

The Relationship Between Morphological Complexity and Vocabulary Knowledge among Iraqi EFL University Students

Dr. Nagham Qadoori Yahya

Mr. Raad Kamel

Mrs. Manal Omar Mousa

ABSTRACT

This study examines the relationship between morphological Complexity and vocabulary Knowledge in Iraqi EFL learners. Morphological awareness refers to the learners knowledge of morphemes and morphemic structure, allowing them to reflect and manipulate morphological structure of words, and has been shown to be an important predictor of L1 vocabulary. However, its relationship to vocabulary development in the L2 has to date received only limited attention. The main research question in the present study concerns whether greater morphological awareness will correlate with larger vocabulary size in the L2 learners studied.

1.1 Introduction

Vocabulary knowledge is one of the language skills crucial for fluent language use (Nation, 1993:115). Vocabulary size is an indicator of how well the second language (L2) learners can perform academic language skills such as, reading, listening, and writing. According to Nation (1993:115), knowledge of around 3,000 word families is the threshold needed for tapping other language skills. Without this threshold, learners encounter problems understanding the language they are exposed to. Ellis (1997:122) argues that vocabulary knowledge is a predicator of learners' discourse comprehension, which allows grammatical rules to be patterned in the learners' mind. Having inadequate vocabulary hampers learners' reading comprehension in a way that makes it more likely the learners will face difficulties in the path of academic achievement. As such, vocabulary learning and teaching is a central

activity in the L2 classroom. One way in which vocabulary learning can be fostered is through the use of learning strategies. These strategies are consciously or unconsciously learned techniques for processing information in order to enhance learning, comprehension and retention (O'Malley and Chamot, 1990:123). One potential vocabulary learning strategy is the use of morphological awareness to learn novel vocabulary. Morphological awareness is defined as the ability to use the knowledge of word formation rules and the pairings between sounds and meanings (Kuo & Anderson, 2006:41). With morphological awareness, learners are able to learn morphemes and morphemic boundaries by disassembling complex words into meaningful parts (e.g. childhoods = child + -hood + -s), learning the meanings of roots, affixes (child= baby, -hood= the state of being, -s= to indicate plural nouns), and reassembling the meaningful parts into new meanings (motherhood, fatherhood, brotherhood). The practice of this disassembling- reassembling method is called morphological analysis. There is increasing interest in morphological awareness as a crucial dimension of vocabulary knowledge, especially in reading. In the first place, morphemes have semantic, phonological and syntactic properties (e.g. -s in the verb rides indicates that the action doer is only one person who does the action in the present time) (Singson, et al, 2000:21) that express the role of a given word in the reading context. For another thing, words are organized in the mental lexicon according to their phonological properties with morphological knowledge as a framework for storing words (Sandra, 1994:9). Moreover, morphological awareness makes the learner more aware of the writing system. With the morphological knowledge, learners can perceive spelling and phonological irregularities (e.g. sign-signature). The relationship between morphological awareness and reading may be reciprocal or directional (Kuo and Anderson, 2006:209). In the case the relationship being reciprocal, both reading and morphological awareness can contribute to the development of one another. In directional term, morphological awareness leads to reading proficiency, but not the other way

around. Studies show that language learners encounter complex words at early stages of their learning. For instance, Nagy & Anderson (1984:19) demonstrate that 60% of newly encountered words by children are morphologically- transparent complex words. Learners are found to be able to use their morphological knowledge to uncover the meaning of newly encountered words. The fact that late- elementary graders encounter many derived words in their reading has motivated researchers to explore further the role of morphological awareness in vocabulary growth. As learners make the transition from learning English for basic communication to learning academic English, they need to learn the academic words critical to vocabulary development and, therefore, learning success. In order to develop the needed vocabulary knowledge, learners should be exposed to various extensive readings, be taught individual words explicitly, and taught strategies to unlock word meaning, and have their word consciousness raised. The concern of the present study is the third component: vocabulary- learning strategies, particularly those related to morphological awareness and the resulting morphological analysis (the realization of morphological aware- ness).

Despite the recognized potential of morphological awareness for vocabulary leaning, little research to date has focused on morphological awareness and its relationship to vocabulary size (Carlisle and Fleming, 2003:239-240). The nexus between morphological awareness and vocabulary size must be empirically established before proposing that morphological awareness be incorporated in the vocabulary learning strategies taught in the classroom. Although morphological analysis is not the only strategy teachable to enhance learners' vocabulary size, it is a potential learning strategy that seems particularly useful for the learners when attempting to tackle the meanings of new words.

