

## The Influence of Derivational and Inflectional Morphological Awareness on the Writing of Undergraduate EFL Students: An Empirical Study

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### Abstract

This current study aimed to investigate the influence of derivational and inflectional morphological awareness on the writing of undergraduate students studying English as a Foreign Language. They were divided in to two groups and each group comprised 200 advanced EFL learners. Explicit morphological instructions were given to group two in the classroom for full one semester whereas group one wasn't given any kind of morphological knowledge. To collect data, exactly the same lists of word-formation on different morphological processes and their use in the writing samples were administered to both the groups. The main objective of this research was to examine the correlation between the morphological awareness and the EFL writing after testing learners' reflection on word-formation. Then it also tried to explore the difference between their performances to check whether the morphological instructions improved their writing or not. The findings stated that group two students always performed far better than group one and showed a strong understanding of word-formation structure while applying and manipulating in the morphological-instructed tasks. The formulated hypothesis-the teaching of explicit morphemic rules improves not only morphological awareness to a large extent but also grammatical, intralingual, lexical and syntactic awareness that results to enhance collaboratively EFL writing competence. A promising contribution of this current study to pedagogy was that explicit teaching of morphology improved writing to a concrete, large extent and revealed clearly that it must be introduced to EFL learners from the early education so that their writing skill can be developed effectively.

**KeyWords:** Morphological awareness, EFL writing, derivation, inflection, internal change, suppletion

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Foreign language learning depends mainly on its lexical knowledge. Morphology is the study of the words, their formation, and their relationship to other lexemes in the same language, and it is an essential factor in building a foreign language vocabulary. With the development of vocabulary, foreign language learners achieve target language proficiency and accuracy. According to Carstairs-McCarthy, (2002), Yule (2010) and Aronoff and Fudeman, (2011), morphology analyzes the structure of words and parts of words, such as **stems**, **roots**, **prefixes**, and **suffixes**. It looks at the **parts of speech**, **intonation**, and **stress**, and the ways **context** can change a word's grammar, pronunciation, and meaning. This paper discusses the influence of inflectional and derivational morphology on EFL text at the undergraduate level and attempts to examine the correlation and contribution of morphological awareness to EFL writing, and takes into consideration affixation and some other morphemic processes as variables, to measure the data, which students come across while forming words. These processes include derivation, inflection, internal change and suppletion. The paper focuses mainly the morphological awareness that is referred as “the awareness of the morphemic structure of words and the ability to reflect on and manipulate that structure” (Carlisle, 1995, p. 194) and its effect on EFL writing.

## 1. Theoretical Framework

### 1.1. Morpheme & Affixation

Free (roots) and bound (affixes) are two types of morphemes (Carstairs-McCarthy, 2002). Affixation is a morphological process whereby an affix, is added (before, after or within) to a morphological base or a word stem to form a new word. It is a grammatical part that is combined with a word, stem, or phrase to create copied and modified forms. Most English words are made up of the base word known as root which contains the heart of the meaning of the word. Prefix is an attached affix at the beginning of the root while a suffix has it at the end of a word. The process of adding these affixes to the roots is referred to affixation and the root is the key to building new lexemes (Coates, 1999). For example, ‘*advantage*’, ‘*forgive*’, ‘*measure*’ are the roots in ‘*disadvantageous*’, ‘*unforgivable*’ and ‘*immeasurable*’.

### 1.2. Derivational Morphology

Derivational morphology derives new words by altering the lexical category of a word (Lieber, 2004 & 2009). In English, derivational morphology can be both prefixes and suffixes unlike inflection. Derivation forms a new lexical category or a meaning distinct from that of its base through the process of affixation (Booij, 2007). For example, if ‘*-er*’ is added to a verb base ‘*sell*’, it results in a noun ‘*seller*’. When derived words are produced, they become independent lexical items that receive their own entry in a speaker’s mental lexicon (Pinker, 1999). Acquiring derivational morphology requires a long time and conscious efforts to develop it completely (Tyler & Nagy, 1990). There are two types of derivational suffixation: Class 1 and Class 2.

#### 1.2.1. Class 1 Suffixation

In this type of suffixation, the affixes are mostly Latinate. According to Vanderweide, O’Grady, Aronoff and Rees-Miller, (2002), this type of suffixation normally trigger phonological changes either in the consonant or vowel segments of the base with which they occur. In addition, they

usually affect the assignment of stress. For instance, ‘-ive’ suffix in the word ‘*product*’ as ‘*productive*’ shifts stress to a second syllable or ‘-ial’ in ‘*part-ial*’, here, final consonant of the base changes from /t/ to /ʃ/.

### 1.2.2. Class 2 Suffixation

Unlike class 1 suffixation, class 2 suffixes (which are mostly native) usually don’t trigger any phonological change. Merrifield, Naish, Rensch and Story (2003) say that this kind of suffixation is neutral, having no effect on the segmental make-up of the base or on stress assignment such as ‘-en’ added to ‘*dark*’ resulted in neutral sound ‘*darken*’.

## 1.2. Inflection Morphology

All languages have grammatical contrasts such as singular versus plural, and past versus non-past. Inflection often marks this contrast to indicate the grammatical subclass to which it belongs: the base to which an inflectional affix is added is sometimes called a stem. In the case of English nouns, for instance, normally the inflectional affix ‘-s’ as in ‘*chair-chairs*’ is added to indicate the plural subclass. In the case of verbs, on the other hand, inflection marks a grammatical distinction between the past and non-past forms of a verb usually by adding the suffix ‘-ed’ to point out the past tense like ‘*talk-talked*’ or it can be said that inflections are only grammatical variants of one lexeme (Carstairs-McCarthy, 2002). Berko (1958) and Brown (1973) are of view that inflections are easily acquired by children as well as by second language learners.

