

The Role of Collocation and Vocabulary Size in the Writing Performance of Upper-intermediate Students in Iran

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Abstract

Vocabulary and collocation may contribute to effective communication. This study attempted to understand whether vocabulary size or collocation knowledge of upper-intermediate Iranian EFL learners better predicts their writing performance. For this purpose, three different tests including vocabulary size test (Nation and Beglar, 2007) collocation knowledge test (Nizonkiza, 2012), and a writing performance task were administered to sixty students. The results, analyzed through linear regression, showed that while both vocabulary size ($\beta = .521$, $p = .00$) and collocation knowledge ($\beta = .268$, $p = .03$) were important factors in EFL learners' writing performance, vocabulary size was a better predictor of the students' writing performance.

Keywords: Vocabulary size, collocation knowledge, writing, lexical approach

Introduction

Writing may be defined as the ability to express our thoughts and feelings. It involves the acts of thinking, composing and encoding language into text, which entails discourse interactions within a socio-cultural context (Cumming, 1998). Researchers have noted that most students struggle with writing (Afrin, 2016; Javid & Umer, 2014; Shokrpour & Fallahzadeh, 2007; Terenin, 2015). According to Mounya (2010) many students at different levels have serious trouble in writing effective, informative, persuasive, or narrative pieces. They encounter a lot of problems that make their writing not efficient. Accordingly, “writing may be considered the most difficult skill for language learners” (Tangpermpoon, 2008). This difficulty is so critical that it ends in “costly in time, effort, money, and even careers” (Heath, 2018, p.93).

In the process of achieving good writing skills and coping with these problems, several factors could play a role including, sentence structure, grammar, lexical knowledge, and so on. Since “the majority of the students have limited vocabulary and struggle to express their ideas” (Afrin, 2016, p.109), the role of lexical knowledge appears more noticeable in the quality of written texts. The lexical knowledge can be divided into two broad categories, vocabulary size, and depth. Alderson (2005) holds that vocabulary size is a crucial factor in reading, listening, writing, and speaking skills. It can correlate with success in all areas of the curriculum (Manning, 1999). Moreover, insufficient vocabulary may end in imperfect writing (Brynildssen, 2000; Yonek, 2008). The importance of vocabulary size in writing skills can be stated in this statement that “vocabulary knowledge plays a significant role in the assessment of the quality of written work” (Nation, 2001).

Readers may agree that productive vocabulary plays a major role in the quality of writing. Improving productive vocabulary knowledge is more difficult than receptive vocabulary knowledge (Schmit, 2014), so it takes a long time for learners to be able to change their receptive vocabulary to productive vocabulary and even may never become a part of it (Laufer & Paribakht, 1998).

According to Nguyen and Webb (2016) depth of vocabulary knowledge consists of collocation, word parts, and association. Measuring collocation may help to provide a more complete representation of learners' vocabulary knowledge. Moreover, investigating L2 knowledge of collocation may be helpful for teaching and learning practice. That is to say, it may help teachers to better develop language learning programs.

Following Biskup (1992) it may be safe to hold that problems in EFL learners' collocation use are partly caused by the fact that collocations do not generally cause comprehension problems, and therefore are largely ignored in the process of foreign language teaching, learning and research.

Literature Review

Readers may agree that English language learners are concerned with writing skills. Some researchers (Brown, 2001; Hyland, 2009) regarded writing as a process rather than a product. They stressed that writing process is not linear but is an iterative process that can occur as a cycle throughout writing a text. On the contrary, while often the process of composition is like a pendulum, Hedge (2005) considers writing as a linear process.

A review of previous studies on the process of writing showed that learners often intend to achieve a good writing. Many sub-skills are involved in writing including planning, grammar, choice of vocabulary, etc. In the

present study, however, two aspects of vocabulary, namely, vocabulary size and collocation are taken up.

According to Nation (2001), vocabulary knowledge involves form, meaning, and use. It can be separated into two broad categories, vocabulary size and depth. Until late 1990s and despite the linguistic and cognitive similarities between reading and writing, little attention had been paid to the relationship between vocabulary knowledge and writing (Duin & Graves, 1987). Lexical competence is at the heart of communicative competence. Hence, it may play a major role in writing effectiveness (Meara, 1996; Nadarajan, 2007). Meara (ibid) claims that the basic dimension of lexical competence is size. It follows that the more words one knows the more proficient they become in language skills including writing.

Vocabulary size refers to the overall number of words one knows. Levitzky-Aviad and Laufer (2013, p.128) state that “Vocabulary is a clear indicator of how well foreign language learners can communicate”. Nation (2001) believes that a prerequisite for knowing a word is that a learner be familiar with its form, meaning, and use.