1.2 The Aim of the Study

The aim of the present study is to assess morphological awareness as a learning strategy for promoting learners' vocabulary size. It will first examine earlier research that has looked at the role of morphological awareness in vocabulary development. Of particular interest will be the relationship between morphological awareness and vocabulary size, as well as how it relates to the learners' ability to deal with morphologically complex words. The study will then investigate the relationship between English as foreign language learners' morphological awareness and their vocabulary size. It will assess the relationship between their vocabulary size and overall morphological awareness and in particular their ability to deal with morphologically complex words in the L2 learning. The results are expected to provide insightful evidence of how to improve vocabulary instruction at college level. Two key aspects of morphological awareness will be studied: analytic and synthetic word formation. Analytic words formation refers to breaking words down into its meaningful components. In contrast, synthetic word formation refers to bringing the smallest pieces (morphemes) together to form words (Arnoff and Fudeman, 2005:24-25). Based on the body of literature on morphological awareness and vocabulary learning, the study aims to answer the following questions:

1. To what extent are students aware of analytic and synthetic word formation rules?
2. How does this awareness relate to vocabulary size?
3. Does morphological awareness discriminate between the students' performance on complex word and simple words?

1.3 The Limits of the Study

The research was undertaken at English department in College of Education \ Tikrit University. English is the medium of instruction and the learning materials used in the classes are

designed for English native speakers. Before undertaking the bachelor programme, all students undertake a four- year English foundation programme. The main goal of this programme is to provide the students with English language skills necessary to fulfill college- level courses. The foundation courses consist of listening, reading, speaking and writing courses. All of these courses have embedded vocabulary-focus instruction in which vocabulary learning is addressed in the context of the four basic language skills.

1.4 Branches of morphology

1. Comparative Morphology is analysis of the patterns of the locus of structures within the body plan of an organism, and forms the basis of taxonomical categorization.
2. Functional Morphology is the study of the relationship between the structure and function of morphological features.
3. Experimental Morphology is study of the effects of external factors upon the morphology of organisms under experimental conditions, such as the effect of genetic mutation.

The field of morphology is divided into two distinct branches.

1. "Anatomy" is the study of the form and structure of internal features of an organism.
2. "Eidonomy" is the study of the form and structure of the external features of an organism (Carroll et al,2003:121).

1.5 Models

There are three principal approaches to morphology, which each try to capture the distinctions above in different ways. These are:

1. Morpheme-based morphology, which makes use of an Item-and-Arrangement approach.

2. Lexeme-based morphology, which normally makes use of an Item-and-Process approach.
3. Word-based morphology, which normally makes use of a Word-and-Paradigm approach.

Note that while the associations indicated between the concepts in each item in that list is very strong, it is not absolute (Carroll et al,2003:135)

1.6 Morpheme-based morphology

In morpheme-based morphology, word forms are analyzed as arrangements of morphemes. A morpheme is defined as the minimal meaningful unit of a language. In a word like independently, we say that the morphemes are in-, depend, -ent, and ly; depend is the root and the other morphemes are, in this case, derivational affixes. In a word like dogs, we say that dog is the root, and that -s is an inflectional morpheme. In its simplest (and most naïve) form, this way of analyzing word forms treats words as if they were made of morphemes put after each other like beads on a string, is called Item-and-Arrangement. More modern and sophisticated approaches seek to maintain the idea of the morpheme while accommodating non-concatenative, analogical, and other processes that have proven problematic for Item-and-Arrangement theories and similar approaches.(Nagy and Anderson,1984:123)

Morpheme-based morphology presumes three basic axioms:

1. Baudoin's SINGLE MORPHEME HYPOTHESIS: Roots and affixes have the same status in the theory, they are MORPHEMES.
2. Bloomfield's SIGN BASE MORPHEME HYPOTHESIS: As morphemes, they are dualistic signs, since they have both (phonological) form and meaning.

3. Bloomfield's LEXICAL MORPHEME HYPOTHESIS: The morphemes, affixes and roots alike, are stored in the lexicon.

Morpheme-based morphology comes in two flavours, one Bloomfieldian and one Hockettian. ([Bloomfield](#) 1933 and [Charles F. Hockett](#) 1947). For Bloomfield, the morpheme was the minimal form with meaning, but it was not meaning itself. For Hockett, morphemes are meaning elements, not form elements. For him, there is a morpheme plural, with the [allomorphs](#) -s, -en, -ren etc. Within much morpheme-based morphological theory, these two views are mixed in unsystematic ways, so that a writer may talk about "the morpheme plural" and "the morpheme -s" in the same sentence, although these are different things (Nagy and Anderson,1984:133).

