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## The Role of Morphological Structure of Words in Depth and Breadth of Vocabulary Knowledge of EFL College Students.

**A B S T R A C T**

The morphological structure of words is one of the important properties of a language and is thought to be a determinant of its word-building patterns. This study examines the morphological structure of words as a supplemental area of vocabulary knowledge for EFL learners measuring both the breadth and depth of vocabulary knowledge (DVK and BVK). The study aims at (1) investigating students' proficiency in recognizing the new words meanings (2) examining how students' morphological knowledge affects their capacity to produce new words and change ones that already exist. It's hypothesized that (1) EFL college students are unable to recognize the meanings of the new words and (2) they face serious difficulties in producing new words. The population of the current study was chosen from the second stage at the university of Diyala, College of Education for Humanities, Dept. of English, which consists of 140 male and female students, whereas the sample was only **100** students. After doing the diagnostic test and using the suitable statistical means, the results showed that the students face serious difficulties at both production and recognition level of the morphological structures of the words.

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دور البنية الصرفية للكلمات في عمق واتساع معرفة المفردات لطلاب كلية اللغة الإنجليزية لغة أجنبية  
عمر علي حسين العاني/ وزارة التربية / المديرية العامة لتربية محافظة ديالى  
**الخلاصة:**

تبحث هذه الدراسة في البنية المورفولوجية للكلمات كمجال إضافي لمعرفة المفردات لمتعلمي اللغة الإنجليزية لغة أجنبية، حيث تقيس كلاً من اتساع وعمق معرفة المفردات (DVK و BVK). تهدف هذه

الدراسة الى (١) التحقق من كفاءتهم في التعرف على معاني الكلمات الجديدة (٢) التحقق من كيفية تأثير المعرفة الصرفية لدى الطلبة على قدرتهم في إنتاج كلمات جديدة وتغيير الكلمات الموجودة بالفعل. تفترض الدراسة : (١) أن طلبة قسم اللغة الإنكليزية غير قادرين على التعرف على معاني الكلمات الجديدة (٢) أن طلبة قسم اللغة الإنكليزية يواجهون صعوبات خطيرة في إنتاج كلمات جديدة. تم اختيار مجتمع الدراسة الحالية من المرحلة الثانية في قسم اللغة الإنكليزية ، جامعة ديالى، كلية التربية للعلوم الإنسانية ، والتي تكونت من ١٤٠ طالبا وطالبة، فيما كانت العينة ١٠٠ طالب فقط. وبعد إجراء الاختبار التشخيصي واستخدام الوسائل الإحصائية المناسبة، أظهرت النتائج أن الطلبة يواجهون صعوبات كبيرة على مستوى الإنتاج .

*لكلمات المفتاحية : علم الصرف ، المفردات ، عمق ، اتساع ، المستلم ، الإنتاجية*

## Section One

### 1. The problem of the study

One of the most salient features of a language is its morphological structure, which is believed to dictate the patterns of word formation. Words that derive from affixes and compounds are the focus of this morphological study. It considers the level of vocabulary knowledge in both depth and breadth and discusses the various methods of delivering vocabulary items, including words used in EFL training. The significance of researching the relationship between this vocabulary knowledge and its morphological structure is discussed, in addition to the definition and distinction of the terms (Alsaedi, 2017).

It is said that acquiring vocabulary breadth knowledge i.e. the total number of words one knows is easier than acquiring vocabulary depth knowledge, which is the level of understanding one has of a word's meaning and structure. The morphological rules involved in word production are referred to as the complexity of morphological structure (the two are connected).

Students may face serious difficulties when producing grammatically correct sentences this is due to their limitation of understanding the morphological structures or even to guess the meanings of the unfamiliar words or the new words. Also, this makes the students unable to express themselves accurately or to appreciate the complex ideas. Unfamiliarity with depth and breadth in vocabulary knowledge may lead to serious problems in producing new words.

Here are some possible challenges that could emerge concerning the significance of word morphology in depth and scope of vocabulary knowledge:

1. Having trouble recognizing word pieces like as roots, suffixes, and prefixes; these are known as chunking sounds.
2. One of the difficulties in determining the relationship between form, meaning, and use is what they mentioned.
3. Limited exposure to a wide variety of morphological forms found in rich language.
4. Difficulties Determining the Meaning of Unfamiliar Words: They can't apply their knowledge of word morphology
5. There was no clear advice on how to adapt language learning courses to the morphological analysis feature.

## **2. The Aims of the Study**

The study aims at:

- (1) investigating students' proficiency in recognizing the new words meanings
- (2) examining how students' morphological knowledge affects their capacity to produce new words and change ones that already exist.

## **3. The Hypotheses of the Study**

**It's hypothesized that:**

- (1) EFL college students are unable to recognize the meanings of the new words.
- (2) EFL college students face serious difficulties in producing new words.