### 1.2.1. Internal change

It is a process that replaces one non-morphemic segment for another, as shown in the pairs of words ‘*sit-sat*’, ‘*foot-feet*’, ‘*goose-geese*’, etc. (Vanderweide, O’Grady, Aronoff & Rees-Miller, 2002). A verb such as ‘*sit*’, forms its past tense by changing the vowel. The term ‘ablaut’ is often used for vowel alternations that mark grammatical contrasts in this way. Ablaut can be distinguished from umlaut, which involves the fronting of a vowel under the influence of a front vowel in the following syllable, for example, ‘*foot-feet*’.

### 1.2.2. Suppletion

It is a morphological process whereby morpho-syntactic element of a lexeme is substituted by a phonologically unrelated form in order to indicate a grammatical contrast (Hippisley, Chumakina, Corbett & Brown, 2004). A simple example of suppletion is the use of ‘*went*’ and ‘*was-were*’ as the past tense form of the verbs ‘*go*’ and ‘*be*’.

Further, the paper discusses the students’ use of morphological processes or rules in the formation of words before and after being taught morphology. It also analyses the ways students apply these rules and according to that analysis, the solutions/strategies are implicated for the correct formation of lexemes in the writing of EFL students.

## 2. Literature Review

There are abundant studies on the influence and correlation of morphology with different language skills especially with vocabulary building and reading comprehension. As morphology has a very important role in language learning and learning morphology is an essential part of language learning like the other language structural and grammatical components. Many researchers like Agustín Llach (2010), Ramirez, Chen, Gena and Luo (2011), Zhang and Coda

(2013) and Zhang (2017) have focused mainly on the relation of morphology and reading comprehension. Zhang and Koda (2013) have conducted an investigation on young EFL Chinese learners' morphological awareness and its contribution to reading comprehension. According to this study, morphological proficiency is achieved by students' first language morphological knowledge and L2 lexical exposure. This investigation finds that derivational and compound awareness among the students are related and contributes to EFL reading comprehension. Another study by Zhang (2017) again emphasizes the contribution of morphological awareness to English reading comprehension. This longitudinal study investigates derivational morphological competence two times with an interval of one year. This research claims about a significant role of derivational morphology in English reading comprehension. Another study (Agustín Llach, 2010) shows a clear relationship between the reading and writing of L2 students. High level of L2 proficiency (aware of morphological rules) students perform better in reading and writing at the same time than the students with less L2 proficiency or morphological awareness. The average learners also indicate a relationship between their L2 reading competence and writing competence.

Word-formation has a key role in developing spelling, vocabulary, grammar, word-recognition, production of different lexical categories, and it facilitates not only reading, grammar, vocabulary but also lexical processing and writing, or overall learning (Masrai, 2016). Consequently, learning morphology cannot be avoided. Actually, it should be taught explicitly like other skills of language. Teachers and curriculum designers must pay an equal attention to morphology like teaching and designing curriculum of any other skill. Bowers and Kirby (2009) and Tabatabaei and Yakhabi (2011) examine morphological instruction and its effect on vocabulary learning. Both the studies find out a significant relationship between the English as second language learners' vocabulary performance and morphological knowledge. Saeidi and Mirzapour's (2013) investigation has tried to explore the role of morphological awareness in listening comprehension. They have experimented on twenty participants who have been administered four short listening conversations with morphemic structures of thirty token words in the pre-test. Then, after the four sessions, four short listening passages have been again used for the post-test. The research shows that the students do well in listening comprehension after getting morphological instructions.

Much less research has examined the effect of morphological awareness on writing competence. A very specific study by Engber (1995) reports how morphological knowledge develops lexical components of a second language. She concludes the results of her research that the ESL learners with lexical competence score holistically in written compositions. Moreover, Crossley and McNamara (2009 & 2010) explore that L2 students' proficiency is related to morphological and lexical features in their writing tasks. Furthermore, Kieffer and Lesaux (2007) and Karimi (2012) explain in their research that learners with morphological knowledge can easily break words into their meaningful production; this ability builds up not only their vocabulary but also a better understanding of reading and a good command over writing comprehension. Next, Kieffer and Lesaux's (2012) investigation on Spanish, Filipino, and Vietnamese speaking learners, as well as native English speakers, reveal that derivational morphological awareness boosts students' cognition to guess word meanings; consequently, derivational morphology guides in developing a better knowledge of understanding words and texts via reading vocabulary. One more study (Ginsberg, Honda, & O'Neil, 2011) also assures that morphological knowledge acts for

building up the comprehension of complex words and the ability of reading and writing competence. Some other studies like Kielar and Joannis (2010) distinguish several responses to inflectional morphology: regular, irregular and internal change/suppletion. These researchers advocate that regular and irregular inflections are processed differently, and the difference and production might be affected by orthographic, phonological, semantic, formal and informal factors.

Overall, there is no significant research or evidence that shows a direct contribution of morphological knowledge to EFL writing. However, all these studies tend to focus on the importance of morphological awareness in learning different language skills or overall learning a language. Therefore, it remains a question whether different types of morphological awareness have a significant effect or correlation on writing comprehension.

### 3. Analytical Framework

The research has been designed to analyze the morphological awareness among Saudi fourth year undergraduate learners' writing. The study has three measures: intralingual, phonological and grammatical processes to investigate the students' morphological errors. The main purpose of the investigation is to find out how morphology affects EFL writing and how it contributes as a tool of learning to enhance writing skill. To meet the goals of the research, the answers were sought to the following questions.