1.7 Lexeme-based morphology

Lexeme-based morphology is (usually) an Item-and-Process approach. Instead of analyzing a word form as a set of morphemes arranged in sequence, a word form is said to be the result of applying rules that alter a word form or stem in order to produce a new one. An inflectional rule takes a stem, changes it as is required by the rule, and outputs a word form; a derivational rule takes a stem, changes it as per its own requirements, and outputs a derived stem; a compounding rule takes word forms, and similarly outputs a compound stem (Nagy and Anderson1984:137).

1.8 Word-based morphology

Word-based morphology is (usually) a Word-and-paradigm approach. This theory takes paradigms as a central notion. Instead of stating rules to combine morphemes into word forms, or to generate word forms from stems, word-based morphology states generalizations that hold between the forms of inflectional paradigms. The major point behind this approach is that many such

generalizations are hard to state with either of the other approaches. The examples are usually drawn from [fusional languages](#), where a given "piece" of a word, which a morpheme-based theory would call an inflectional morpheme, corresponds to a combination of grammatical categories, for example, "third person plural." Morpheme-based theories usually have no problems with this situation, since one just says that a given morpheme has two categories. Item-and-Process theories, on the other hand, often break down in cases like these, because they all too often assume that there will be two separate rules here, one for third person, and the other for plural, but the distinction between them turns out to be artificial. Word-and-Paradigm approaches treat these as whole words that are related to each other by [analogical](#) rules. Words can be categorized based on the pattern they fit into. This applies both to existing words and to new ones. Application of a pattern different from the one that has been used historically can give rise to a new word, such as older replacing elder (where older follows the normal pattern of [adjectival superlatives](#)) and cows replacing kine (where cows fits the regular pattern of plural formation) (Nagy and Anderson,1984:141-143)

1.9 Morphological typology

Main article: [Morphological typology](#). In the 19th century, philologists devised a now classic classification of languages according to their morphology. According to this typology, some languages are [isolating](#), and have little to no morphology; others are [agglutinative](#), and their words tend to have lots of easily separable morphemes; while others yet are inflectional or [fusional](#), because their inflectional morphemes are "fused" together. This leads to one bound morpheme conveying multiple pieces of information. The classic example of an isolating language is [Chinese](#); the classic example of an agglutinative language is [Turkish](#); both [Latin](#) and [Greek](#) are classic examples of fusional languages (Carroll et al,2003:143).

Considering the variability of the world's languages, it becomes clear that this classification is not at all clear cut, and many languages do not neatly fit any one of these types, and some fit in more than one way. A continuum of complex morphology of language may be adapted when considering languages.

The three models of morphology stem from attempts to analyze languages that more or less match different categories in this typology. The Item-and-Arrangement approach fits very naturally with agglutinative languages; while the Item-and-Process and Word-and-Paradigm approaches usually address fusional languages.

The reader should also note that the classical typology mostly applies to inflectional morphology. There is very little fusion going on with word formation. Languages may be classified as synthetic or analytic in their word formation, depending on the preferred way of expressing notions that are not inflectional: either by using word formation (synthetic), or by using syntactic phrases (analytic) (Carroll et al,2003:145).

2.1 Morphology (linguistics)

In linguistics **Morphology** is the identification, analysis and description of the structure of [morphemes](#) and other units of meaning in a language such as [words](#), [affixes](#), [parts of speech](#), [intonation/stress](#), or implied [context](#). (words in a [lexicon](#) are the subject matter of [lexicology](#)). [Morphological typology](#) represents a way of classifying languages according to the ways by which morphemes are used in a language—from the [analytic](#) that use only isolated morphemes, through the [agglutinative](#) ("stuck-together") and [fusional languages](#) that use [bound morphemes](#) ([affixes](#)), up to the [polysynthetic](#), which compress lots of separate morphemes into single words (Mc-Bride-chang et al,2005:112).

While words are generally accepted as being (with [clitics](#)) the smallest units of [syntax](#), it is clear that in most languages, if not all, words can be related to other words by rules ([grammars](#)). For

example, [English](#) speakers recognize that the words dog and dogs are closely related — differentiated only by the [plurality](#) morpheme "-s", which is only found [bound](#) to nouns, and is never separate. Speakers of English (a fusional language) recognize these relations from their tacit knowledge of the rules of word formation in English. They infer intuitively that dog is to dogs as cat is to cats; similarly, dog is to dog catcher as dish is to dishwasher, in one sense. The rules understood by the speaker reflect specific patterns, or regularities, in the way words are formed from smaller units and how those smaller units interact in speech. In this way, morphology is the branch of linguistics that studies patterns of word formation within and across languages, and attempts to formulate rules that model the knowledge of the speakers of those languages (Mc-Bride-Chang et al,2005:114-115).

A language like [Classical Chinese](#) instead uses unbound ("free") morphemes, but depends on post-phrase affixes, and [word order](#) to convey meaning. However, this cannot be said of present-day Mandarin, in which most words are compounds (around 80%), and most roots are bound (ibid).