## **4. The procedures of the study**

**To achieve the aims of the study, several procedures are considered:**

- (1) presenting the theoretical background about morphological structures, depth and breadth vocabulary knowledge.
- (2) constructing diagnostic tests which includes both recognition and production level.
- (3) testing the second stage students,
- (4) using suitable statistical means, and
- (5) discussing the final results

## **Section Two :**

### **2.1 What is Morphology?**

Yule (2010) defines morphology as the branch of linguistics that primarily examines the structure and formation of words, rather than solely relying on word identification. Morphological processes serve two main functions: generating new words in a language and altering old words. Morphology is comprised of two morphemes, namely morph and ology. The suffix "ology" denotes a field of study. Consequently, morphology refers to the specific field of study that deals with the production of words. Morphology is the field of study that focuses on analyzing the internal structure of words and the laws that govern word formation, as explained by Fromkin, Rodman, and Hyams (2011). Morphology is the study of the structure and formation of words in human languages.

According to Kieffer and Lesaux (2008), morphology is typically defined as the examination of the internal structure of words and the principles that govern the creation of words in a particular language. It is a fundamental aspect of our understanding of a language, like our understanding of linguistics, and is typically acquired without conscious effort. English language learners must develop a strong foundation in comprehending the structure of words and the processes of word development. Gaining knowledge of English morphology will empower language instructors to assist their students in comprehending the process of word acquisition, the composition of words, and the formation of words through the combination of prefixes, suffixes, and roots. According to recent research conducted by Kieffer and Lesaux (2008), individuals who are aware of word-formation processes tend to possess a more extensive vocabulary and demonstrate superior reading comprehension skills. The figure below illustrates various methods of word construction.

### **2.2 Morphology and Its Significance in Language Learning**

The study of word structure is called morphology. Understanding how morphemes combine to make words, the laws and concepts governing the internal structure of words, and the capacity to examine word formation procedures like compounding, affixation, and reduplication are all included in the field of

morphology. Being morphologically aware entails recognizing and comprehending the function morphemes play in word creation, as well as intentionally considering morphemes and their significance in the comprehension of syntactic structure and word meaning (Kieliszek, 2015). The role that word structure and formation knowledge, or morphological knowledge, plays in learning a new language is gaining attention in the fields of first language (L1) and second language (L2) acquisition. This research is especially focused on the breadth (depth) of vocabulary knowledge. It makes sense to use morphology to the study of lexis. The building blocks of words are their morphemes. Morphology in vocabulary encompasses both basic and complicated words. For a lot of researchers, the foundation of vocabulary knowledge is understanding word building. Since the meanings of words like "marigold," "goldfinch," and "golden" can be deduced from a known prefix and/or root, morphological knowledge or awareness has grown in importance for successful vocabulary learning and word recognition (Alsaedi, 2017).

The



morphological structure of a language is the process by which words are constructed from morphemes, the smallest units of meaning Word formation is one of the activities of Morphology. Word formation involves the generation of novel words by several morphological processes, including *compounding*, *affixation*, *derivation* and *inflection*. In the field of linguistics, morphology pertains to the cognitive process of creating words or the specific area of study that focuses on words, their internal composition, and the mechanisms by which they are constructed (Booij, 2005).

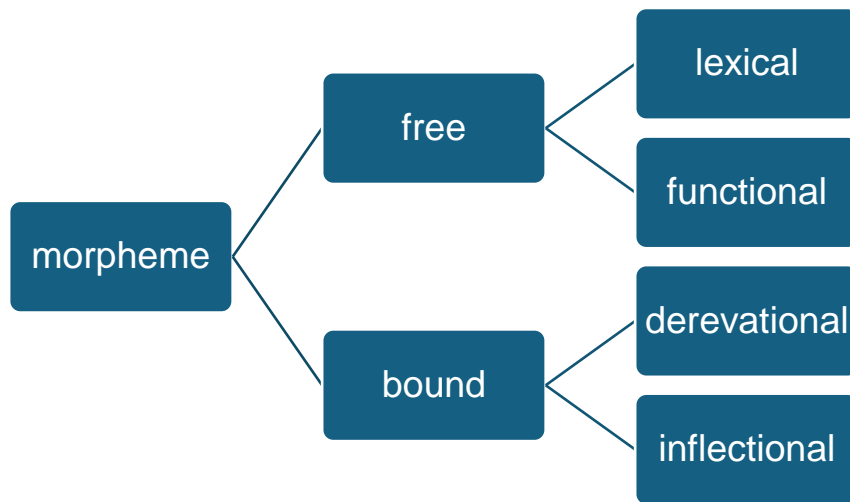
**Figure (1) Types of Word Formation**

### 2.2.1 Morpheme

Aarts et.al (2014) state that the smallest significant unit of a word is called a morpheme. A fundamental syntactic definition states that the morpheme is an abstraction, similar to the \*lexeme. Hence, phonologically \*conditioned \*allomorphs (/s/, /z/, and /ɪz/) realize "the \*plural morpheme" in normal \*nouns. Other realizations include the shift in vowel in men (from man) and mice (from mouse), as well as \*zero in sheep. Likewise, we can propose a \*negative morpheme (a \*prefix), with multiple realizations (e.g. in-, im-, il-, un-, as in intolerable, impossible, illegible, impregnable), and a \*past participle morpheme, which has multiple allomorphs (-ed, -en, etc.).

