

Vocabulary knowledge in the production of written texts: a case study on EFL language learners

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Abstract. Vocabulary is essential in second and foreign language acquisition because without its appropriate and sufficient knowledge learners cannot understand others or express their own feelings. After a lengthy period of focusing on the development of grammatical competence, language instructors and researchers now recognize the importance of vocabulary learning. This paper examines how vocabulary knowledge influences in written production; it measured the lexical richness and lexical profile of argumentative essays written by EFL language learners. The instruments used in this study are the Vocabulary levels test and the Vocabprofile software, *lxtutor.ca*. Data were collected from a quota sampling of 40 elementary learners who study English as foreign language. The results after the pedagogic intervention with a lexical approach revealed that the treatment group outperformed the control group in language production. The findings suggest that the vocabulary knowledge of foreign language is necessary; it provides learners a broader ability to produce well-structured written texts and contributes to the comprehension of utterances as well.

Key words: lexical richness; lexical profile; lexical approach, utterance, written corpora.

Resumen. El vocabulario es esencial para la adquisición de un idioma, ya que sin su adecuado y suficiente conocimiento, el aprendiz no puede interactuar o expresar sus propias ideas. Es así que, profesores e investigadores, después de un largo período de centrarse en el desarrollo de la competencia gramatical, hoy reconocen la relevancia del aprendizaje de vocabulario. Este artículo investiga la riqueza léxica y el perfil léxico de ensayos escritos por estudiantes de Inglés como lengua extranjera. Los instrumentos utilizados en este estudio son el Test de conocimiento de vocabulario y el software Vocabprofile, *lxtutor.ca*. Los datos fueron analizados a partir de una muestra de 40 estudiantes de nivel elemental. Los resultados de la intervención pedagógica con un enfoque léxico revelan que el grupo participativo superó al grupo de control en la producción del lenguaje. Los resultados sugieren que el conocimiento del vocabulario de una lengua extranjera es necesario; pues éste provee al aprendiz la capacidad para producir textos escritos bien estructurados y al mismo tiempo contribuye a la comprensión de enunciados.

Palabras claves: corpus escritos, enfoque léxico, enunciados, perfil léxico, riqueza léxica.

Introduction

Recent developments in second and foreign language acquisition highlight that non-native speakers apart from grammar and pronunciation require a solid foundation of vocabulary

knowledge to become successful users of English in any academic environment. Thus, regardless the degree of learners' competence in grammar and pronunciation, without sufficient vocabulary knowledge, they cannot have effective communication (1). This is, in large part, because lexicon carries more of the meaning of a text than the grammar does (2). In fact, grammatical errors result in ungrammatical utterances whereas the inappropriate use of vocabulary affects the communicative act. That is, vocabulary is one of the linguistic components influencing the development of communicative competence and learners' language skills as well (Brown, Waring, & Donkaewbua, 2008; Meara & Jones, 1990; Moir & Nation, 2002; Schmitt, 1998; Schmitt, Wun-Ching, & Garras, 2011).

Vocabulary knowledge is viewed as an essential tool for mastering any language skills; it also contributes to the understanding of written and spoken texts. Thus, while more frequent the exposure to vocabulary is, learners are more confident to understand and interpret the meaning of some unknown words from context (2). Indeed, learning vocabulary does not only mean the learning of new words but also to know their functions and applicability to different contexts and situations. In other words, the comprehension and production of the language depend on the simultaneous and complex process of extracting and constructing utterances through the use of appropriate lexical combinations, in the appropriate time and appropriate place. Learners must not only learn the language as an abstract system of vocal signs or as if it were a kind of grammar text with an accompanying dictionary, but it must be learned as a tool that allows learners to know what utterances are useful to communicate effectively (3), and know what utterance is or is not appropriate to use in a given context.