1. Do EFL learners have enough morphological awareness to use different lexical categories of words in their writing? If not, does the teaching of morphology improve their performance in EFL writing?
2. Is their performance the same or different in derivational and inflectional morphology, and whether they know properly the regular and irregular base forms and affixation?
3. What are the reasons that affect their morphological knowledge and how does their writing get affected by their vocabulary and morphological performance?
4. How can the explicit teaching of morphological rules improve their writing?

## 4. Methods

### 4.1. Participants

For this empirical study, the data was collected from the two groups. Each group comprised two hundred fourth-year undergraduate Saudi students. Group one was not taught morphology explicitly in the class whereas group two had studied morphology for four months explicitly in the class. However, both the groups had already known about vocabulary building (some basic rules of affixation along with other common words) and had enough FL exposure, EFL learning experience, but group two had morphological awareness to a larger extent. They share almost the same age, level of learning, experience and homogenous linguistic background of Arabic as their first language.

### 4.2. Materials

The researchers prepared seven morphology tasks adapted from Vanderweide, O'Grady, Aronoff & Rees-Miller (2002) and Carstairs-McCarthy (2002): in the task one and two, they were asked to add class 1 and class 2 derivational suffixes into words; in the task three and four, to add

regular and irregular prefixes; in the task five, the regular and irregular inflectional suffixes and in the task six and seven, zero affixation like internal change (only inflectional) and suppletion (See Appendix). Each task comprised of four different words. Both the groups formed the words for the same instructed tasks and after that, they were asked to use them in sentences. The data was analyzed through the following variables: correct and incorrect morphological forms, avoidance, overgeneralization (a vague expression to the point of inaccuracy/an application of a language rule too broadly), lexical category incomprehension and morphophonemic unawareness. All the variables were counted manually and then the statistics (the percentage and mean score) was calculated.

It was hypothesized that teaching of morphology directly in the classrooms affect EFL writing on a large basis. When the students don't know morphemic processes, either they overgeneralize one rule to exceptions, avoid or they make errors in the understanding of lexical category and its place of occurrence in a sentence due to less morphological and syntactic awareness. Group two who had the knowledge of morphology was likely to make fewer errors in the production of different lexemes and in the writing task comparatively to group one who didn't study morphology.

#### **4.3. Procedure**

In this experimental study, the concrete derivational and inflectional morphology was explicitly taught to group two students for one semester in contrast to group one. Both the groups were previously aware of vocabulary building (they had studied it in the beginning levels of graduation). Group two was given morphological instruction around in twenty classes for the entire derivational and inflectional morphological pedagogy with different kinds of exercises and drills. After that, the questionnaire was made and distributed among both the groups to examine the difference between their writing and the influence of morphological instruction on the second group's writing and to investigate morphological awareness effects on the EFL writing.

### **5. Results and Analysis**

In this section, an overview of data is presented through the percentage and mean value of formulated words in the questionnaire. First, the results of the research are compared between both the groups: their incorrect and correct use of morphology and the avoidance of words due to students' lack of morphological unawareness. Then the obtained results have been calculated and figured out on the basis of intralingual and grammatical processes e.g., overgeneralization, lexical category incomprehension, unawareness of morphophonemic rules leading to semantic change and errors in the formation of affixation that in turn results in the errors in writing.

Tables -1, 2, 3 and 4 demonstrate the percentage and mean value of derivational morphology: suffixes (class 1 and class 2), prefixes (regular and irregular), inflectional morphology: suffixes (regular and irregular), zero suffixes (internal change and suppletion) which are elicited from both the groups' reflections on morphological awareness and the reasons of making morphological errors. Each group had 200 students.

Table 1. The Percentage and Mean Value of Avoided, Incorrect and Correct Forms of Derivational Suffixes and Prefixes

Morphological processes	Groups	Avoidance		Incorrect forms		Correct forms	
Class 1 suffixes	Group one	2.5%	5	47.5%	95	50%	100
	Group two	0%	0	5%	10	95%	190
Class 2 suffixes	Group one	7.5%	15	15%	30	77.5%	155
	Group two	0%	0	2.5%	5	97.5%	195
Regular prefixes	Group one	20%	40	17.5%	35	62.5%	125
	Group two	0%	0	0%	0	100%	200
Irregular prefixes	Group one	0%	0	45%	90	55%	110
	Group two	0%	0	0%	0	100%	200