There are two types of morpheme free morpheme and bound morpheme. One morpheme that can function independently in a language without the need for additional morphemes is known as a free morpheme (Lieber, 2016, ). Examples of independent words are cat, book, and cheerful, which do not require attachment to another morpheme.

Lieber (2016) defines a bound morpheme as a morphological element, such -ish, -ness, -ly, and un-, that can only occur as a valid component of a word. Bound morphemes are always components of words rather than words in and of themselves.



*Figure (2) Types of Morphemes*

### 2.2.2 Lexical and Derivational Morpheme

Yule (2008) the group of common nouns, verbs, adjectives, and adverbs that we consider to be the words that contain the "content" of the messages we communicate are known as lexical morphemes. Lexical morphemes, which are



these free morphemes, include the following: girl, man, house, tiger, sad, long, yellow, sincere, open, look, follow, and break.

On the other hand, functional morphemes are other categories of free morphemes. As instances, consider the following: and, but, when, because, on, close, above, in, that, it, them. Most of the words in this set are language-functioning terms like conjunctions, prepositions, articles, and pronouns. They are referred to be a "closed" class of words as we hardly ever create new functional morphemes for the language.

### **2.2.3 Derivation and Inflection**

According to Translation & Literary Studies and Alolaywi (2022), new words are created through the process of derivation when affixes or other morphemes are added to base words, altering their meaning or grammatical properties. This is the process of making a new word by adding an affix to a current word. It is different from compounding and sometimes conversion such as : alleviation (from alleviate) interference (from interfere) sub-editor (from editor) unhelpful (from helpful) Aarts et.al (2014).

Derivation is a crucial part of learning new words since it shows how the capital word is reduced; as a result, the speaker or writer must have a deep understanding of the morphology and derivational structure of these words.

### **2.2.4 Inflection**

The study of inflectional morphology examines the mechanisms (vowel changes and affixation) that differentiate word forms within specific grammatical categories (Nordquist, 2019). Words change in shape to reflect grammatical qualities including tense, number, aspect, mood, and voice, which affect how they are used in different situations (Alsaedi, 2017). The verb "play" has several inflected forms, including plays, playing, and played, which are revealed by changing the tense of the word.

### **2.2.5 Compounding**

A compound word is one that has two or more words joined together in the English language. Aarts et.al (2014) state that a compound word is a term that is created by combining two or more words, also known as bases or lexemes. A new word can be formed by combining two existing ones; this process is known as compounding. According to Michael (2013), the compound terms' meanings differ from those of the individual words.

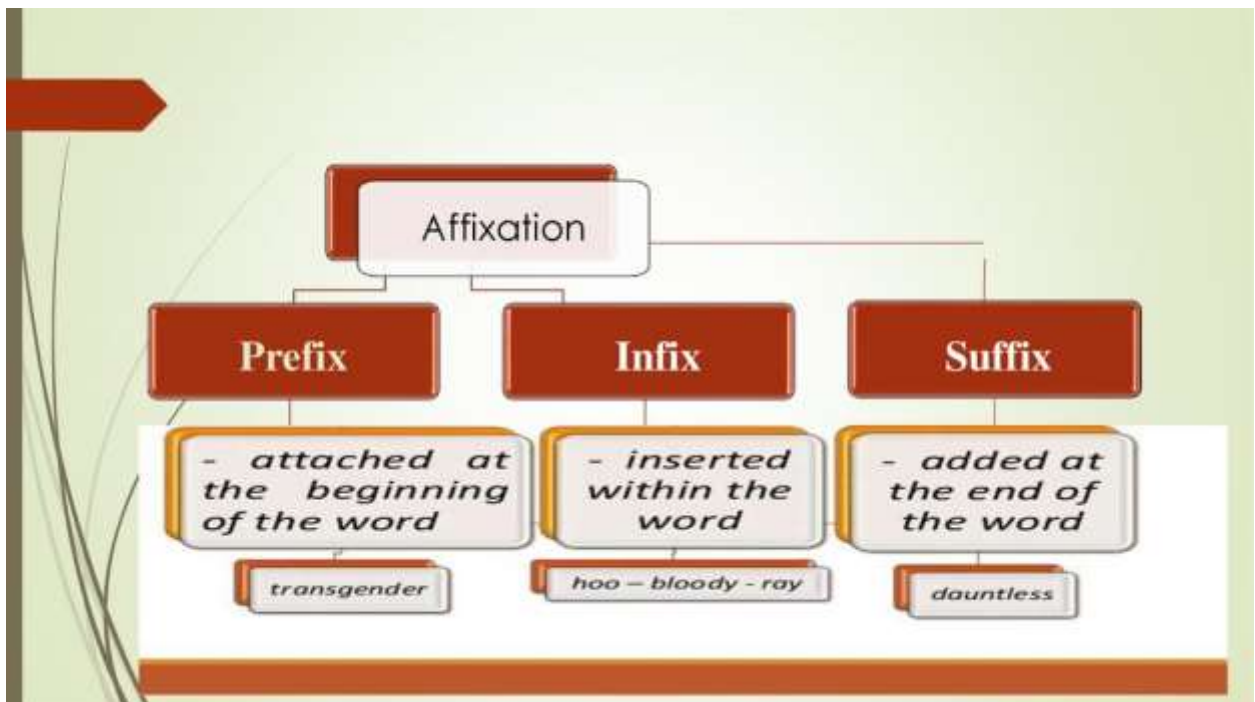
### 2.2.6 Affixation

Mary and Bill (2012) define Affixes as morphemes that are attached to a root morpheme and do not have a free form, A set of letters or sounds added to the start or finish of a word is called an affix.