Words are one of the fundamental components in the mental processes to acquire languages, which are learned in both ways: incidental and intentional. (4) Learning a word is a cumulative process of interaction, which occurs across four equal conditions such as meaning-focused input, language-focused input, meaning-focused output and fluency development. (4) The acquisition of words does not depend on single meetings but on the quality of interaction and meaningful association with other words. In this vein, (5) Language instructors should pay more attention on lexicon and decreases the emphasis on target structures if the learning purpose is the communication. Lexis is important in learning languages, with its knowledge; learners can actively communicate each other. Otherwise, they may face communicative difficulties since they could not interpret utterances from the context (6). As long as lexis is the heart of language (5), this paper aims to investigate how vocabulary knowledge influences in the written production; it examined the lexical richness and lexical profile of argumentative essays written by EFL language learners, and the necessity to adopt the lexical approach to vocabulary learning.

Theoretical Background

Vocabulary acquisition has been recently a major focus of research studies in applied linguistics, especially in second and foreign languages (7). The main challenge for scholars and language instructors is that learners learn new words, use them accurately in different context, familiarize with their pragmatic use, and retain them in their long-term memory. This process allows learners to acquire the target language and the appropriate use of lexical items in different communicative situations. Regarding the use of language in a given context, (8) it is essentially viewed as a system of *meaning potential* in which the lexicogrammatical system as a whole operates as the realization of the semantic system, which is what the speaker can mean and do at the same time.

The knowledge of vocabulary is essential in learning languages. Not only does it contribute in the comprehension and production of the language, but it also works as a good indicator of the performance and acquisition of any language skill. The learning of L2 or FL is a dynamic process that involves social interaction and exposure to the target language. Therefore, language instructors should make significant improvements in their teaching methodology by focusing on lexical elements rather than individual words (9). Thus, with the appropriate use of vocabulary; language learners can communicate one another even though they do not have enough knowledge of the target structures. Then, teaching instructions should look for opportunities in which learners practice the new vocabulary and improve their language performance as well. Therefore, (10) (4) it is very important that language instructors increase learners' vocabulary size by considering the type of words to be taught and the frequency of occurrence because not all those words require to be learned to become a successful user of language.

Despite the fact that vocabulary plays an important and significant role in the production of spoken or written texts, it has been receiving little attention. Thus, language instructors pay more emphasis on learners' linguistic competence rather than on vocabulary knowledge. In this view, it is necessary to point out (11) that, no matter how well the student learns grammar, no matter how successfully he or she masters the sounds of the target language, without words to express a wide range of meanings, communication cannot happen in a meaningful way. Words need interaction and combination with others otherwise their learning is nonproductive. That is, the learning of those words is as much useless as trying to write grammatical sentences without the knowledge of needed words to express messages (12). For this reason, learners have to acquire both breadth and depth vocabulary to develop their lexical and communicative competence as well.

Regarding lexical competence, it is suggested that (13) learners who take academic studies in learning English as a second or foreign language must learn academic words.

Those words provide learners the needed linguist elements to improve their language skills within the disciplines that they are concerning with. It is, therefore, very useful to learn vocabulary through organized procedures by identifying the form and function of words within particular context. From this view (14), the lexical approach makes a distinction between vocabulary, traditionally understood as storage of single words with fixed meanings and lexicon as the acquisition of individual words and their form-meaning combinations, which are stored in our mental lexicon. Lexical approach argues that language is formed of meaningful chunks that, when combined, they continuously produce coherent utterances, and only a minority of spoken and written texts are considered as novel creations. In this vein, (5) the lexical approach focuses on developing learners' language proficiency by acquiring words and words combinations. It is based on the idea that an important part of language acquisition is the ability to comprehend and produce lexical phrases within the communicative act.