Schmitt, Schmitt and Clapham (2001) investigated vocabulary size and determined the number of words that language learners need to read without the interruption of looking up the words. For example, Laufer (1994) asserted while educated adult native speakers know around 20,000 word families, the vocabulary size of a non-native speaker, even after they studied English for several years, is much less than 5,000-word families. Moreover, a number of studies have examined the relationship between vocabulary size and comprehension of a text (Adolphs and Schmitt 2003; Mehrpour, Razmjoo, & Kian, 2011; Milton, 2009; Nation 2006; Webb and Rodgers, 2009). In this case, the high-frequency words of the language are clearly so important. “Frequency is particularly important in the development of

recognition vocabulary, which is driven by exposure to the language” (Harrington, 2018, p.14). “High-frequency words are important because learners encounter them in a wide range of vocabulary uses” (Nation, 2001, p. 33). It means that the possibility of knowing words that occur more frequently is more than other words; because an individual is more affected by these words during his/her lifetime.

The role of vocabulary size in second language acquisition had not been studied until the 1980s (Pignot-Shahov, 2012). Many researchers assumed that the writers of good essays used more words in their writing than those who produced low-rated essays (Stotsky, 1986). Silva (1992) contended that some ESL graduate students did not have enough vocabulary knowledge and faced difficulty to find a right word in their writing, which makes them uncomfortable. On the contrary, Victori (1999) observed that skilled writers focused more on global text-level production rather than vocabulary and grammatical issues. However, Schoonen, Gelderen, DeGlopper, Hulstijn, Snellings, Simis, & Stevenson (2002) noticed that vocabulary knowledge did not contribute to L2 writing, and other features like grammatical knowledge and speed of sentence building had more effect than vocabulary knowledge in L2 writing.

Engber (1995) argues that essays with more and wider variety of vocabularies are of higher quality. Students need enough vocabulary knowledge in their everyday oral and written communication and academic success. The most important things in writing are organization and the numbers of vocabulary a person knows (Yang, 2006).

The role of vocabulary size is more noticeable among high-level students. Nadarajan (2007) asserted that “more proficient writers will have a larger vocabulary size that enables them to avoid repetition by using synonyms, superordinate and other kinds of related words” (p. 99). Baba (2009)

examined the role of lexical proficiency of 68 Japanese intermediate students on their summary writing. In order to test participants' receptive vocabulary size, the vocabulary level test by Schmitt, Schmitt, & Clapham (2001) was used. The result of the study showed that a high correlation existed between vocabulary size and vocabulary depth of learners ($r = .71, p < .001$).

Milton (2009) worked on the role of vocabulary in four language skills. The results of the study substantiated the relationship between vocabulary measures and the ability to read, write, listen, and speak. More importantly, a person with a greater knowledge of vocabulary achieves a better grade in a writing task.

Mohseni and Satariyan (2013) showed that Iranian teachers could improve the students' writing proficiency by using the learnt vocabulary in a story and focusing more on most frequent words.

In order to examine the relationship between vocabulary size and depth in writing ability, Varnaseri and Farvardin (2016) conducted a study on 110 Iranian MA students. The results of the study showed that both vocabulary size ($r = .45, p < .01$) and vocabulary depth ($r = .59, p < .01$) had a significant relationship with the participants' writing performance.

The term collocation was invented by Firth (1957 p. 181) who stated "collocations of a given word are statements of the habitual or customary places of that word". McCarthy (1990) holds that collocation is "a marriage contact between words and some words are more firmly married to each other than others" (p. 12). Sinclair (1991) refers to collocations as "items that occur physically together or have stronger chances of being mentioned together" (p. 170).

According to Pawley and Syder (1983), the use of stored multiword units like collocations leads to native-like fluency and accuracy. Nation and Webb

(2011) believe that multiword units, which include collocation, play a very significant role in both language use and language learning.

Although there are several different types of collocation, Benson, Benson, and Ilson's collocation dictionary (1997) divides collocations into two major categories: (1) grammatical collocation and (2) lexical collocation. Benson et al. (1990, p. ix) defined grammatical collocation as "a phrase consisting of a dominant word (noun, adjective, or verb) and a preposition or grammatical structure such as an infinitive or a clause". Next category is lexical collocation. In contrast with grammatical collocations, lexical collocation normally does not contain prepositions, infinitives, or clauses; rather it only contains nouns, adjectives, verbs, and adverbs.