There are three types of affixes; Prefix, Suffix, and Infixes English:

1. **Prefix** refers to the affixes that can be added to the beginning of words, such as re-act, dis-agree, ex-change, im-material, and ab-normal Aarts et.al (2014).
2. **An infix** is a type of affix that can be added to the base form of a word instead of at the beginning or end to make a new word or make the meaning stronger. It's also known as an integrated word. Infixation is the act of adding an infix (Butt, 2001).
3. **Suffix** according to Plagi (2003), it refers to a few constrained morphemes that must be introduced before the word's main significant part.

*Figure(3) Types of Affixes*



### 2.3 Vocabulary Knowledge

One of the major factors influencing the acquisition of second language



competence is the student's vocabulary. There are two possible outcomes for individuals learning a second language: either a low degree of English competence with a large vocabulary or a high level of L2 proficiency with a small vocabulary. Widespread and in-depth vocabulary knowledge is believed to be associated with second language competence and input quality (Wu, 2017). But nobody has looked into the nature of the relationship. The relationship between vocabulary knowledge range measurements and L2 performance in non-language learning circumstances is attracting more and more attention. As computing power has increased, the Internet has emerged as a viable, low-cost, and practical option for entering NLLs in a variety of languages.

Learning the morphological structure of words has been found to be useful in expanding one's vocabulary, since it allows one to recognize the meanings and syntactic categories of novel terms (Nation, 2022). To better understand new words, it is helpful for early vocabulary learners to recognize the morphemic structure of complex words (Nagy et al., 2014; Schmitt & Meara, 1997). Incorporating morphological knowledge into the vocabulary learning curriculum has been suggested due to the well-documented role of morphological awareness in vocabulary acquisition, particularly among young learners (Carlisle, 2010; Goodwin & Ahn, 2013; Schmitt & Zimmerman, 2002).

Form, meaning, and use are three of the components that make up word knowledge, as explained by Nation (2022). These elements are divided into two categories: productive and receptive word knowledge (Nation, 2022). The ability to recall a word, at least partially, and deduce its meaning from reading and hearing is known as receptive knowledge of the word. As opposed to this, productive word knowledge is defined as a learner's capacity to remember and apply a word in both written and spoken communication.

There are eight assumptions that should be considered while trying to understand a word, according to Richards (1976): association, syntax, frequency, derivation, register, semantic traits, and polysemy. Native speakers' vocabulary knowledge is also an important factor. Based on the framework of vocabulary knowledge that he established, some empirical research are conducted both domestically and overseas. As a major step forward in the research of vocabulary acquisition's depth, his framework initially lays out the numerous components of the process. Though Richards's framework captures the spirit of vocabulary acquisition, it leaves out crucial details like pronunciation, collocation, the conditions of vocabulary learning, the relationships between these components, and so on. The two areas of research on L2 vocabulary acquisition are bilingual

mental lexicon in the psycholinguistic field and language instruction from the perspectives of vocabulary breadth and vocabulary depth.

### **2.3.1 Depth of Vocabulary Knowledge**

Vocabulary knowledge refers to the breadth and depth of one's understanding of the items' meanings (Angela Scheepers, 2019). The ideas of productive and receptive vocabulary knowledge were separated by Davis (1995) into depth elements. Deep receptive vocabulary knowledge is when a writer understands the word's meaning on a deep level. Conversely, productive vocabulary knowledge of depth describes how well a writer uses words and phrases with nuanced meaning.

How well one knows words is referred to as one's vocabulary depth. Acquiring knowledge through encountering and using words in a variety of contexts to acquire their forms, meanings, and uses is usually the way to develop vocabulary depth. To truly know a word, one must be familiar with its pronunciation, spelling, derivations, inflections, meaning senses, semantic linkages, collocations, grammatical functions, and the contexts in which it may be used appropriately or inappropriately (Nation, 2001).

Research has operationalized depth in three ways, according to Read (2004): network knowledge, comprehensive word knowledge, and precision of meaning. Using these classes as a guide, one may figure out how to measure depth. There is some overlap between the categories, which implies that even when used collectively, they would not give a reliable measurement of depth, and each one has its own limitations in this regard.

### **2.3.2 Breadth of Vocabulary Knowledge**

According to Laufer (2010), vocabulary breadth is the total amount of word families or categories that a learner is at least somewhat familiar with. It may also be regarded as the quantity of words that a learner of a language is familiar with (Qin, 2015; Alfaki, 2015).

