepwise 1	VS	216	186
-stepwise 2	VD	446	374

The table above found that the value of the multiple correlations coefficients (R) between vocabulary size and depth on writing ability is 0,606. It shows a positive relationship between these research variables. In addition, the magnitude of the influence of vocabulary size and depth on writing skills is indicated by the R square value of 0,316, suggesting that the contribution of dependent variables (X1 and X2) to writing independent variable (Y) is 36,7 %; at the same time. The remaining 63.3% could be influenced by other factors not examined in this study. For simple liner regress vocabulary size with learners' performance in writing show, 21,6% than for vocabulary size alone take account 30,7 % variance in writing.

3) Partial effect on vocabulary size and depth on writing performance

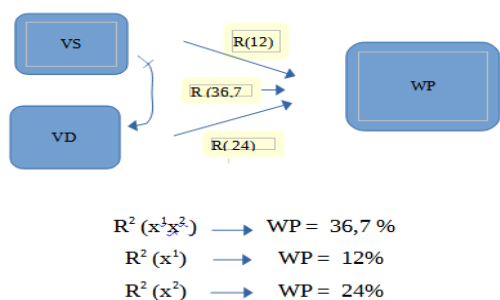


Figure 1. Peth Analysis

The procedure of regression reveals the combined effect of lexical knowledge on learner's performance in writing, which is approximately 36 % of total variance. Vocabulary size alone accounted for 12% (Beta\*zero-

order), while productive vocabulary depth contributed 24 % variance to writing.

4.2 Discussion

1) Vocabulary size in writing performance

Several studies have investigated vocabulary knowledge's contribution to writing performance, especially the breadth and depth of vocabulary. This study attempted to examine the effect of vocabulary knowledge on the writing version. Hence the result shows that the two variables correlate with each other. 16 students got a low score on their vocabulary size test. Their writing score is around 30-60. On the other hand, the scores of vocabulary size are 10-40, meaning they know approximately 25-30 items out of 100 total items. Based on the findings, the students who have high scores on vocabulary tests have most likely high proficiency in writing, indicating they have an increased range of vocabulary that eases them to write their idea. However, the result of this current study shows a positive correlation between vocabulary size and writing performance (r=0.44). its similar with Coxhead (2012) was found vocabulary size is a good predictor of the writing ability. Large Vocabulary size causes high performance in writing.

2) Vocabulary depth in writing performance

The current research results show an interrelationship between the variable of depth vocabulary and writing performance (r=0.55). They also show that depth significantly affects aspects of vocabulary, approximately 44,6 %. The strong link between these variables also has been investigated and well documented in (Varnaseri and Farvardin, 2016). The relationship between depth and breadth of vocabulary knowledge and writing performance of Iranian MA students of TEFL. However, this current research study revealed that, for a given sample, vocabulary depth has an essential role in EFL learners' writing performance. The vocabulary depth tests are divided into derivation words, synonyms and antonyms, collocations, and word associations. Derivation morphology can include vocabulary depth dimensions since Salmons and Menz (2004) argued that knowing a word involves the learner has acquired the underlying sub-properties of the tense along with the appropriate inflections and derivations "based on how the word used in a syntactic framework." Based on the statement above, it seems knowing the meaning of words alone can be considered as partial knowledge of words, it is not



enough to assume that knowing words well so that knowledge of other sub -proportions about the word that related to tense is also crucial in learning vocabulary, then for the current research found derivation forms test has significance effect with writing performance approximately (  $r=25,8$ ) means that derivation morphology can be a predictor for the quantity of writing.

### 3) Effect of vocabulary size and depth on writing performance

This study attempted to analyze the relationship between these two dimensions of lexical knowledge and learners' writing performance. Based on the previous results, multiple linear regressions are used to examine the effect of the two dependent variables on the independent variables. The results show that both lexical dimensions have contributed 36% to the variance of writing, although these two dependent variables predict writing performance. Therefore, there may be other variables that have influenced learners' performance in writing performance. Narica (2010), in her study, investigated factors that affected students writing ability at Batha University. The research reported the lack of an unsuitable approach; the teacher had less feedback on students' work, which led to students' lack of motivation for writing. Similarly, Sahla (2015) claims that some linguistic factors that might affect writing-paragraph in English are negative interference in the student's native language, intralingual error, and lack of writing practice during the learning process.