Some scholars (Lewis, 2000; Nation, 2001; Nattinger & Decarrico, 1992; Thornbury, 2002) highlighted the importance and benefits of collocation for L2 learners. They believe that collocations are essential for EFL learners to improve their communicative competence, enhance their fluency, be native-like, and preserve lexical cohesion. Moreover, Nation (2001) emphasizes the role of collocation in language learning and argues that a language learner should be able to use collocation in oral and written work. It means that s/he can recognize appropriate collocation and produce the word with appropriate collocation (p.428).

Collocation knowledge is a source of fluency in written communication and the quality of collocation revealed the quality of college freshmen writing (Zhang, 1994). Collocations are one of the learners' problems in writing an essay and EFL learners face problems to produce oral and written collocation (Bahns and Eldaw, 1993; Hong, Rahim, Hua, and Salehuddin, 2011).

Al-Zahrani (1998) stated that lexical collocation knowledge would increase along with the subjects' academic years. He believed there was a

strong correlation between the students' knowledge of collocation and their overall language proficiency. Also, Hsu (2007) examined the impact of lexical collocation on online writing of sixty-two Taiwanese college English and non-English majors. The results of the study showed that there was a positive correlation between both Taiwanese college EFL learners' frequency and variety of lexical collocation and their online writing scores.

Oskuee, Pustchi, & Salehpour (2012) worked on the effect of pre-teaching vocabulary and collocation on the development of advanced students writing skills. They demonstrated that pre-teaching vocabulary and collocation played a significant role in the development of the writing skills and students who used more collocation and vocabulary in their writing would be more successful. It implies that teaching collocation could lead to fluent writing. In addition, Granger and Bestgen (2014) investigated the use of collocations among 223 intermediate versus advanced non-native writers. The study showed that there was a significant difference between intermediate and advanced learners in using collocation. They concluded "intermediate learners tend to overuse high-frequency collocations and underuse the lower-frequency collocations" (p. 229).

Adelian, Nemati, & Fumani (2015) explored the effect of collocation knowledge of 80 male and female advanced EFL learners in their writing ability. They showed that although the participants were advanced students, they were weak in using collocations in free writing. Also, Karakoç and Köse (2017) investigated the relationship between vocabulary size and depth and students' writing skills among 175 EFL Turkish students. In order to collect data, four different tests, including 2000 Word Level Receptive Vocabulary Knowledge Test (Schmitt, Schmitt & Clapham, 2001), 2000 Word Level Productive Vocabulary Knowledge Test (Laufer & Nation, 1999), Lexical Frequency Profile, and a writing test were administered. The result of the

study showed that the productive vocabulary knowledge had moderate correlation with students' writing skills ($r = .43$).

To sum up, investigation into the relationship between vocabulary knowledge, collocation knowledge, and writing ability shows that the learners need to develop their vocabulary knowledge until they can expand their knowledge of collocation, and ultimately improve their ability in writing a text (Fan, 2009). As mentioned earlier there are different types of collocations. This study, however, focused on verb-noun collocation for some reasons. First, some researchers believe that verb-noun collocations often are challenging for English language learners, even among advanced-level learners (Adelian, Nemati, & Fumani, 2015; Eyckmans, 2009; Siyanova & Schmitt, 2008). Conversely, Hong, Rahim, Hua, and Salehuddin (2011) found 'preposition-related' collocation error as a most problematic category in Malaysian ESL learners' writings. Second, the verb-noun chunk is the most common type of collocation that is used (Siepmann, 2005). Third, according to Brezina and Gablasova (2013), within 3,000 high frequency words list, nouns, verbs, and adjectives cover more than 85% of words. Nouns comprised around 48% of words and verbs 22% in the corpora. Consequently, nouns and verbs are important because they are the most frequent in the English language.

Method

Participants

Sixty Iranian male English learners participated in this study. The subjects were chosen from five different classes in Iran language institute (ILI) in Tehran, Iran. All learners were native speakers of Persian, their age ranged from 14 to 22. They were at the beginning of an upper-intermediate course as defined in ILI.

Instruments

Three different tasks were used in this study:

(1) Vocabulary Size Test (VST): The main version of VST consists of 140 multiple-choice questions designed by Nation and Beglar (2007). According to Nation (2006), the most frequent 140 items cover over 99% of written and spoken vocabulary. In order to ensure conformity between the difficulties of the test, level of upper-intermediate students, and ensuring the validity, the test was reviewed by two experienced teachers who were cognizant of the level of the participants. Finally, 70 multiple-choice questions were extracted from the original version. The reliability coefficient of the test is .805.

(2) Verb-Noun Collocation Test Nizonkiza (2012): It consists of 40 blank-filling items. As the previous test (VST), two experienced English teachers reviewed the test and 34 items were extracted based on students' level and difficulty of the items. Additionally, the test reliability is .707.