Vocabulary knowledge is becoming more widely acknowledged to be made up of several dimensions as opposed to a single construct, and numerous scholars have put forth different frameworks to characterize word knowledge's complexity (Choi, 2013). Being fully aware of a term involves having a variety of vocabulary knowledge, such as word building, opposites, synonyms, articulation, and spelling (Alfaki, 2015; Rashidi & Khosravi, 2011).

The demands of learners in many situations have led to a rising public concern regarding the range of vocabulary knowledge. An increasing number of English as a foreign language (EFL) students are choosing to study abroad in the STEM fields, which presents a number of unique sub-contexts requiring varying levels of academic and general vocabulary (Zhu & Wang, 2022).

**In sum** a language's depth and breadth of vocabulary are crucial to its learning. According to Li (2015), "depth of vocabulary knowledge refers to learner's level of knowledge of various aspects of a word" (Moinzadeh & Moslehpour, 2012, p. 1015) and "breadth of vocabulary knowledge refers to quantity or number of words learners know at a particular level of language proficiency." There isn't much research to back up this relatively recent theory of vocabulary knowledge (Adam & Sadegi, 2014).

## 2.4 Previous Studies

Schmitt and Meara (1997) used suffixes and associations to gauge how well-versed in vocabulary students were. The study, which spanned a full academic year, sought to investigate how suffixes and associations changed. 95 Japanese students studying English were chosen to be the subjects. The trainees' vocabulary had grown by 330 words by the post-test. The study revealed that the participants' knowledge of word association and suffixes was limited. It was discovered that learners' vocabulary size and language proficiency were related to the two components of vocabulary knowledge—word association and suffix—interacting with one another. However, in this investigation, only verbs were chosen as the target word; other word types were disregarded.

The acquisition and evolution of English vocabulary knowledge were tested by Liu Shaolong (2002). The subjects were Chinese English language learners who had three distinct English proficiency levels. Comprising affix, meaning, and part of speech, the three components of vocabulary knowledge tested were based on ten high-frequency words: the test contents. Deep understanding of vocabulary was the main emphasis of this quantitative investigation. It demonstrated how intricate and uneven the process of learning a second language is. Afterwards, some research (Mo Qingyang and Sun Lan, 2004) supported the conclusions we had previously given. Collocation may take longer to gain meaning. Furthermore, the process of acquiring language was known to experience a "plateau," and different acquisition patterns would have an impact on different types of vocabulary knowing.

## Section Three / Methodology

This section provides a detailed account of the methods employed in the present study to collect the necessary data. Therefore, it comprises an elaborate description of the overall population, the sample, the diagnostic test administered to students, and the statistical methods employed to analyze the study data.

### 3.1 The Population and the Sample of the Study

According to Best and Kahn (2014), a population is a collection of individuals that share at least one distinguishing attribute that sets them apart from other individuals. Richard and Schmidt (2010) define population as a collection of goods or individuals that possess similar and observable traits, from which a sample can be extracted.

Sampling, as defined by Glass, et.al (2008), refers to the method or methodology used to extract a representative sample from a population. Sampling is a crucial method for collecting data and conducting studies, as the number of participants in a group is often too large.

The population of this study consists of EFL college students in the second stage, Department of English/University of Diyala, during the academic year 2023-2024. The second stage's overall population consists of **140** male and female students. The sample of the current study consists of **100** male and female students, as illustrated in table (1)

**Table (1)**  
*Population and Sampling of Students*

College	Population	Sample		Total	Percentage
College of Education for Humanities	140	M.	F.	100	71%
		40	60		

### 3.2 Diagnostic Test Construction

A diagnostic test is an effective tool that can benefit both the classroom instructor and the student. At any moment, students can take a diagnostic test to find out how well they're doing in English class. This tool is vital because it allows

educators to gauge their students' current proficiency, identify areas of weakness, and pinpoint specific language skills that require improvement (Aljuboory, 2014).

**Table(2) Specification of the Test Items**

Level	Question No.	The questions	Behavioral objectives	scores
recognition	1	True & false	Write true or false for each statement	20
production	2	Writing	Write the meanings of the words	20
<b>Total</b>				<b>40M</b>

An Introduction to English Grammar by Stageberg and Winston served as the basis for the researcher's two questions, which aimed to examine the multi-dimensionality of **morphological structure of words in depth and breadth of vocabulary knowledge of EFL Learners** at the recognition and production levels.

### 3.3 Validity

Language tests, according to Benati, A. (2022), can evaluate a variety of abilities, including the ability to learn and retain new sounds, the ability to understand the grammatical functions of different sentence components, the ability to infer meanings in a foreign language solely from context, and the ability to move the eyes while processing language. They consider "a valid test" to be equivalent to "a good test," hence validity is considered an important aspect of a language exam (Fulcher, G. & Harding, L., 2022).