Vocabulary knowledge is fundamental in the learning of any language, but if teachers and learners are not involved within the process, the learning of vocabulary cannot take place. If learners are not into the relationship within the given knowledge (input), it is unlikely that input contributes to retained the knowledge (intake) since for input becomes intake, comprehensibility is necessary (5). As both terms input and intake play an important role in the construction of output, the acquisition of linguistic features of the language, particularly, the new vocabulary should emphasize the quality of exposure to the target language and the quality of information presented within the learning process. This process must reflect the learning of fixed words and their combinations with others (language-in-use) rather than the memorization of single words. That is, words require meaningful connections to generate significance in a given context (15). Thus, the relationship between language and learning materials depend on the coherence of the speakers' intention – *production*– and the receivers' interpretation of utterances –*comprehension*– (16).

Learners acquire language by understanding meaningful input, in the sense that (5) learners can learn and incorporate into their thinking only ideas, which confirm, extend or modify the position from which they started in the process. Thus, if we listen to or read something that we simply do not understand, it is evident that we lose the interested in it. The similar situation occurs in the learning of vocabulary so Willis (17) suggests that a lexical syllabus should be matched with an instructional methodology that puts particular emphasis on language use, identifying words, their meanings, and the combination in which they are used.

Lexical Profile

The research studies of Francis & Kucera (1982), Hwang (1989), Hirsh & Nation (1992), Hwang & Nation (1995) and Nation (2001), just to name a few, recognize the importance of the lexical profile and report remarkable conclusions. Although, each research study analyzed different types of written corpora, the aim was to determine learners' lexical profile and the percentage of coverage provided by high and low-frequency words in different texts. The results revealed that while the words of type k1 and k2 had the highest percentage of occurrence in the corpora, the academic words reached the lowest percentage, behind the off-list words. The research analyses conclude in the necessity of looking for specific strategies and methodologies to teach vocabulary in order that learners can improve both, the comprehension and the production of the target language. That is, the mastery and knowledge of vocabulary directly influence in learners' language performance. In fact, it is estimated that second language learners need *more than 95% of the vocabulary* to understand written texts (18); hence language instructors should pay more emphasis on reinforcing the learning of vocabulary in language learners rather than on grammar structures of the language. Thus, language learning should 'focus on form' and not 'focus on forms' (19).

Language instructions should provide opportunities for social interaction, that is, learners can use the new vocabulary within different context, by focusing on communication rather than uttering possible well-formed sentences. In order that vocabulary acquisition takes place, its learning needs meaningful interactions, these allow learners to familiarize with the appropriate language use (functions and restrictions) in a given context. In fact, just the contact with the form-meaning connections of words, learners can increase their lexicon (mental storage of words or lexical items), as a result, learners store words to group and use productively in different communicative situations.

From this perspective, it is recommendable *not to isolate meaningful units* but connect them with aspects of reality to internalize and replicate the formal characteristics of these units so learners can understand and store their meanings (20). Learning a word in isolation, without combining with others, does not contribute to develop the lexical and communicative competence. Then, the vocabulary learning of second or foreign language should be carried out through a process of meaningful interactions. By this process, learners can distinguish and interpret the use, function and meaning of utterances uttered differently in different context.

Vocabulary development: Lexical diversity and lexical density

These terms refer to the vocabulary development. While lexical diversity measures how many different words are used in a whole text, lexical density provides the proportion of lexical items, as for example: nouns, verbs, adjectives and adverbs that appear in a written text. Both, lexical diversity and lexical density tend to be significantly higher in written rather than in spoken texts (3). Thus, a text that contains many different words' types may be categorized with high lexical diversity, but with a low lexical density if it has more pronouns and auxiliaries than nouns and lexical verbs. However, a text may have low lexical diversity if reports overuse of the same words or phrases, but with high lexical density if nouns, adjectives or verbs are overused in the whole text. In other words, for a text to be considered highly lexically diverse, writers have to use different words with little repetition of those words or phrases. While for a text to be highly lexically dense, it has to use a significant proportion of content words such as nouns, verbs, adjectives, and adverbs to the total number of words within the whole text. It is assumed that a text with more content words contain clear information than a text with more function words (21).