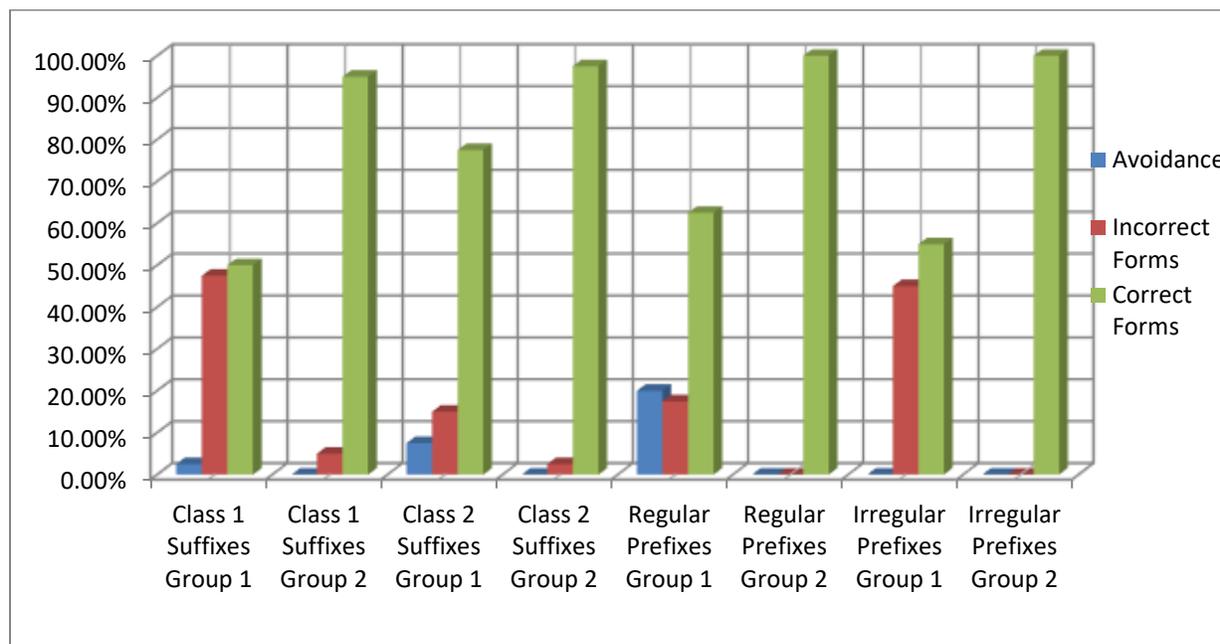


Figure 1. Percentage of the groups' responses

### 5.1. Derivational Morphology

According to table -1 and figure -1, it was observed that when group one didn't have knowledge of morphological rules, either many of them produced words incorrectly or some preferred to avoid. The mean score for avoidance in class 1 suffixation was 5 and 15 in class 2, and the percentage was 2.5% in class 1 and 7.5% in class 2 suffixation as shown in figure 1. In regular prefixes, it was more (40), (20%) and 0 in irregular prefixes. Unlike one, group two didn't avoid. It shows that these students were very confident because of their morphological knowledge. For group one, the percentage and mean score of the incorrect forms were 47.5% and 95 respectively in class 1 and 15% and 30 mean score in class 2 derivational suffixation because class 1 is more complex than class 2. In comparison to regular prefixes (17.5% and 35 mean value), the percentage

and average score were very high (45% and 90 average score) in irregular prefixes. The percentage of correct forms was 50%, 77.5%, 62.5% and 55 % with the mean score 100, 155, 125 and 110 in class 1, class 2 suffixes, regular and irregular prefixes respectively. Comparatively to group one, group two's performance was far better. This group formed words incorrectly only in class 1 (5% and 10 mean value) and in class 2 suffixes 2.5% and the mean score was 5. In regular and irregular prefixes, this group formed all the words correctly.

Table 2. The Percentage and Mean Value of Overgeneralization, Morphophonemic Unawareness and Lexical Category Incomprehension in Derivational Suffixes and Prefixes

Morphological Processes	Groups	Overgeneralization		Morphophonemic unawareness		Lexical category incomprehension	
		Percentage	Mean Value	Percentage	Mean Value	Percentage	Mean Value
Class 1 suffixes	Group one	27.5%	55	7.5%	15	30%	60
	Group two	5%	10	0%	0	0%	0
Class 2 suffixes	Group one	7.5%	15	0%	0	7.5%	15
	Group two	0%	0	0%	0	2.5%	5
Regular prefixes	Group one	10%	20	10%	20	0%	0
	Group two	0%	0	0%	0	0%	0
Irregular prefixes	Group one	40%	80	40%	80	0%	0
	Group two	0%	0	0%	0	0%	0

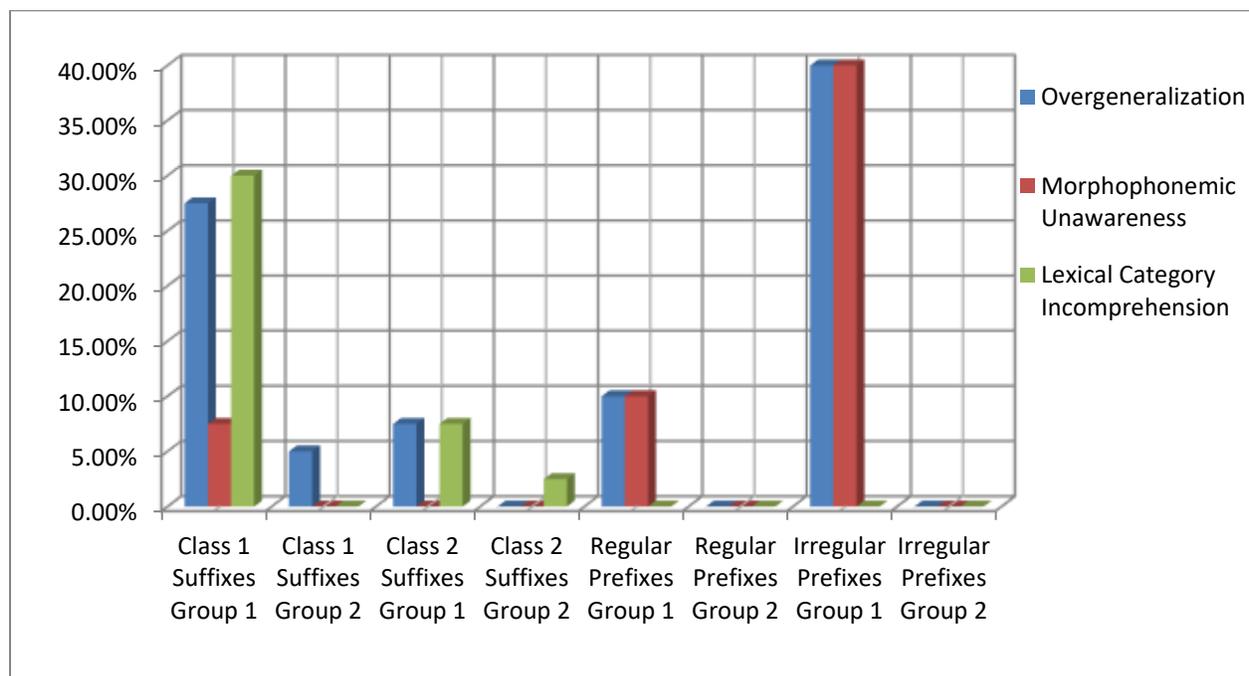


Figure 2. Percentage of the groups' responses

5.1.1. Overgeneralization

Table -2 and figure -2 illustrate the mean score of overgeneralization, in class 1 derivational morphology among group one, which was 55 (27.5%) and in class 2 derivational morphology, it