#### 3.4.1 Face Validity

Miller and Lovler (2018) state that face validity establishes whether or not test questions appear pertinent to the exam's stated goal. Face validity assesses test-takers' opinions of the usefulness and appeal of an exam in major part. The test's validity has been verified by an expert team of educators and experts in linguistics and English language teaching (ELT) methods. The jury reviewed the instruments and found that the modifications they had suggested had been implemented, and that it was both suitable and valid.

#### 3.4.2 Content Validity

A test has content validity, according to Benati (2022), if the questions on it are typical of the linguistic structures and abilities that the exam is meant to assess. We shall declare an accomplishment exam to have content validity if it contains items that were discussed in class.

### 3.4.3 Test Reliability

The degree to which a test assesses the same concept or attribute consistently is known as reliability. Tests must be trustworthy in order for the results to be consistent and dependable. Examining the consistency of results over time or contrasting results from various administrations of the same test are two ways to evaluate reliability. Test-retest reliability, internal consistency, and inter-rater reliability are a few techniques for evaluating reliability McMillan (2024).

### 3.4.4 Construct Validity

A more sophisticated technique for confirming an instrument's validity is construct validity. Construct validity is based on statistical approaches. It is determined by taking the percentage of each construct in the total variance observed in a phenomenon (Kumar, 2011). The test's items are assessed based on a number of factors and criteria to establish the test's suitability and value for the participants. These processes are as follows:

#### 1. Item Analysis

Scorepak (2005) defines item analysis as a process that examines students' responses to certain test items (question) in order to assess the test's and those items' quality. Item analysis can be used to eliminate unclear or misleading items from a single test session, but it is especially helpful for validating items that will be used in subsequent tests.

#### 2. Discrimination Power

Test discrimination, according to Richards and Schmidt (2013), is the extent to which a test, or an item within a test, can distinguish between people who score well and those who perform poorly.

According to the results, the test items' DPs for all the questions ranged from **0.30 to 0.67** respectively. Tables 3 below illustrate this.

Items No.	DP
	<b>Question One/ Write true or false</b>
<b>1</b>	<b>0.66</b>
<b>2</b>	<b>0.40</b>
<b>3</b>	<b>0.56</b>
<b>4</b>	<b>0.37</b>



5	0.43
6	0.58
7	0.52
8	0.38
9	0.41
10	0.55
<b>Question Two/ write the meaning of the words</b>	
1	0.48
2	0.55
3	0.52
4	0.43
5	0.40
6	0.33
7	0.39
8	0.53
9	0.30
10	0.60

### 3.4 Statistical Means

The statistical means were used in the current study to examine the data set:

1. Person Correlation Coefficient formula is used to compute the reliability of the two sets of scores .  
( Downie &Health, 1983)

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where:

**r = the correlation coefficient .**

**n = represents the number of pairs of data .**

**x = the scores of the first test .**

**y = the scores of the second test .**

2. T-test formula is used to find out the level of the sample testees in recognition ( micro and macro ) levels and production skills ( writing an essay ) .The following formula is used

$$t = \frac{\bar{x} - M}{S / \sqrt{n}}$$

Where :

**t = t-test**

**x= mean**

**M= theoretical mean**

**S= standard deviation**

**n= number of subjects** ( Madsen, 1983 )

3. Theoretical means is used to extract the standard deviation

$$\text{Theoretical mean} = \frac{\text{Higher score} + \text{Lower score}}{2} \quad (\text{Valette, et.al 1977})$$

**4.Standard Deviation Formula:** To get the final t-value score, it is applied as a second step.

$$SD = \sqrt{\frac{\sum (x - \bar{x})^2}{N - 1}}$$

Where:

SD = standard deviation

N = number of students

S = the score

$\sum r$  = the sum (Alderson et al, 1999).

**5. Discrimination Power:** It is used to gauge the diagnostic test items' ability to discriminate between different groups.

$$D = \frac{T_u - T_l}{(n) \frac{1}{2} / s}$$

D = item Discrimination

$T_u$  = The total of all the correct marks in the upper group.

$T_l$  = The total of all the correct marks in the lower group.

$n$  = Subjects number in one group.  $S$  = The higher mark for each component.

(Aggarwal, 2010)

1. The Alpha Cronbach Formula is employed for the purpose of determining the internal reliability of tests and the questionnaire.

$$\alpha = \frac{n}{n-1} \left[ 1 - \frac{\sum si_2}{sx_2} \right]$$

Where:

$n$  = Number of items in a test

$si_2$  = The variance of single items

$sx_2$  = The variance of the total test

(Stevens, 2007)

#### Section Four Discussions of the Results

The data obtained indicate that the students' mean scores and standard deviation are, respectively, **21.4** and **19**. Then, for one sample, the actual mean scores and the predicted mean scores were compared using the T-test formula. As can be seen in Table (4), the tabular value at the **0.05** level of significance with 100 degrees of freedom is **1.98**, but the computed value is **2.56**.

The results of this study demonstrate that second-year students face difficulties at the recognition level, So, it is acknowledged that the first hypothesis, which asserts.