In a seminal study in the field of vocabulary acquisition (22), the lexical richness of 89 undergraduate students were examined by analyzing the lexical profile, type/token ratio, and the lexical density. Learners' lexical profile ranged between 77.67 and 95.37, the type/token ratios were between 0.43 and 0.62, and the lexical density was between 0.43 and 0.58. The low production of vocabulary in most of the essays also revealed that learners paid more attention to grammar, organization and spelling during writing rather than chose the appropriate words. This may be as a result of learners' limited writing experience in the mother tongue and the target language as well. So, the exposure to the language is necessary because it allows learners to recognize and use the words in a particular given context as well.

Thus, developing lexical and communicative competence in EFL language learners is important because these help learners to identify what 'linguistic features' and 'trans-linguistic systems' are or are not relevant in an utterance (23). From this perspective, language proficiency is much more a matter of knowing a stock of partially pre-assembled patterns, formulaic frameworks, and a kit of rules; it refers to the ability to retrieve those linguistic features within appropriate communicative situations (16).

Research Questions

The research study addresses the following key questions: How does the knowledge of vocabulary influence on learners' lexical richness? Do the mastery and knowledge of vocabulary enhance learners' writing production?

Methodology

The participants of this study were 40 EFL students, two-grade elementary level (A2). All participants, 19 female and 20 male EFL learners are Ecuadorian Spanish speakers, learning English as a foreign language at Language Cultural Center. The sample was randomly divided into two groups, experimental group (EG) and control group (OG). The study administrated the Vocabulary Levels Test (VLT) suggested by Nation & Beglar (2007). It measured learners' vocabulary recognition and vocabulary production. VLT contained 60 multiple-choice lexical items with one answer and four options. The linker scale (low, mid, high) scored learners' vocabulary level. An essay of 130 lexical items assessed learner's lexical richness to produce written text. Moreover, a survey-based questionnaire asked EFL language instructions their perspectives toward lexical approach in language teaching.

The complete lexical tutor vocabprofile analyzed and compared learners' lexical richness in the written corpora produced as a pretest and post-test (24). It determined the percentage of occurrence provided by the first and second thousand high frequency words (k1y k2), low frequency words or academic, and off-list words as names and misspelled words. The pedagogic intervention with a lexical approach with multiword units (collocations, phrasal verbs, compounds, prepositional phrases) intended to strengthen learners' vocabulary weaknesses. VLTs contained 60 multiple-choice lexical items with one answer and four options. The linker scale (low, mid, high) scored learners' vocabulary level.

Results and Discussion

A current research study in the field of lexical profile (25) revealed that in the written corpus of 4898 tokens produced by 40 EFL language learners at elementary level, the greatest number of words corresponded to high-frequency words –3922–, followed by the off-list words –480–, the words of type k2 –432– and finally, the academic words –64–. That is, the 80.07% of coverage in the corpus belongs to 392 family words of type k1, and just the

1.31% of the corpus represents the academic words. This analysis showed that learners had 9.80% of misspelled words in the whole text (see lexical profile in Guanoquiza & Tovar 2015, p.9).

Although, the academic words reached a significant percentage in the corpus, an extract of 130 tokens produced by one FL learner at the same level determined that he was not able to produce any academic word. The findings revealed that in the current profile, which shows the percentage and accumulation of type-token used in the written corpus, the academic words –0.00%– are out of this analysis of percentage and range since they do not appear in the text. Meanwhile, the 86.15% represents the first thousand words of high frequency –112–. While 8.46% corresponds to the second thousand words of high frequency –11–, and 5.38% belongs to off-list words –7–. Indeed, the largest number of words produced by the students is the type K1, followed by K2, then words off-list, and finally, academic words, which correlates with the literature review regarding the occurrence of academic vocabulary in different types of texts.