was relatively much lower (15) 7.5% only because in class 2 derivational morphology, there are no morphophonemic rules. Group one students just added suffixes. Here, their FL exposure facilitated them but in class 1 derivational suffixation, many of them failed to apply the morphophonemic rules. These findings indicated a significant difference between both the groups, as group two's performance was far better in deriving a new word from the root and the mean score of class 1 suffixation was only 10 (5%) and in class 2, it was 0 (0%). It showed that explicit teaching of morphology helps students a lot in forming new words and writing them correctly in written tasks. Further, the mean and percentage of irregular prefixes, among group one, was very high (80) and (40%) whereas in regular, it was moderately lower (20) and (10%). Contrastively, group two didn't make even a single error.

### 5.1.2. Morphophonemic Unawareness

In this category, group one learners make some errors because they aren't aware of morphophonemic process. In class 1 derivational suffixation, the mean score was 15 (7.5%) while in class 2, it was 0 (0%) because only class 1 derivation includes morphophonemic rules. The mean for irregular prefixes was 80 (40%) that is again high because to do it accurately, the study of morphophonology is required. Whereas in regular prefixes, some errors which were 20 (10%) were made and comparatively very lower than irregular prefixes. Group two marked a very significant contrast as this group formed all the words correctly in the lists and in the sentences.

### 5.1.3. Lexical category incomprehension

To write the sentences correctly, morphological as well as syntactic awareness is a must. Hence, this measure: lexical category incomprehension checks whether the learners are aware of the word class of given words and can they form different parts of speech through suffixation or not? It also shows how morphological awareness develops their grammatical awareness. The result for this measure, in group one, was 30% and 60 mean score in class 1 derivational suffixation while in class 2, it was 7.5% and 15 mean score. It shows that the morphological incompetency affected clearly the grammatical competence whereas the experimental group clarified that their morphological knowledge helped them produce different lexical categories of a word since the results for them were 0%. The data (table -2 & figure -2) clearly indicates that the study of morphology clears the concept of lexical category change too.

Table 3. *The Percentage and Mean Value of Avoided, Incorrect and Correct Forms of Inflectional Suffixes, and Internal Change and Suppletion*

Morphological processes	Groups	Avoidance		Incorrect forms		Correct forms	
		%	Mean	%	Mean	%	Mean
Regular & irregular suffixes	Group one	5%	10	15%	30	80%	160
	Group two	0%	0	2.5%	5	97.5%	195
Internal change	Group one	10%	20	35%	70	55%	110
	Group two	0%	0	5%	10	95%	190
Suppletion	Group one	7.5%	15	20%	40	72.5%	145
	Group two	0%	0	0%	0	100%	200