2.2 Morphology and Lexicon

2.2.1 Morphology and Morphemes

Morphology refers to the study of forms. Linguistics morphology refers to the study of words, their internal structure and the mental process that are involved in word formation (Arnoff and Fudeman, 2005:97). It is ‘... the study of the hierarchical and relational aspects of words and the operation on lexical items according to word formation rules to produce other lexical items’ (Leong and Parkinson, 1995:37).

Traditionally, a word can be divided into the minimal linguistic units that bear meanings or grammatical functions (i.e. morphemes). In line with the traditional definition, Coates (1999:29) identifies four criteria of what it takes to be a morpheme. A morpheme should

have a meaning or function, recur in other words with a related meaning (e.g. un- in unbelievable and unhappy), and be involved in a pattern of interchange (e.g. – est in longest can be substituted with another morpheme such as, - er).

Morphemes can be classified as free or bound. Simply, free morphemes are those that can exist in their own (e.g. book in notebooks), whereas bound morphemes cannot (e.g. –s in notebooks) (Coates, 1999:33). The word reestablishments can be broken into four morphemes: re-, establish, -ment, -s. Establish is called the root. The root is the core of a word to which other morphological units are attached. Establish can also be a stem (i.e. a base morpheme to which other elements are attached). A stem can be simple (establish) or complex (establishment). Re- and – ment and –s are called affixes. Affixes can appear in the forms of:

1. prefixes (e.g. re-): bound morphemes that are attached in front of a stem.
2. suffixes (e.g. –s): bound morphemes that are attached at the end of a stem.
3. circumfixes: bound morphemes that are attached simultaneously before and after the stem (not applicable to English language).
4. infixes: bound morphemes that are attached in the middle of a stem (not in English). Morphemes are further categorized into lexical morphemes (e.g. -full, -ness, etc) or grammatical morphemes (e.g. –ed, -s).

Grammatical morphemes are part of inflectional morphology that underlies the processes involved in building grammatical word forms. Words that contain inflection are called inflected words (e.g. larger, willing, biggest, bottles, etc) Lexical morphemes are part of derivational morphology that is concerned with the processes involved in building lexical word forms (Coates, 1999:40-41). Derivational morphemes are of two types: class 1 and 2. Class 1 morphemes trigger changes to the base and/ or changes to stress assignment (e.g. – ity in sanity, - ive in productive) while class 2

morphemes do not (e.g. – ness in promptness, -less in hairless). Words that contain derivation are called derivatives or derived words (e.g. dehumanize, unsatisfactory, etc).

The study of morphology has been approached by two complementary approaches: analytic and synthetic. These approaches reflect two dimensions of learners' morphological knowledge of word formation. The analytic approach is concerned with morpheme identification or breaking words down into its meaningful components. For example, notebooks can be recognized as note-book-s. Learners can segment different meaningful chunks that constitute a word (Mc-Bride-Chang et al., 2005:126). The synthetic approach, on the other hand, is concerned with productivity of morphological structure or bringing the smallest pieces (morphemes) together to form words. It is assumed that learners know what the pieces are in order to be able to construct new meaning into words (Arnoff and Fudeman, 2005:141). Therefore, analysis is subsequent to synthesis, or synthesis presupposes analysis. The question of whether morphemes are discrete units, as structuralists believe, distinguishes structuralists' and connectionists' views in morphology. From connectionists' perspective, morphemes can also be defined as pairings between sound/ phonological representations and meaning/ semantic information (form meaning correspondence). Below is a very brief summary of how those two approaches differ in their views on morphological information, especially the representation of complex words. Complex words, from the perspective of structuralism, are represented in memory as distinct morphemes that are used in processing (Feldman, 1995:98). Those morphemes are morphologically related, but discrete. Structuralism views complex words like this: {un {{help} {ful}}}. That is to say, the meaning of complex words is predictable from the meaning of its morphemic units (constituents).

To the contrary, complex words in connectionism consist of non-discrete morphemes. Learning complex words are viable through the interface between semantic and phonological properties of the words. Phonological and semantic properties of particular words facilitate learners' responses to the target words

whether the pairs are morphologically complex or not (e.g. ponder– pond facilitates the processing of territory- territ). The semantic and phonological similarities of pairs of words are graded across words (low related pairs, moderate related pairs, high related pairs) (Gonnerman et al., 2007:143).

Although the issue of representation is not resolved, the current study assumes that morphological knowledge is represented in discrete terms; the present study does not seek to explore the difference between the two approaches.

