

## **Effects of Lexical Density and Lexical Variety in the Written Production of EFL Learners**

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### **Abstract**

The objective of the current study is to discover the effects of lexical density and lexical variety in written production of the EFL learners. The written products of the students were collected as data, the learners aged between 19- 28 years. The core aim of the study is to find out that students are able to establish the use of lexicon in their written scripts and it will demonstrate language knowledge of the learners. The cognitive approach of learning a language in the present study ascertains that the use of lexical density and variety will contribute in the language learning. McCarthy (2010) simple method of lexical density was used to analyze the data. Johnson & Victoria (2008) measure of complexity was used to find out the lexical variety. The study declares that students' lexical improvements can be measured in the productive use of the language performance and proficiency which means that learners should make proper use of language knowledge and regulate it accordingly. The reliable and valid measurement of the lexical density and variety in the writing production of EFL learners will contribute in determining the factors that affect the language performance and proficiency that is related to the lexis.

**Keywords:** Lexical density, Lexical variety, Language performance, Language proficiency, Vocabulary, Lexicon.

Among all four skills, usually writing is considered to be the most difficult task for (EFL) learners. Because it requires a great deal of attention during the writing process. The writer needs to consider apart from the organization and clarity of ideas, the language elements too, specifically the lexical density (content words) in order to have a better piece of writing production. The question arises what lexical density would be. Mostly the definitions of focuses on the quantitative aspect of the term, which is related to the frequency of content words in a text (Batia Laufer, Paul Nation 1995).

According to (Johansson & Victoria 2008), lexical density is the term which is generally used to describe the proportion of content words (nouns, verbs, adjectives, and often also adverbs)

to the total number of words. Such characterizations merely define the measurement of lexical density, not the concept of lexical density. It is more close-fitting to define lexical density as the degree of richness of a text in terms of meanings, ideas, and information. Carmen & Begofia, (2015) state lexical density as “the density with which the information is presented.” Lexical density, therefore, is mainly the density of the informational and ideational load of texts, which is realized by content words, as opposed to function words. The concept of lexical density has been particularly used to distinguish between written and spoken varieties of language, where written language has been shown to be lexically denser than spoken language.

Lexical improvement of a learner is being explored via two measurements lexical density (proportion of content words) and lexical variation (vocabulary range). Both of the measures are often being used to label lexical growth mainly lexical density and lexical variety (McCarthy 2010). The lexical density measurement is used to discover the number of content words or in another word to find out how many lexical items such as (nouns, verbs, adjectives, and adverbs) are used in a text, however lexical variety provides a measure of how many different words used in a text. There are different views about the language process in the mind of learners. (Harmer 2001), asserts that the second language acquisition process is being recognized better by realizing the human brain processes and how it retains new information, mostly concentrating on the students as an individual. We can say that lexicon might be the most noticeable language element for learners in the progress of the language. However, Mitchell & Myles (Aitchison 2012) declares that the learner is seen as operating a complex processing system that deals with linguistic information in similar ways to other kinds of information.

The cognitive theory identifies learning strategies as one of the prominent cognitive processes in the L2 acquisition. The cognitive theory of learning is mostly based on the theory of human information processing which mainly deals with the mental processes involved in learning. According to (Al-Wahy, Ahmed seddik, n.d.), this theory generally refers to three basic cognitive components of learning: 1. How knowledge is developed? 2. How knowledge becomes automatic? How new knowledge is being integrated into an existing cognitive system of the learner? However, prominence is given to meaningful learning (learning with comprehension). According to this theory L2 acquisition is a complex cognitive skill which engages cognitive systems such as memory, perception, and information processing to overcome confines in human mental capability which may constrain performance (Btia laufer & Nation, 1995). “The theory also suggests that linguistic codes and structures are stored and retrieved from the memory precisely in a similar way as other types of information.” Regardless of which method is being used, we can say it depends on the theoretical dissimilarity between words function and content words. This difference is deep-rooted in English linguistics and it has been discussed under different labels, such as “lexical items” and “grammatical items” (Daller, Xue, n.d.).

## Literature Review

This section will provide the theoretical notions of the previous works and also will present a related theoretical framework. However, the researchers argue that learners acquiring language go through various developmental stages. Learners can enhance their language performance through lexical density and lexical variety effectively by the contribution of these stages. These stages are similar across the languages. There are differences between the written work of EFL learners and native speakers in terms of lexical density and lexical variation. (Harmer, J.2001), conducted a study on Swedish students he used a basic way to find out the lexical density of the learners in the analysis of written work in English. This study was done to apply the specific theoretical approach of evaluation to essays. The result indicated that native speakers had a high result on both counts-lexical density and variation, their language was richer in lexis and more variety. Johansson & Victoria (2008), believes that via lexical variety measurement, we can identify easily distinctions between age groups of learners. It is important to show that both lexical density and lexical variety can be used for modality contrasts and development differences. The investigator similarly observed that both measures used on the same material indicates that they were not exchangeable.

One of McCarthy & Walsh (2010) findings indicate that spoken English texts have a lexical density of less than 40%, whereas written texts have a higher lexical density than 40%. According to (Sadeghi & Mosalli, 2013), Lexical density is inversely related to text readability; the denser a text is, the harder it is to process and understand. (Zdislaya Siskova, 2012), believes that lexical density and lexical variety is shown significantly two times higher in writing than speaking. These two measures are being used in the research to describe that both of the measures have a great impact on language proficiency and performance particularly the writing skill of the EFL learners.