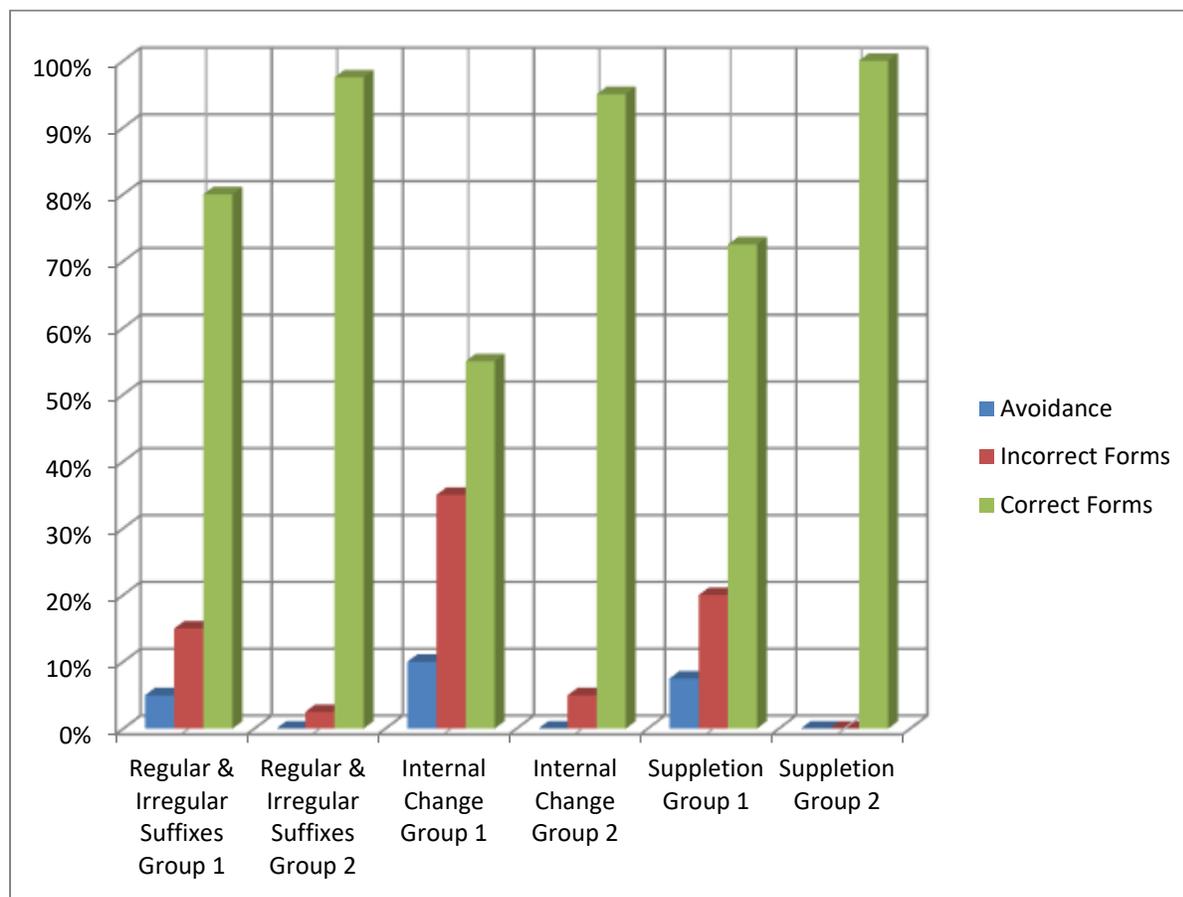


Figure 3. Percentage of the groups' responses

### 5.2. Inflectional Morphology

In inflectional suffixation (regular and irregular), internal change and suppletion, the mean of avoidance was 10, 20, 15 and percentage was 5%, 10%, 7.5% (illustrated in table -3 and figure -3) respectively while totally different from group one, group two didn't show any trace of avoidance since the members of this group opted all the words. Further, the control group applied incorrect affixation higher than the experimental group e.g., 15% with 30 mean score in regular and irregular suffixes, 35% (70 mean value) in internal change and 20% (40 mean) in suppletion while the second group produced incorrectly only 2.5% with 5 mean score, 5% (10 mean score) in suffixes and internal change and 0% in suppletion. For the experimental group, the results were significantly very low in comparison to the first group. So, it can be summed up that group one performed correctly 80% (160 mean) whereas the performance of group two was 17.5% higher with 97.5% and 195 mean score in regular and irregular suffixation. In internal change, the frequency of correct forms in group two was 95% with 190 mean score relatively almost double to the production of group one that was 55% (110 mean score). In suppletion, the second group supplied all the words correctly and the first group members again showed the lack of morphological knowledge because they supplied 72.5% (145 mean value). Thus, it can be stated that they underperformed to a large extent.

Tables 4: *The Percentage and Mean Value of Overgeneralization, Morphophonemic Unawareness and Lexical Category Incomprehension in Inflectional Suffixes and Prefixes, and Internal Change and Suppletion*

Morphological processes	Groups	Overgeneralization		Morphophonemic unawareness		Lexical category incomprehension	
		Percentage	Mean	Percentage	Mean	Percentage	Mean
Regular & irregular suffixes	Group one	7.5%	15	2.5%	5	2.5%	5
	Group two	0%	0	0%	0	0%	0
Internal change	Group one	12.5%	25	0%	0	10%	20
	Group two	0%	0	0%	0	0%	0
Suppletion	Group one	10%	20	0%	0	2.5%	5
	Group two	0%	0	0%	0	0%	0

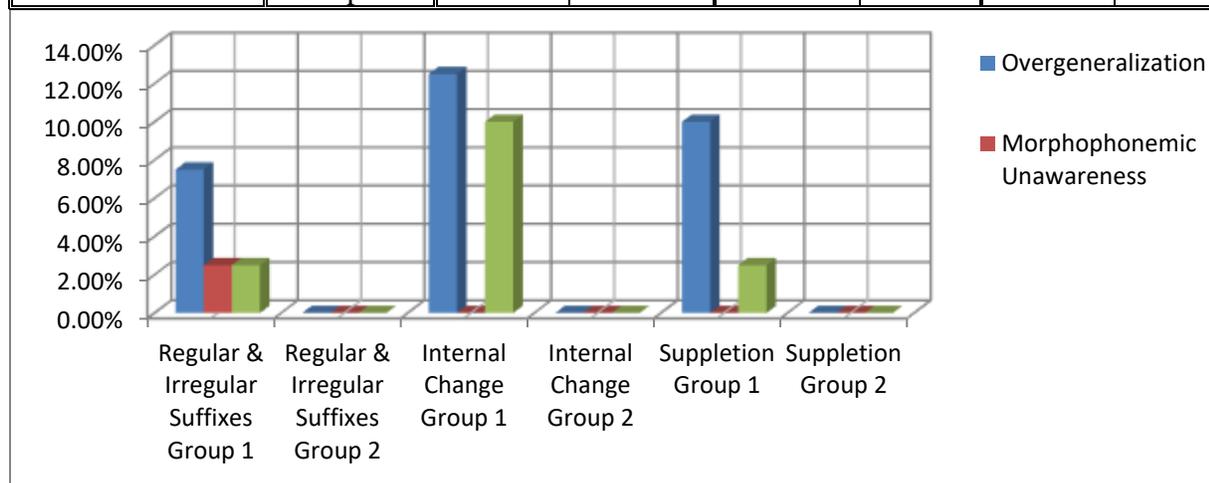


Figure 4: Percentage of the groups' responses

**5.2.1. Overgeneralization**

Group one overgeneralized the morphemic rules 7.5% (15 means) in regular and irregular suffixes, particularly in irregular ones. In internal change, overgeneralization was more (12.5%) with 25 mean score, and in suppletion, it was a little lower (10%) with 20 mean score. In comparison to group one, group two didn't overgeneralize at all. It shows that they had morphological awareness as they always reflected on and manipulated the instructional morphological structure to the given words.