Table (4)

The Means Scores, Standard Deviations, and T-Values of Total Level

Sample	Mean	Theoretical Mean	S.D.	T-Value		D.F	Level of Significance
				Comp.	Tabu.		
100	21.4	19	5.3	2.56	1.98	98	0.05

According to the statistics collected, the students mean scores and standard deviation are **25.9** and **29**, respectively. Next, the T-test procedure was applied to one sample in order to compare the actual mean scores with the projected mean scores. Table (5) illustrates this difference between the computed value of **2.58** and the tabular value of **1.98** at the **0.05** level of significance with 100 degrees of freedom.

It is accepted that the first hypothesis, which states, is true because the study's findings show that second-year students struggle with recognition.

Table ( 5 )

The Means Scores, Standard Deviations, and T-Values of Total Level

Sample	Mean	Theoretical Mean	S.D.	T-Value		D.F	Level of Significance
				Comp.	Tabu.		
100	25.9	29	10.9	2.58	1.98	98	0.05

## Section Five: Conclusions and Recommendations

### 5.1 Conclusions

After analyzing the obtained results, the researcher has concluded that:

1. Morphological structures play a crucial role in constructing and conveying the depth and the breadth vocabulary meninges.
2. EFL college students are weak in both recognition and production level
3. EFL college students are unable to identify the meanings of the given words.

## 5.2 Recommendations

It is recommended that:

1. Students are needed to improve their vocabulary learning on morphological structures.
2. It's essential to provides students some exercises to enhance their depth vocabulary knowledge.
3. It 's important to make the students use a variety of reading resources with different word forms to increase the breadth of their vocabulary.

## 6. References

- Aarts B., Chalker, S. and Weiner, E. (2014) *The Oxford Dictionary of English Grammar*. 2<sup>nd</sup> ed. Oxford University Press
- Aggarwal, J.C. (2010). *Essentials of Educational Psychology*. Vikas Publishing House,
- Alderson, C. (1995) *Dictionary of Language Testing*. Cambridge University Press .
- Alfaki, M.I. (2015). Vocabulary input in language teaching: assessing the vocabulary load in spine five. *International Journal of English Language and Linguistics Research*, 3(1), 1-14.
- AlJuboury,N.(2014) *A Language Techer's Guide to Assessment*. London: Cambridge University Press.
- Alsaeedi, W. (2017). The Role of Morphological Awareness in Vocabulary Acquisition in English of Saudi EFL Learners.
- Angela Scheepers, R. (2019). Probing the depths: Can both size and depth of productive vocabulary predict academic performance?.
- Benati A. ( 2022 ) *Key Terms for Language Teachers. A Pocket Guide*. UK Office 415, The Workstation, 15 Paternoster Row, Sheffield, South Yorkshire S1 2BX
- Best & Khan (2010) *Research in education*. London: Routledge
- Booij, Geert. 2005. *The Grammar of Words*. Oxford text books in Linguistics. Oxford University Press.

- Carlisle, J., F., and Fleming, J. (2010). *Lexical Processing of Morphologically Complex Words In The Elementary Years*. Scientific Studies of Reading, Journal of Psycholinguistic Research; 7 (3),(pp. 239-253 ).
- Choi, Hye-Yeon. (2013). Effects of Depth and Breadth of Vocabulary Knowledge on English Reading Comprehension Among Korean High School Students. *Language Research*, 49(2), 419-452.
- Dawnie, N. & R. Health ( 1983) *Basic Statistical Methods* . 5<sup>th</sup> ed. . New-York: Harper and Raw Publisher. Inc.
- Fromkin, V.; Rodman, R.,and Hyams, N. (2011). *An Introduction to Language*, Ninth Edition (International Edition). Boston, Massachusetts: Wadsworth Cengage Learning.
- Fulcher, G. & Harding, L. (2022) *The Routledge Handbook of Language Testing*. 2<sup>nd</sup> Ed. 2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN
- Glass, G. V., & Hopkins, K. D. (2008). In *Statistical methods in education and Psychology*. Allyn & Bacon.
- Kieffer, M. J., and Lesaux, N. K. (2008). The Role of Derivational Morphological Awareness in The Reading Comprehension of Spanish-Speaking English Language Learners.
- Kieliszek, M. (2015). Vocabulary Through Affixes and Word Families A Computer-Assisted Language Learning Program for Adult ELL Students
- Kumar (2011). *Research Methodology: A step-by-step Guide for Beginners*. (3rd Edit). Sage, London.
- Laufer, B. (2010). Lexical Threshold Revisited: Lexical Text coverage Learners' Vocabulary Size and Reading Comprehension. *Reading in a Foreign Language*, 22(1), 15-30.
- Li, K. Z. (2015). A study of vocabulary knowledge and reading comprehension on EFL Chinese learners. *Studies in Literature and Language*, 10(1), 33-40.
- Lieber, R. (2016). *Introducing Morphology*, Second Edition. New York, NY: Cambridge University Press.
- Liu Shaolong. (2002). *The development and acquisition characteristics of English vocabulary knowledge*. Luoyang: *Journal of People's Liberation Army Foreign Language University Press*. 2, 66-69.
- McMillan H.( 2024) *Classroom Assessment. Principles and Practice that Enhance Student Learning and Motivation*. Eighth Edt Pearson Education, Inc.