(3) A Writing Test: The students were asked to write an essay on a familiar topic, namely, 'what are the benefits of learning a new language'. In order to grade the writing samples, the composition grading scale developed by Farhady, Jafarpur, & Birjandi (1994) was used. In the process of grading the writing samples, each sample was rated by two experienced examiners who were completely familiar with the composition grading scale items. The inter-rater reliability of the scores is .68.

Procedure

One week before the beginning of the study, the participants took three different tests during the class time. All data were collected by two experienced teachers, in four sessions. At the beginning of each task, the

instructors orally provided clear guidelines in Persian and encouraged the participants to answer all questions. In order to encourage students, the students were informed that these tests would not affect their final score and they would be used in a master's thesis.

The data collection started in the second week of the course. At this stage, the first 35-questions of Nation and Beglar (2007) Vocabulary Size Test was given to students and they were asked to answer in 25 minutes. Likewise, in the second phase of the data collection, second 35-questions of Nation and Beglar (2007) VST was held one week later in 25 minutes. In the fourth week, the collocation test was administered in 30 minutes. In the last step, the writing test was held. According to the experienced teachers who have worked in ILI, 60 minutes was sufficient for participants to do the task, so the participants were given an hour to complete this task.

Results

Descriptive Analysis

A summary of participants' performance on each test is provided in Table 1. Since the writing score was calculated out of 20, the vocabulary size and collocation knowledge scores also were converted in order to be calculated out of 20.

Research Question one: Do vocabulary size and collocation knowledge have any role on learners' writing performance?

In order to find the relationship between vocabulary size and collocation knowledge and writing performance of the participants, a correlation analysis was conducted. The results are displayed in Table 2.

Table 1

Descriptive statistics (N = 60).

	Range		Maximum	Mean	Std. Deviation
		Minimum			
Vocabulary size	9.71	9.43	19.14	14.9135	1.9645
Collocation	11.18	7.06	18.23	12.3326	2.4093
Writing	7.7	11.7	19.4	14.9608	1.8391

As it is shown in Table 2, vocabulary size and collocation knowledge as two predictors are statistically significant in writing skills ($p < .05$). Moreover, the correlation between the vocabulary size and writing and between collocation knowledge and writing are .71 and .635, respectively. Meanwhile, the correlation between the vocabulary size and collocation is .705 ($r = .705$, $p < .01$). Hence, it can be concluded that a larger vocabulary size better predicts students writing performance. However, collocation knowledge, though less than vocabulary size in this study, is a good

Table 2

Three Tests Correlation Analysis (N = 60).

		Vocabulary Size	Collocation	Writing
Pearson correlation	Vocabulary Size	1	.705**	.710**
	Collocation	.705**	1	.635**
	Writing	.710**	.635**	1

** Correlation is significant at the 0.01 level.

predictor of writing. Assuming that collocation knowledge is a sign of vocabulary depth, it follows, from the results of the present study, that both aspects of vocabulary, i.e., size and depth play a role in writing performance of the learners. Due to a significantly positive relationship between vocabulary size and collocation knowledge it can be inferred that learners who have a large vocabulary size have good collocation knowledge too.

Research Question two: Which one of these two factors, vocabulary size or collocation knowledge, better predicts English learners' writing performance?

In order to determine the more powerful predictor in writing performance of the participants of this study linear regression analysis was conducted. As it is shown in Table 3, R-value is .735, which indicates a high degree of correlation exists between vocabulary size and collocation in the model and writing performance. R^2 is .54 that shows 54% of writing skills can be explained by both students' vocabulary size and collocation knowledge.

Table 3

The Regression Model Summary

Model	R	R Square	Adjusted R Square	Sig. F Change
1	.735	.540	.524	.000

As it is shown in Table 3 ($R = .735$, $p = .00$), the regression model significantly predicts the outcome variable, that is writing performance. Since the observed ANOVA (Table 4) is statistically significant ($F(2, 57) = 53.89$, $p = .00$), the regression model of this study holds true and the

researchers are allowed to proceed with the rest of data analysis and interpretation.

Table 4

ANOVA for Three Tests

Model	Sum of Squares	df	Mean Square	Sig.
Regression	107.789	2	53.895	.000
Residual	91.781	57	1.61	
Total	199.57	59		

According to Table 5, for every one-unit increase in vocabulary size and collocation knowledge, the writing skills increase by .488 and .204 units, respectively. The contribution of vocabulary size in writing ability is .521

Table5

Linear Regression Analysis Coefficient.