Lexical density is used for various purposes such as for the description and characterization of scientific and technical texts (Sadeghi, (n.d.), for comparing the writing proficiency level of EFL language learners with native speakers and comparing newspaper discourse over periods of time, for comparing translated and non-translated texts (Carmen & Begofia, 2015), and for comparing different registers within the same languages and across languages. Their study suggests that it is worth helping and encouraging learners to bring their vocabulary knowledge into active use in writing. This paper will try to explore the effects of lexical density and lexical variety in language performance and proficiency through written scripts produced by EFL students during their study. In addition to that, it also finds out that how the lexical density leads to effective writing proficiency of the learners and how lexical variety does affect the performance of the learners.

## Research Questions

- i. What is the role of lexical content in the written language performance among EFL learners?

- ii. Does lexical density and variety enhance the writing skills of EF learners?

Methodology:

Participants are 16 proficiency students studying proficiency course at EFL University Hyderabad. They are intermediate level. Age between 20-30. They were asked to write a descriptive paragraph based on a picture that was provided to them about summer rain. The time was 30 minutes to write a paragraph of 200-250 words. Exam scripts were collected from them for the study. They had different English backgrounds some had five some six and some seven years of English exposure. Overall, their level of proficiency was intermediate. Their mother tongue was Telugu because they were regional people. All the subjects are male. The nature of data was a spontaneous individual production. Through a pre and post-test. The subjects were a mixture of good, average and poor at their writing abilities. After collecting the data from both pre and post-tests and comparing both the results to see the number of lexica used in the scripts including both functional and content/lexical words.

### **Descriptive Analysis of the Result**

The subjects' writing ability was tested with a procedure of pre-test, one-week intervention and post-test. In both the tests students were asked to write a descriptive paragraph ranging words between 200-250 words per script. In the first test ten out of fifteen used repeated words and more functional words in their scripts also the word range was below 150 words. In contrary three of them wrote around 200 words including repeated content words. Two of them wrote above 200 almost 300 words scrips with very clear and appropriate usage of adjectives and other content words. In the second test eight of fifteen scripts lie above 150 words, five subjects produced around 200 to 250 word scripts and two of them wrote above 300 word scripts. In order to gage the lexical density of the scripts, I used Analyze My Writing (AMW) online tool. I typed their scripts and put them in AMW to find out the lexical density of each script.

Based on AMW in the first test the majority of the students used 30-60 content words in their written texts including repeated words. Five subjects used 50-80 content words in their written scripts including repeated words. After the intervention again students were asked to write about the same picture (summer rain). However, in the post test there was a drastic change in the written production of subjects. Eight students used between 50-90 content words and the remaining seven of them used between 100-130 content words. However still there were some repeated words but not as many as in the first test. So it indicates that the majority of student's lexical density was higher after the intervention and there was positive change in their written production.

The lexical variety measurement revealed the percentage of the total number of content words which have been used by the subjects in the text particularly (nouns, verbs, adjectives and adverbs) varies from one lexical item to another. In order to accomplish lexical variety, I have compiled the total number of content words with total number of orthographic words.

The above results clearly designate that less proficient students make more repetitions of the most frequent used words such as nouns and verbs. So it shows that less proficient learners have less tendency to make use of the vocabulary. These dissimilarities are related to the notion of the language proficiency that demonstrates richer lexical density and high lexical variety are characteristic of better language knowledge.

In the written production the subjects used many number of nouns, verbs and adjectives, a few adverbs. More often, almost all the subjects used nouns and verbs in their writing. Moreover, the majority of the learners used very less number of adjectives and adverbs in pre-test. However, in the post test written script of the learners, there was a drastic change in terms of adjective and adverb usage.

### Conclusion

The study indicated that both lexical density and lexical variety play great role in the language performance of EFL learners. We can say that the lexical density leads to the proficiency of the learners. However, lexical variety affects the overall performance of the learners. So we can judge the learners in terms of lexical density and variety. It means learners' language is richer in lexis and it is more varied. It shows that we need to focus more on the study of vocabulary in teaching of English. It is very prominent that generally, students have a wide range of receptive vocabulary than productive vocabulary. Also students' lexical improvements can be measured in the productive use of the language performance and proficiency which means that learners should make proper use of language knowledge and regulate it accordingly.

It is not merely these two aspects that cover the whole field of lexis. It needs to conduct some studies on other aspects of lexis such as frequency of lexis in the text to indicate the occurrence of words in the text and related difficulty levels should be further discovered.

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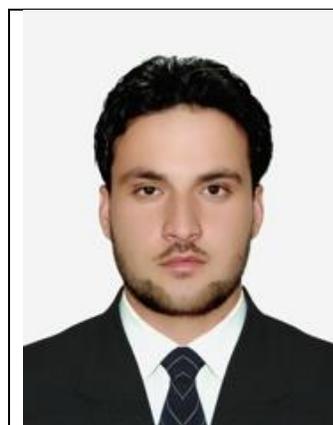
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