- Madsen, H. S. (1983). *Techniques In Testing*. New York: Oxford University Press.
- Mary, V. and Bill, C. (2012). *An Introduction To English Morphology: Words and Their Structure*. Edinburgh, Scotland: Edinburgh University Press.
- Michael, I. (2013). Internal Structure of Anaang Compounds
- Miller, L.A., & Lovler, R.L. (2018). *Foundations of psychological testing: A practical approach* (6<sup>th</sup> ed.). SAGE Publication.
- Mo Qingyang, Sun Lan. (2004). Study on the semantic development of high-frequency verbs of Chinese students. Luoyang: *Journal of People's Liberation Army Foreign Language University Press*. 1, 65-69.
- Nagy, W. E.; Carlisle, J. F., and Goodwin, A. P. (2014). *Morphological Knowledge And Literacy Acquisition*. Journal of Learning Disabilities,
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nation, I. S. P. (2022). *Learning vocabulary in another language* (3rd ed.) Cambridge University Press.
- Nordquist, R. (2019). What Are Derivational Morphemes? Thoughtco. <https://www.thoughtco.com/Derivational-Morpheme-Words-1690381>
- Plagi, I. (2003). *Word-Formation In English*. New York, NY: Cambridge
- Read, J. (2004). Plumbing the depths: How should the construct of vocabulary knowledge be defined? In Bogaards, P & B Laufer (Eds), *Vocabulary in a second language: Selection, acquisition, and testing*. Amsterdam: John Benjamins. 209-227
- Rashidi, N., & Khosravi, N. (2010). Assessing the role of depth and breadth of vocabulary knowledge in reading comprehension of Iranian EFL learners. *Journal of Pan-Pacific Association of Applied Linguistics*, 14(1), 81-108.
- Richards, J. C. (1976). The role of vocabulary teaching. *TESOL Quarterly*, 10(1): 77-89.
- Richards, J. C. and Schmidt, R. W. (2013). *Longman Dictionary of Language Teaching and Applied Linguistics*. Routledge London and New York.
- Qian, D. (1999). Assessing the roles of depth and breadth of vocabulary knowledge in reading comprehension. *Canadian Modern Language Review*, 56, 282-308.
- Qin, C. (2015). *Didactic considerations of vocabulary breadth and depth in EFL/ESL contexts - a literature review*.
- Schmitt, N., Schmitt, D., & Clapham, C. (2020). Developing and exploring the behavior of two new versions of the Vocabulary Levels Test. *Language testing*, 18(1), 55-88.

- SchmittN & Meara P. (1997). Researching vocabulary through a word knowledge framework: Word associations and verbal suffixes. *Studies of Second Language Acquisition*. 20, 17-36
- Scorepak, (2005). *Understanding Item Analysis Reports OEA*. University of Washington, Seattle. WWW. adobe. Com. Products/ acrobat read step2. htm.
- Steven, H. (2007). Educational Research: Planning. Conducting, and Evaluating, 260, (pp.375-382).
- Translation & Literary Studies, A. W. E. J. & Alolaywi, Y. (2022). Derivation between English and Arabic with Reference to Translation: A Contrastive Analysis Study.
- Valette, R.M. Allen, D.E. and (1977) *Classroom Techniques: Foreign Language and English as a Second Language*. Fourth Worth, Harcourt Brace Jovanvich, Inc., Orlando, FL.
- Vermeer, A. (2001). Breadth and depth of vocabulary in relation to L1/L2 acquisition and frequency of input. *Applied Psycholinguistics* 22, 217-234
- Wu, S. (2017). The Role of Vocabulary in Chinese English-Language Beginning Learners' Writing Development
- Yule, G. (2008). *The Study of Language*. Cambridge University Press
- Yule, G. (2010). *The Study of Language*. Cambridge: Cambridge University Press.
- Zhu, S. & Wang, C. (2022). Vocabulary Learning in Chinese as a Second Language: Exploring the Role of Self-Regulation in Facilitating Vocabulary Knowledge of Second Language Learners.

### Appendix The diagnostic Test

#### Recognition Level

**Q1: Write T if the Sentence is True and F if it is False**

1. The word intervene means come.
2. Contradict means do the opposite
3. Inactive means not .
4. intramural means within
5. The meaning of the italicized Patricide bound morpheme is kill.
6. the meaning of the italicized Corporation bound morpheme is body.
7. Comprehend has the meaning of look.
8. Portable has the meaning of carry.
9. The word inspire carries the meaning of “in, on”
10. Prewar means after .

#### Production Level

**Q2: Write the meaning of the underlying morphemes. (20M)**

1. Inexperienced .....
2. Cheaper.....
3. Malfunction .....
4. Rebuild .....
5. Unpopular .....
6. Photography
7. Tenable .....
8. Antifreeze .....
9. Subway .....
10. Rainy.....