2.2.2 The Analyzability of Complex Words

The following is a brief review of the representation of morphological information in the lexicon, and how the effect of morphological structure on lexical access provides evidence for the fact that learners analyze unfamiliar complex words into morphemic units (ibid).

2.2.3 Morphological Awareness and Vocabulary Knowledge

The role of morphology in vocabulary knowledge is well documented. Many studies show the beneficiary affect of utilizing morphological information (i.e. morphological awareness) in determining word meaning. Below is a discussion on the nature of morphological awareness followed by a discussion of the morphological awareness and its relationship to vocabulary growth. (Raymond et al, 2000:289)

Morphological awareness refers to the learners' knowledge of morphemes and morphemic structure, allowing them to reflect and

manipulate morphological structure of words (Carlisle & Stone, 2003:239). Awareness of inflectional forms is gained earlier than awareness of derivational forms (Carlisle and Stone, 2003:245). The construct of morphological awareness has been extended to entail other subcomponents (orthographic, semantic aspects) (Kuo and Anderson, 2006:116). It should be noted that many people confuse morphology acquisition and morphological awareness. While the concept of morphological awareness implies learners' use of metacognitive strategies of reflecting and manipulating word formation rules to derive the meaning of new words in the absence of communicative context, the concept morphology acquisition does not necessarily entail metacognitive strategies. Morphology acquisition means the cognitive abilities to use and comprehend morphological structure in natural speech (Kuo and Anderson, 2006:133). In this sense, morphological awareness falls under the umbrella of morphology acquisition. Morphological awareness delineated in this study hinges upon learners' knowledge of morphemes that enables them to recover the meaning of new complex words by means of morpheme identification or decomposition (i.e. analysis), and to recombine morphemes to construct new meaning by means of morphological structure (i.e. synthesis).

Morphological awareness is contrasted with phonological awareness. The latter refers to the phonological sensitivity to syllable segmentation, rhyming and phoneme segmentation (Carroll et al., 2003:211). Some researchers have explored the nexus between morphological awareness and reading comprehension and vocabulary knowledge independently of phonological awareness, whereas others compared the effect of morphological awareness with the effect of phonological awareness on promoting reading skills and proficiency after controlling for short-term memory and vocabulary) and for verbal and nonverbal Intelligence. In the present study, morphological awareness is addressed independently of phonological awareness; however, this study does not propose

that phonological awareness is completely detached from morphological awareness (Carroll et al., 2003:213).

2.3 The Complexity of Vocabulary Learning and Teaching

Researchers and theorists have pointed to the fact that vocabulary knowledge is multi-faceted, "a disarmingly simple term for complex multidimensional phenomenon" (Nagy et al, 2006:98). Due to this complexity, classroom teachers must take a more comprehensive approach to vocabulary development in order for students to reach a higher quality and quantity of L2 output.

There are three facets of this complexity: a) receptive versus productive vocabularies, b) breadth versus depth of vocabulary, and c) direct teaching versus contextual inferencing (Nagy et al, 2006:99).

2.4 The Importance of Morphological Awareness in the Development of Vocabulary and Reading Comprehension Skills

Many Arabic learners who are non-native speakers of English face the dual challenge of learning academic content and developing their second language simultaneously. Given the importance of reading in academic learning, proficiency in text comprehension needs to be developed rather quickly to ensure academic success. English non-native speakers usually develop good English word reading skills, compared to native speakers of English, they are less able to comprehend text at their grade level (August et al, 2005:50-57), a disadvantage that can negatively impact their academic performance. Nevertheless, some non-native speakers of English have already developed language and literacy skills in their home language. Several of the prerequisites for these skills (e.g., awareness of sounds) are similar across languages. It is therefore important to identify language skills from learners' first language

(L1) that can facilitate their second language (L2) reading development. One observation that has been made with native speakers of English is that the better they are at identifying the smallest units of meaning in words (i.e., prefixes, suffixes and roots), the better they are at acquiring vocabulary and comprehending text (Carlisle and Stone, 2003:142). The ability to identify and manipulate the smallest constituents of meaning in words is called morphological awareness. This awareness is developed in relation to the types of word formation processes that occur in a language. In English, words are formed by inflection, derivation, and compounding. Inflections are morphemes added after a root word to provide grammatical information such as tense, number, person, etc. (e.g., car and cars). Derivations are morphemes added either before or after the root to provide additional semantic information which can either slightly or radically change the meaning of the word (e.g., music, musician). Compounding is the process of putting two or more words together to create a new term (e.g., cowboy) .