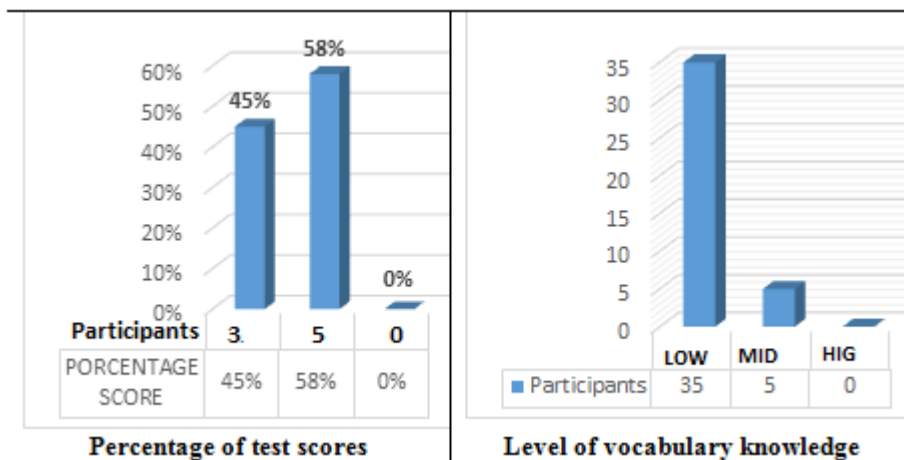
Regarding the lexical richness of EFL language learners, findings reveal that learners' type/token ratios were between 0.23 and 0.27, and the lexical density (content words) was between 0.58 and 0.61. Further analysis showed participants' lexical profile of the control group (OG) and experimental group (EG) fluctuated between 77.08 and 76.94 in the whole text. Both groups had different percentage of occurrence so, whilst OG reported to have 321 of word's families, EG had 414 of family words in the whole corpora. The written corpus analysis between OG and EG indicates that, the EG slightly outperformed the OG in the production of high frequency words (82.09% and 82.05%). However, participant of the EG produced 4.23% of academic words compared participants of the OG, who produced 1.96% of academic words. Likewise, compared the research study of Guanoquiza & Tovar (2015) and the present study, the results shown that the percentage of academic words – 4.23%– and –110– tokens performed by 20 students of the EG in the posttest essay is getting higher in comparison the pretest essay (see Guanoquiza and Tovar 2015, p.9), which informed 1.31% of academic words and 64 tokens in the written corpora. Thus, the mastery and knowledge of vocabulary enhanced EFL language learners' writing production.

Therefore, the findings indicate that after the pedagogic intervention with a lexical approach, EFL language learners were able to perform better in the language production since they can integrate precise vocabulary terms in some language learning activities. These results correlates with the view that learners who take specialized studies should recognize and produce high frequent words and academic words in written texts (13). Then, we can infer that the mastery and knowledge of vocabulary strengthened the comprehension and production of some linguistic features of the target language. In this view, the results

suggest that the vocabulary knowledge of foreign language is necessary; it provides learners a broader ability to produce well-structured written texts and contributes to the comprehension of utterances as well.

The lexical profile of one student of the experimental group showed that, from the written corpus of 130 tokens, 95 are words of k1 that correspond to 49 families and reach 73.08%. While 11 are words of K2 that belong to 11 families, equivalent to 8.46%, 19 tokens are academic words, corresponding to 19 families with 14.62%. Moreover, five are off-list that represents 3.85% of misspelled words. Indeed, the EFL language learner produced mostly high-frequency words, k1 and academic words, followed by the second thousand words of high frequency, k2 and finally, some words out of the list.