**5.2.2. Morphophonemic Unawareness**

For this category, the first group exhibited morphophonemic unawareness 2.5% only in the regular and irregular suffixation and the mean score was 5. On the other hand, the second group didn't make any mistake in any of these categories. As discussed earlier, internal change substitutes a vowel, a non-morphophonemic segment in a word whereas suppletion supplies a new word either completely or partially and doesn't require any morphophonemic change too. To use internal change and suppletion, the learners don't need to know morphophonemic rules and they apply only the knowledge of morphological processes. Therefore, no traces of this measure were seen in the findings for both the groups as indicated in table -4 and figure -4.

### 5.2.3. Lexical category incomprehension

In inflectional suffixation, the mean score was 5 (2.5%), and in internal change and suppletion, it was 20 and 5 with 10% and 2.5% in the elicited responses of group one. While group two formed all lexical categories correctly. Moreover, they marked a highly significant difference between the performances of lexical category comprehension among both the groups.

## 6. Discussion

### 6.1. Correct and incorrect forms

In this category, group two students produce correct forms of lexemes almost everywhere as compared to group one students; they make errors in the words like *'permit'*, *'divide'*, *'beauty'*, *'sit'*, *'ox'*, *'goose'*, *'health'*, *'logical'*, *'balance'*, *'sing'*, *'black'* etc. Group one produces sometimes either a word incorrectly or an incorrect lexical category in the word list as well as in the sentences most of the times such as *'song'*, *'permitted'*, *'perceived'*, *'beautiful'* for *'sang/sung'*, *'permissible'*, *'perception'*, *'beautify'*. Few times, this group supply incorrect spelling like *'oxed'*, *'oxes'* for *'oxen'* and *'divition'* for *'division'*. On the other hand, the latter group make less frequent, developmental errors e.g., *'permitted'* for *'permissible'* and *'blackened'* for *'blacken'* as these could be considered right but in a different lexical category or in a different place of occurrence. They use either the correct form mostly or just simply avoid to use it very less often if they don't know it, but group one students were not sure in their knowledge, thus, they produce the incorrect forms very often in the word lists and sentences, for instance, *'the girl has a job and is not depending (dependent) on her family'*, *'she is not a depending (dependable) person'* and *'my uncle saw two oxes (oxen) near his building.'* This shows that there is a significant relationship between the correct use of words and the knowledge of morphological processes.

### 6.2. Overgeneralization

In the process of overgeneralization, group one students mostly overgeneralize suffixes. For example, they were asked to form a noun from the word *'divide'*. Instead of replacing *'-de'* by *'-ion'*, to make it a noun *'division'* they write *'divition'*, because of a previous word *'produce-production'*, the same is the case with other words like *'oxes'* in place of *'oxen'*. They overgeneralize it with *'chairs'* or *'classes'*, etc. On the other hand, group two students perform well except very few suffixes like, *'black-blackened'* instead of *'blacken'*. In writing the sentences, the first group carries overgeneralization e.g., *'the man wears blackened jacket'*, this gives absurd or vague meaning. These learners are supposed to use *'blacken'* as a verb, but they prefer the incorrect adjective in place of a verb while the other group uses mostly the correct lexemes with the right place of occurrence in the sentences. They overgeneralize very less in comparison to group one because they are confident about the morphemic rules.

### 6.2. Avoidance

It is found that the least number of students in group one avoid word-formation. Without possessing a proper knowledge of suffixes, they try to form a word correctly or incorrectly. Only a few of them keep the space empty. In comparison, group two students outperform. It is observed that avoid a word rarely whether in listing the words with different morphological processes or using them in sentences. Because of this fact, they are aware enough in using those morphological processes.

### 6.3. Lexical category incomprehension

Most of group one students show lack of knowledge in grammar as they could not change the lexical category in class 1 derivational suffixation, for example, the formation of a word '*permit*' into an adjective, has been changed into a noun or a verb by adding suffixes '-ion' or '-ed' to it as '*permission*', '*permitted*'. Similarly, in making a plural of word '*ox*', '*oxed*' is produced instead of '*oxen*' (they try to make it a verb). In the same way, '*perceives*' in place of a noun '*perception*' is created, and so on. For instance, '*I understand your perceives*'. On the other hand, group two marks comparatively far better understanding of lexical category. In inflectional morphology, the first group students add '-s' in '*sit*' when they are instructed to apply the internal mutation, however, the right answer is '*sat*'. The first group exhibits the incompetence in the production of a new lexical category while group two learners are correct most of the times, and they supply rarely any incorrect form like '*seat*' in place of '*sat*'.

### 6.4. Morphophonemic unawareness

In this category, group one students in class 1 derivational suffixes appear to be unaware of morphological rules except few. For instance, in the words '*produce*', '*perceive*', '*divide*' and '*permit*', they had to change it to an adjective and noun by adding suffixes '-ive' and '-ion', but are seen frequently to create these words as '*produced*', '*producion*', '*perceived*', '*perceives*', '*perceivtion*', '*divided*', '*divition*' and '*permitted*', '*permtion*'. Class 1 derivation requires the morphophonemic awareness to produce a new part of speech or to apply suffixation. Hence, frequent errors are present in adding suffixes to class 1. According to the rule, they use suffix like '-ion' correctly, but fail to change as per rule because of morphophonemic unawareness. Though, group two students are rarely found to lag behind in morphophonology. In class 2 suffixation of the derivational morphology, group one learners do well as it doesn't demand any morphophonemic rule. Here, their L2 exposure helps them formulate the words correctly. As in irregular prefixes, the study of morphophonology is must, group one's incompetence is relatively very high, for example, they form '*unlogical*', '*unbalance*' in place of '*illogical*', and '*imbalance*' (e.g., '*it is unlogical (illogical) to follow*'); however, the incorrect forms of '*irregular*' and '*incomplete*' are used less frequently. It might happen due to the fact that these words are very common in spoken and written use. Group two learners exemplify that they know the morphophonemic rules perfectly especially in prefixes. The findings indicate that there is a strong and significant correlation between morphophonemic awareness and the correct use of words in writing.