2.5 Recommendations for Classroom Practice

1. Provide explicit and systematic training on morphological awareness: teach students the meanings of prefixes, roots and suffixes. According to Nagy and Anderson (1984:234), approximately 60% of the new words children encounter in English academic reading materials is morphologically complex. Training children in developing morphological sensitivity may be an effective way to enhance their vocabulary knowledge and reading comprehension skills. Morphological Awareness, Vocabulary and Reading Comprehension.
2. Help children build rich word families base on shared roots (e.g., electric, electrician, electrical, electronic, electrify, electrification, electronically) and establish word networks based on affixes (e.g., beautiful, wonderful, hopeful, helpful, meaningful, etc).

3. Provide differentiated instruction: before training can take place, it is important to identify which morphological awareness skills (e.g., inflections, derivations, compounds) students are already familiar with through experiences in their first language. For example, Chinese children may need more explicit instruction in English inflections and derivations, while Spanish children may need more training in English compounding .
4. Capitalize on students' L1 knowledge: acknowledge the concepts of morphology that students are already familiar with in their native language and help them become aware of the similarities and differences in English.
5. Develop cognate awareness: not all children will automatically identify cognate words. Bring to students' attention that there are many words with similar spelling and shared meaning across some languages. In particular, help students notice cognate roots, which may be more difficult to identify when the suffix attached to it is structurally different across languages (e.g., particularmente-particularly)

3.1 The Study

The present study focuses on L2 morphological awareness and vocabulary knowledge. The study correlates measures of English morphological awareness with those of English vocabulary size to assess if, and to what extent, the factors are related. Also of interest is whether levels of English morphological awareness can serve to distinguish between test performance on morphologically complex words and morphologically simple words.

By comparing performance on morphologically simple vs. complex words, we are better able to isolate the effect of morphological awareness on vocabulary development. These data have the potential to provide a better understanding of the nature of the link between morphological awareness and vocabulary knowledge.

3.2 Hypotheses of the Study

The study attempts to address the aspects of morphological awareness as demonstrated by Iraqi EFL learners, and the correlation between morphological awareness and vocabulary size and morphological complexity. The study will investigate the following questions:

1. To what extent are students aware of analytic and synthetic word formation rules?
2. How does this awareness related to vocabulary size?
3. Does morphological awareness discriminate between the students' performance on complex word and simple words?

3.3 Participants

The participants of the study are four year students of English department \ College of Education in University of Tikrit. All the students in this college are required to enrol English language teaching to develop skills in English reading, writing, speaking and listening needed to help them to succeed in their subsequent academic studies if they attempt to do so.

The participants in the present study are (60) students. The first language of all participants is Arabic. EFL students in this college take classes of English in reading, writing, speaking and listening, they are exposed to English five days a week.

In this study. The participants are given a set of complex words out of context, and are asked to segment them into as many smaller meanings as they can identify in each word. The words are decontextualized to control for the possible effect of context in guessing the meanings of words. The morphemes are neutral in the sense that they neither cause phonological and orthographical change nor stress assignment changes in the stem.

All items are embedded in a sentence frame so as to examine whether the participants can derive different forms of the base word rapidly and accurately when being primed with that base form in sentence context. It is expected that the participants use the frame sentence to complete the next sentence. Each morpheme in a test item receives one point. The total points of the morphological structure test are (70) points, representing the maximum number of possible morphemes the student could give as a response to the test items.

3.4 Test Validity

There are three important characteristics of a good test which are: validity , reliability and practicality . Content validity and face validity of the test have been submitted to the note and correction of the jury members .

Harrison (1983 : 11) defines the validity of the test as “ the extent to which the test measures what it is intended to measure ”. There are different types of validity , the most prominent of them are face validity and content validity . Face validity is emphasized on what teachers and students think of the test . The best way to discover face validity is to expose the test to jury of experts . While content validity is based on the objective of the course taught .

Also , Heaton (1975:154) says that content validity deals with “ an important analysis of the language being test and of the particular course objectives ”. The test should include samples of the course , the relationship between the test items and the course objectives always being apparent .

In order to achieve the test validity , it is given to the jury of experts in English department . They are asked to study the test to add , modify , or change anything they consider scientifically or theoretically necessary . However, certain suggestions and modifications have been made by the jury on the test , which are taken into consideration . All the members have agreed that the test

is suitable for assessing it can be used in the class by the teacher to acquire different vocabularies .