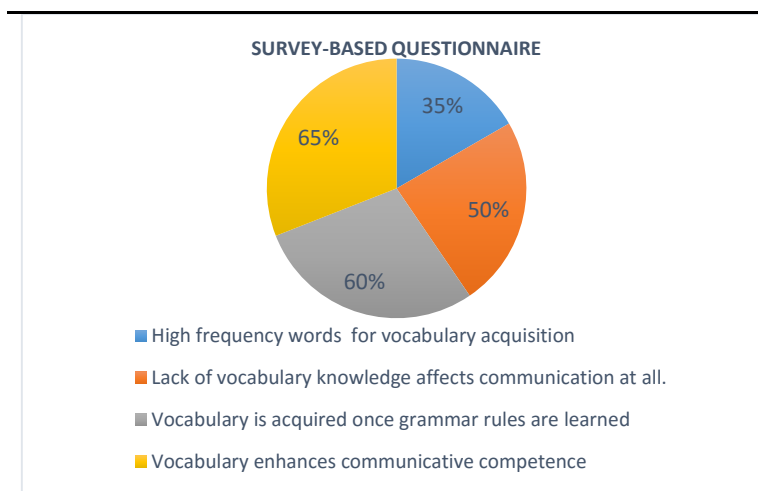
The differences between pretest essay and posttest essay within the written corpora are of great relevance, in terms of quantitative and qualitative analysis of the raw data. The most striking result to emerge from the data is that a student, who in the pre-test did not produce any academic word, in the posttest produced 19 tokens. That is, it reached the 14.62% of the corpus. Therefore, the results revealed that the pedagogic intervention with a lexical approach contributed significantly in the acquisition of vocabulary because the learner was able not only to produce the language, but also the knowledge of lexis strengthened the ability to recognize the meaning of unknown words from the context. It is therefore that language instructors should pay more emphasis on the learning of vocabulary because it provides learners the needed skill to successfully produce the target language.



Bar chart 1. Knowledge of vocabulary of 40 EFL language learners.

Regarding learners' receptive and productive vocabulary knowledge, the VLT revealed that from 40 students, it was found only 5 students were in the intermediate level scoring 58% over the standard grade of 50%, and rest of the students, 35 were found to be in the low level scoring 45% or below. That is, the 87.50 % of the participants showed weaknesses of learning vocabulary knowledge, while the 12.50% of them had general and superficial knowledge. However, though their mean score in the test was acceptable, the essays reported low production of vocabulary. The findings revealed that a particular level of language proficiency does not always reflect the appropriate use of receptive and productive words in written texts.

From this view, the pedagogic intervention with a lexical approach was carried out by introducing those frequent lexical units, as collocations, phrases of the target language to improve learners' vocabulary knowledge. Lexical units are essential for a fluent production; however, fluency does not depend on the numbers of words but on the use of those words in a given context (5). That is, without developing learners' ability to use those words, learning is unlikely to take place; this is because learning derives from comprehensible input and meaningful interaction with the language. The knowledge of lexical units allows learners to be more perceptive of the language and pay more attention on the inter-relation of language structures and principles of language use (26). In other words, the use of lexical units helps learners' language performance. The learning of those prefabricated phrases, on the one hand, drives learners to a more efficient retrieval of words, and, on the other side, directs their attention to understand the larger structure of the language, rather than keeping them narrowly focused on isolated words (27).



Pie chart 1. Survey-based questionnaire, EFL language instructors

The results obtained from the preliminary analysis of the survey-based questionnaire applied to 20 English foreign language instructors revealed that, 35% of teachers consider high-frequency words, k1 and specialized words for teaching language in classroom settings, *question 2*. Half of those surveyed reported that, the lack of both receptive and productive vocabulary knowledge more often cause more interruptions, blockages, and misunderstandings in communication rather than the absence of grammar structures, *question 4*. When we asked, is lexis acquired and stored in learners' mental lexicon once they have learned the grammar rules?, 60% of the participants agreed, which is not reliable because it would be like trying to develop extensive reading without the knowledge of words to understand the text, *question 10*. In response to *question three*, 65% of those surveyed indicated that learning vocabulary activities strengthen learners' lexical and communicative competence. The overall responses to this questionnaire contributed positively to the development of the present research study.