### 4) The more influential aspect of lexical knowledge in writing performance

Although the result found that both lexical knowledge dimensions contributed to students' writing performance, the prediction of vocabulary size alone was 12%, less than the prediction of vocabulary depth, which is 24%. This means that vocabulary depth is more influential in predicting the performance of ELF writing, it can be assumed that proper design in developing vocabulary depth can predict good writing skills. The current research involved a list of empirical evidence that depth of vocabulary knowledge is an integrated and crucial part of developing EFL writing skills. However, research has persuasively argued that lexical knowledge is closely related to extended deficiencies in one lexical dimension that can greatly influence the presence of other variables.

Hence it supported the previous research that reported lexical knowledge, reading, and listening has a strong relationship with vocabulary depth instead of vocabulary size (Merpheur et al, (2011); Atai & Nikuinezhad, (2012) and Vamoseri M & Mohammad T. F., (2016). However, the final result assumes that a variety of lexical knowledge should be measured simultaneously to achieve a more comprehensive illustration of the lexical knowledge contributions to EFL learners' writing. (Baba, 2009) stated it is illogical to assess the impact of writing than generalizing its results to lexical proficiency in general.

## 5. CONCLUSION

The current research found strong interrelationship between dependent and independent variables. It can be asserted that vocabulary size and depth simultaneously affect writing performance. However, it is confirmed that the effect of vocabulary depth is more influential than vocabulary size on learners' writing performance. First, the student's lexical breath knowledge has a small contribution to writing performance. It was found that almost all EFL students can master vocabulary more than 2000th frequency. This is commonly known approximately 4000th-word list. Nations mentioned (2012) that students can flexibly order the word in speaking, reading, and other skill if they can master more than the 2000th frequency of the word list. Based on the research result above, it can be concluded knowing vocabulary around 4000th frequency is not enough to produce good quality writing. Several students are still confused about developing their ideas properly in their paragraphs task. This may happen due to their inadequate vocabulary repertory. They are constrained to produce their ideas into each paragraph in their writing.

Second, Vocabulary depth contributes higher to writing performance rather than breadth lexical knowledge does. Vocabulary depth emphasizes the quality of writing; how its word relates to the other words to observing the nuance of using the word in a different context. Vocabulary depth involves derivation forms, synonyms, hyponyms, and collocation. Derivation has a more significant contribution, the opposite of the synonyms showing a negative effect on writing. However, synonyms on vocabulary depth are still being debated since some people believe that it involves sub- subordinate vocabulary size since polysemous words are highly

correlated with vocabulary size based on word meaning knowledge.

Third, The current research found that vocabulary size and depth simultaneously affect writing performance. Students with good scores in both size and depth vocabulary also show good performance in writing. The common mistakes of the student's writing come from content and the sophisticated range of word knowledge on students' assessment, leading to incoherence from the opening to the conclusion. Having a lack of vocabulary knowledge made the students' writing inaccurate. It prevents the students from using the correct word choice to convey what they want to develop their thoughts in the paragraphs.

Lastly, both lexical dimensions have a significant effect on EFL students writing performance. Vocabulary size alone has a small contribution rather than another lexical knowledge. Since vocabulary size emphasizes the sophisticated number of words on students' assessments, only five students achieved the word target on the test instruction. This might explain the less significant effect of vocabulary size on writing performance. Nevertheless, students are trying to focus on their word choice, which emphasizes the functional behavior of words in a certain context, accounting for the more significant effect of vocabulary depth than vocabulary size. However, students who have good performance in vocabulary depth also have a good score in vocabulary size, which may impact vocabulary size over time.

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