The jury of experts are as follows :

- | | |
|-----------------------|--|
| 1. M.A Awfa Hussain . | Instructor College of Education
/University of Tikrit |
| 2. M.A Shrooq A. Ali | Instructor College of Arts /University
of Baghdad |
| 3. M.A Zaineb A. Ali | Instructor College of Arts /University
of Tikrit |
| 4. M.A Hadeel K. Ali. | Instructor College of Education
/University of Tikrit |

3.5 Statistical Methods :

The researcher has used different statistical methods in order to achieve the purposes of the test :

1. The mean score is used . Heaton (1975: 169) defines the mean score “ is the arithmetical average : i.e. the sum of the separate scores divided by the total number of testees The mean is the most efficient measure of central tendency".
2. Standard Deviation (SD) is used . Heaton (1975: 170) indicates that standard deviation “ is another way of showing the spread of scores . It measures the degree to which the group of scores deviates from the mean” . One method is used to calculate SD is shown in the formula below :

$$SD = \frac{\sqrt{\sum d^2}}{N}$$

N is the number of scores and d the deviation of each score from the mean .

3. Variance : It is one of the statistical methods which is widely used to measure the variability of scores. It can be expressed statistically as follows :

$$\text{Variance} = \frac{\sum [x-]^2}{N}$$

(Butler , 1985:37)

4. T. test is a method used to measure and count the important difference between the results of the students (Glass and Stanly , 1970: 295). So, T. test method for independent samples is used in this study .

4. Conclusion

The findings for the first question indicated a need to give more attention to the building and development of English vocabulary for EFL students in English department. Next, the findings on the morphological awareness tasks revealed the aspects of morphological knowledge that may contribute to vocabulary learning. This suggests teachers should introduce aspects of morphological knowledge to the students. Initially, teacher should give explicit instruction and then gradually the learners can apply their morphological awareness automatically when faced with new vocabulary that has the possibility of morphological analysis. Finally, the significant correlation of morphological awareness to vocabulary size may suggest the need to apply this strategy for English vocabulary learning for the students. In addition, the students themselves confirmed their interest to use this method in their learning. Therefore, the concept of using morphological knowledge as a vocabulary building tool is necessary for inclusion in the curriculum.

5 . References

- Arnoff, M., & Fudeman, K. (2005). What is morphology? Malden: Blackwell.(net source)
- August, D., Carlo, M., Dressler, C., & Snow, C. (2005). The critical role of vocabulary development for English language learners. Learning Disabilities Research & Practice' . (net source)
- Beard, Robert. (1995). Lexeme-Morpheme Base Morphology. Albany, N.Y.: State University of New York Press.
- Carlisle, J. F., & Fleming, J. (2003). Lexical processing of morphologically complex words in the elementary years. Scientific Studies of Reading, (net source)
- Carlisle, J. F & Stone, C. A. (2003). The effect of morphological structure on children's reading derived words in English. In E. M. Assink, & D.(net source)
- Carroll, J. M., Snowling, M. J., Hulme, C., & Stevenson, J. (2003). The development of phonological awareness in preschool children. Developmental Psychology. (net source)
- Coates, R. (1999). Word structure. London: Routledge
- Ellis, N. (1997). Vocabulary acquisition: word structure, collocation, word-class and meaning. In N. Schmitt & M. McCarthy (Eds.), Vocabulary: Description, acquisition and pedagogy. Cambridge, UK: Cambridge University Press.
- Gonnerman, L. M., Seidenberg, M. S., & Andersen, E. (2007). Graded semantic and phonological similarity effects in priming: evidence for a distributed connectionist approach to morphology. Journal of Experimental Psychology: General. (net source)

- Feldman, L. B. (Ed). (1995). Morphological aspects of language processing. Hillsdale, NJ: Lawrence Erlbaum Association.
- Kuo, L. - J. & Anderson, R. C. (2006). Morphological awareness and learning to read: A cross-language perspective. Educational Psychologist. (net source)
- Leong, C. K. & Parkinson, M. E. (1995). Processing of English morphological structure by poor readers. In C. K. Leong, & R. M. Joshi (Eds) Kluwer Academic Publishers.
- Mc-Bride- Chang, C., Wagner, R. K., Muse, A., Chow, B. W, & Shu, H. (2005). The role of morphological awareness in children's vocabulary acquisition in English. Applied Psycholinguistics. (net source)
- Nagy, W.E. & Anderson, R.C. (1984). How many words are there in printed English? Reading Research Quarterly. Cambridge, UK: Cambridge University Press.
- Nagy, W., Berninger, V. W., & Abbott, R. D. (2006). Contribution of morphology beyond phonology to literacy outcomes of upper elementary and middleschool students. Journal of Educational Psychology. (net source)
- Nation, I.S.P. (1993.) Vocabulary size, growth and use. In. R. Schreuder, & B. Weltens (Eds). The bilingual lexicon Amsterdam: John Benjamins. . (net source)
- O'Malley, J. M., & Chamot, A. U. (1990). Learning strategies in second language acquisition. Cambridge: Cambridge University Press.
- Raymond, B., Matti, L., & Maria, V. K. (2000). The role of derivational morphology in vocabulary acquisition: get by with little help from my morpheme friends. Scandinavian Journal of Psychology. (net source)