The data analysis supported the importance of learning vocabulary in EFL learners of elementary level, grade two and the necessity of a pedagogic intervention with the lexical approach to enhance learners' language performance. The lexical approach is a method for mastering vocabulary through the learning of lexical units so called *chunks* of the second of foreign languages. In this method, vocabulary is over grammar structures (5). However, overemphasizing just one aspect and undervalue the others may cause learners' language proficiency gaps, which significantly affect the language performance. For this reason, language teaching should balance the combination of linguistic features and the acquisition of lexical phrases so that learners develop the necessary knowledge of linguistics and communicative competence to master second and foreign languages (28).

Conclusions

Due the fact that the learning of vocabulary is associated with some linguistic features (e.g. grammar and phonology) and connected to language production (speaking, writing) and comprehension (listening, reading) as well, vocabulary knowledge in EFL learners affects directly in the language competence and language use. From the data analysis, the pedagogic intervention with vocabulary activities strengthened learners' performance production since they can integrate precise vocabulary terms in the production of written texts. For this reason, it would be important and necessary that language instructions pay more emphasis on enhancing the vocabulary knowledge of the target language in use. That is, learning process should focus on exchanging meanings rather than on producing

language structures (29). Since language consists of grammaticalized lexis, not lexicalized grammar (5), learning instructions should develop learners' lexical and communicative competence by 'looking for opportunities to practice the language so that learners see it as a useful tool for social interactions' (30).

Regarding the relevance of lexicon in the learning of English as a foreign language in students of elementary level, grade 2, the data analysis revealed that of 4898 tokens produced in the pretest, only 64 are academic, while of 2602 tokens produced by the EG in the posttest, 110 are academic words. That is, it had an increase of 4.23% in the production of specialized words. In addition, the same student who in the pretest did not produce any academic word, in the posttest was capable of producing 19 token, that is to say, he reached 14.62% of the written corpus. Thus, the results are significant and valuable to the present research study since those findings confirm that the pedagogic intervention strengthened the lexicon and vocabulary acquisition in the EFL language learner since he could increase his vocabulary size in English written texts. Furthermore, the learning of vocabulary helped him to improve the ability to understand and produce the language in a given context.

The lexical approach is highly relevant to the teaching and learning of foreign languages, in the sense that the communicative competence that FL language learners reach is not determined for the mastery of grammatical rules but for the use of language in different communicative situations. Therefore, it is estimated that second language learners need more than 95% of the vocabulary to understand written texts in the target language (18). Indeed, the knowledge of vocabulary contributes to have the precise meaning of the word then, it allows FL learners to know what utterance is or is not appropriate to use in different contexts. It is, therefore, that the knowledge and mastery of vocabulary are essential; these allow learners to communicate effectively and keep meaningful interaction with others.

The EFL language learners of elementary level, grade two had difficulties to understand and produce the language, either oral or written. The lack of knowledge and mastery of lexical items of the target language affected learners' language performance. They erroneously thought that the lexicon and vocabulary are stored in their mental lexicon once they learned grammatical structures, which is not reliable. In fact, it would be like trying to produce grammar sentences without the knowledge of words to express the message (12). Because the learning of vocabulary was isolated from its form-meaning connections, learners' lexical and communicative competences were low since they have difficulties to use the language in a given context.

Although the current study is based on a small sample of participants, the findings suggest that the pedagogic intervention with multiword units provided learners the need knowledge and skill to increase and strengthen their lexical and communicative competence. Thus, participants of EG were able to produce written texts by selecting

appropriate lexical items. Therefore, learners' written production performance contributed to answer the research questions.

Limitations

All analysis concerning to measure the lexical profile might vary significantly since it depends on some factors such as type of text, which may be academic or specialized, number of words produced, characteristics of the text, level of English who produce the corpus, etc. This study was limited by the absence of lexical density and ratio. Therefore, it is suggested that the association of these factors is investigated in future studies. A further study could also assess the long-term effects of vocabulary acquisition on learners' language proficiency to see if they are capable to retrieve those words and use them in real-life communicative situations with the use of delayed tests.

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