	Unstandardized Coefficient	Standardized Coefficients		
Model	B	Beta (β)	T	Sig.
1	5.163		4.78	.000
(constant)				
Vocabulary Size	.488	.521	4.11	.000
Collocation	.204	.268	2.11	.039

($\beta = .521$, $p = .00$), which confirms a significant contribution. The contribution of collocation knowledge to writing performance ($\beta = .268$, $p = .03$) shows that collocation knowledge can act as a predictor of writing proficiency, but its value is not as high as vocabulary size. It may be safe to claim that vocabulary size is a stronger predictor of the students' writing performance.

Discussion and Conclusion

The main purpose of the study was to investigate the role of vocabulary size and collocation knowledge of Iranian EFL upper-intermediate learners in their writing performance. The results of the study revealed that vocabulary size and collocation knowledge had a direct relationship with learners' writing skills. In other words, as students' vocabulary size and collocation knowledge increases their writing skills may improve. Most of the previous researchers reached similar conclusions, but their findings were under the influence of diversity of learners with different levels of English achievement.

In terms of vocabulary size, the findings of the present study are consistent with some earlier studies (Baba, 2009; Milton, 2013; Mohseni & Satariyan, 2013; Nadarajan, 2007; Silva, 1992; Stotsky, 1986; Varnaseri & Farvardin, 2016; Yang, 2006). Most of these studies considered vocabulary size as a key facilitator of writing skills. It should be noted that Baba (2009) believed that increase in vocabulary size would not immediately lead to better writing performance and other factors such as organization, quality of the content, style and register, coherence and cohesion of the text, and structure of the text have an effect in writing a text. Moreover, Schoonen et al. (2002) pointed out that other features like grammatical knowledge and

speed of sentence building played a stronger role than vocabulary knowledge in L2 writing.

Furthermore, the data analysis shows a strong relationship between vocabulary size and collocation knowledge ($r = .705$). This piece of finding is in line with Gyllstad (2007) and Shimamoto (2000) studies. They found that vocabulary size and collocation were strongly correlated at $r = .9$ and $r = .73$, respectively. Nevertheless, the findings of the present study are in contrast with the results of Levitzky-Aviad and Laufer (2013). They believed that the ability to produce appropriate collocations may not be related to vocabulary size.

The current study revealed that collocation knowledge of participants has a positive role in their writing skills ($r = .635$). The results of the present study are in line with other studies (e.g., Adelian, Nemati, & Fumani, 2015; Al-Zahrani, 1998; Dabbagh & Janebi Enayat, 2017; Fan, 2009; Hong, Rahim, Hua, and Salehuddin, 2011; Hsu, 2007; Mounya, 2010; Oskuee, Pustchi, & Salehpour, 2012; Zhang, 1994). This piece of finding urges us to advise teachers to include collocations in their syllabus.

As stated earlier, the main purpose of the study was to determine whether vocabulary size or collocation better predicts writing performance. The result of the linear regression analysis shows that both vocabulary size and collocation knowledge significantly predict writing skills and that vocabulary size ($\beta = .521$) is a better predictor of writing skills than collocation knowledge ($\beta = .268$). The results of the current study are in line with the previous study such as Dabbagh and Janebi Enayat (2017). They stated that vocabulary size had a stronger weighting than vocabulary depth in writing ability. Therefore, although collocation knowledge could predict writing skills, its role is less than vocabulary size and the amount of the time

that should be devoted to teaching vocabulary should be more than the time for teaching collocations.

Nevertheless, the findings of our study are in contrast with Varnaseri and Farvardin (2016). The participants of that were 110 male and female M.A. university students majoring in TEFL. The result of the study showed that although the two dimensions of word knowledge were moderately correlated with writing performance, depth of vocabulary knowledge had a stronger contribution to writing skills than size did. This contradiction is probably because the number of participants was more than the participants of our study (N=60), and more importantly was the difference in the proficiency level of the participants. The participants of the present study were at the beginning of the upper-intermediate level, while Varnaseri and Farvardin's (2016) participants were advanced postgraduate English language students. Readers may readily agree that knowledge of L2 collocations is, to a large extent, related to the knowledge of L2 vocabulary. As collocational use of language implicates knowledge of words and the company they keep, it is reasonable to believe that the more L2 vocabulary a learner has acquired, the more collocations he is likely to know or use. Therefore, it seems practical to suggest applying the lexical approach in our classes. This approach focuses on developing learners' proficiency with lexis, or words and word combinations. It is grounded on the idea that a significant part of language acquisition is the ability to comprehend and produce lexical phrases as unanalyzed wholes, or "chunks," and that these chunks grow into the raw data by which learners identify patterns of language traditionally thought of as grammar (Lewis, 1993, p. 95).

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