- Sandra, D. (1994). The morphology of the mental lexicon: Internal word structure viewed from a psycholinguistic perspective. Language and Cognitive Processes. Cambridge University Press.
- Singson, M., Mahony, D., & Mann, V. (2000). The relation between reading ability and morphological skills: evidence from derivational suffixes. Reading and Writing: An Interdisciplinary Journal. (net source)

Appendix

A. Analysis (morpheme identification)

Please segment the following words into meaningful chunks, and state the meanings of those chunks.

e.g. **Childhoods**: child: little human being, - hood: the state of being, -s: to

indicate plural

washing machine:

freedom:

likelihood:

harden:

demotivation:

spaciousness:

oxen:

partially:

productive:

babysitting:

nationwide:

unpredictability:

education:

eyebrow

B. Synthesis (morphological structure)

Using only one word, come up with names for the objects or actions that are described Below.

A ballpoint pen that is blue in color. We call that **blue ballpoint pen**.

1. Ahmed **lived longer** than Ali. Ahmed **outlived** Ali.
2. James **performed better** than Juliet in the reading test.
James.....Juliet.
3. There is a kind of train that runs **under the ground**. We call that an **underground train**. There is another kind of train that **runs over the ground**. What do we call that?

If a researcher **examined** James. James is an **examinee**

4. If a researcher **interviewed** Ahmed. Ahmed is an

5. If Ali can only see **short distanced** things. He is **short-sighted**.

If James can only see **near things** more clearly than distant ones.
He is

6. There is a **passer- by** near your house. Now, there are three of them. So there are

Some people wear rings on their **ears**, they are called **earrings**.

7. Some people wear rings on their **nose**, what should we call that?

8. This animal is called a **wug**. There are four of them. There are four

James is professional in taking **photographs**. He is a **photographer**.

9. Jerry is good at **eavesdropping**. His is an
-

10. There's an animal that lives in the **sea** and **looks like a star**. It's called a **sea star**.

There's an animal which lives in the **sea** and **looks like a horse**.
What do we call it? -----

11. A glass that is used to hold **wine** is called a **wine glass**.

What do we call a glass that is used to hold **milk** ?-----

12. Many people wear laces on their **neck** called a **necklace**. Some people wear laces on their **foot**.

What should we call that?-----

C. Vocabulary Level Test

This is a vocabulary test. You must choose the right word to go with each meaning. Write the number of that word next to its meaning. Here is an example.

1.

1. birth
2. dust _____ game
3. operation _____ winning
4. row _____ being born
5. sport
6. victory

2.

1. attacking
2. charmed _____ a place to keep gold and silver
3. lacking _____ to be affected by magic or attracted by pleasing quality

4. pen _____ not having something

5. shadowed

6. treasury

3.

1. adopted

2. climbed _____ went up

3. examined _____ looked at closely

4. poured _____ was on every side

5. satisfied

6. surrounded

4.

1. original

2. private _____ first

3. royal _____ not public

4. slow _____ all added together

5. sorry

6. total

5.

1. braver

2. electric _____ not commonly done

3. firmer _____ not having food

4. hunger _____ more courageous

5. local

6. unusual

6.

1. belt

2. climate _____ idea
3. executive _____ inner surface of your hand
4. notion _____ strip of leather worn around the waist
5. palm
6. victim

7.

1. bench
2. charity _____ long seat
3. jar _____ help to the poor
4. mate _____ part of a country
5. mirror
6. province

8.

1. apartment
2. candle _____ a place to live
3. draft _____ chance of something happening
4. horror _____ first rough form of something written
5. prospect
6. timber

9.

1. betray
2. dispose _____ frightening
3. embrace _____ said publicly
4. injury _____ serious damage
5. proclaimed
6. scary

10.

1. alcoholic
2. aprons _____ stages of development
3. hips _____ marked with untidiness or dirtiness
4. lure _____ cloths worn in front to protect your clothes
5. messy
6. phases

11.

1. blender
2. devised _____ mixer
3. hugs _____ planned or invented
4. lease _____ the actions of holding something tightly in your arms
5. plague
6. rejects

12.

1. authoritarianism
2. equalitarian _____ related to the native language of a country or locality
3. humanitarian _____ the state of favoring blind authority
4. outrageous _____ violent
5. domesticity
6. vernacularly

13.

1. audacious
2. bribed _____ capable of being decomposed
3. lackluster _____ turned aside from the main subject

4. biogradable _____ lacking in brilliance

5. acquaintance

6. digressed

14.

1. bake

2. connect _____ join together

3. inquire _____ walk without purpose

4. limit _____ keep within a certain size

5. recognize

6. wander