### 6.5. Semantic Change

The semantic change was seen while calculating the correct and incorrect use of words. It was observed that it occurs due to the effect of morphological unawareness. Sometimes, group one students, in class 1 derivational suffixes, demonstrate the change in the meaning of the lexemes e.g., in the word '*black*', they have to change it to verb by adding a suffix '-en', but they use a word '*block*'. For example, '*she blocked the bread in the toaster*'. Contrastively, group two doesn't show such change.

To apply the morphological rules in the formation of words by both the groups, it has been figured out from the elicited responses that group two, who studied the rules explicitly, forms

words more appropriately in comparison to group one, who didn't study morphological rules or this group had only implicit morphological knowledge. The difference between the affixation in the writings of both the groups signifies clearly the importance of learning morphology. As the focus of this paper is to demonstrate the differences in word formation among the students before or after studying morphological rules, it has been observed from the results that the range of vocabulary of group two students improves by learning morphology which in turn help them understand grammar better, denote lexemes in a proper part of speech whereas group one is the instance of poor results in the process of word formulation especially lexical category. Sometimes the improper application of morphemic rules causes semantic change e.g., in the process of suppletion, the word 'good' was changed to 'goodness' instead of 'better-best' in some students' responses. Here, the change occurs not only in meaning but also from inflectional to derivational morphology. It is also discovered that in inflectional morphology, group one makes much less errors than derivational morphology because it requires learning the concrete grammatical, morphophonemic structure. It must have occurred possibly due to FL exposure and the commonly used words like 'man-men'. The main reason behind the errors of group one is their morphemic unawareness which leads to other errors such as grammatical, intralingual, lexical, etc. It clearly focuses on the need for morphological knowledge. In order to avoid morphological errors in the words or text of EFL students, it is better to teach them the rules which will make them competent to reflect on the correct word-formation and further they can apply their knowledge in discourse: written as well as spoken. This research finds that there is a highly significant correlation between morphemic competence and the correct production of different words that affected EFL learners' writing on a large basis. Morphological awareness doesn't improve only the word formulation process but it boosts orthographical, cognitive lexical, grammatical, intralingual, semantic, syntactical accuracy, and proficiency of a language.

## 7. Conclusion

This study implies a promising contribution to language pedagogy, language learning, and computational linguistics. As this study has tried to prove that if morphological processes will be taught, errors will be less, so the writing of EFL students in terms of word formation can be enhanced by teaching them morphological and morphophonemic rules and this puts emphasis on teachers for giving some easy exercises of morphological rules while teaching skills (listening, speaking, reading, writing and written structure) at the beginning level. They need to teach different morphological processes step by step. First, language teachers may teach inflectional suffixes. After that, they can move to the derivational affixes, the complex ones. Then they can go ahead with other advanced morphological processes; therefore, learners may produce better and effective writing, and later learning syntax would be easier for them. In this way, they can also form different categories of words as nouns, verbs, adverbs, adjectives and so on. This research suggests that explicit teaching must be introduced from early education and curricula may be designed in such a way to raise morphological awareness among EFL learners. The teaching of morphology could be incorporated with other courses and taught separately as a full course. Though it is an empirical study to seek answers to many questions related to derivational and inflectional morphology, it is limited to derivational and inflectional affixation and only two morphological processes: internal change and suppletion. It is recommended that further work is required in this arena e.g., compounding, other morphological processes: conversion,

reduplication, clipping, cliticization, blending, acronym, abbreviation, onomatopoeia, etc. and syntax.

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**Appendix**

(Adapted from Vanderweide, O'Grady, Aronoff & Rees-Miller, 2002; & Carstairs-McCarthy, 2002)

Add affixes to the following words.

**Task 1: Add class 1 derivational suffixes in the list A and change the lexical category shown in the brackets.**

1. Produce: \_\_\_\_\_ (Noun)
2. Permit: \_\_\_\_\_ (Adjective)
3. Divide: \_\_\_\_\_ (Noun)
4. Perceive: \_\_\_\_\_ (Noun)

**Task 2: Add class 2 suffixes in the list B and change the lexical category shown in the brackets.**

1. Health: \_\_\_\_\_ (Adjective)
2. Black: \_\_\_\_\_ (Verb)
3. Depend: \_\_\_\_\_ (Adjective)
4. Beauty: \_\_\_\_\_ (Verb)

**Task 3: Add prefixes in the list C.**

1. Complete: \_\_\_\_\_
2. Regular: \_\_\_\_\_
3. Logical: \_\_\_\_\_
4. Balance: \_\_\_\_\_

**Task 4: Add prefixes in the list D.**

1. Health: \_\_\_\_\_
2. Fortunate: \_\_\_\_\_
3. Lawful: \_\_\_\_\_
4. Fasten: \_\_\_\_\_

**Task 5: Add inflectional suffixes in the list E.**

1. Large: \_\_\_\_\_
2. Class: \_\_\_\_\_
3. Chair: \_\_\_\_\_
4. Ox: \_\_\_\_\_

**Task 6: Apply internal change in the list F.**

1. Sit: \_\_\_\_\_
2. Sing: \_\_\_\_\_
3. Goose: \_\_\_\_\_
4. Man: \_\_\_\_\_

**Task 7: Apply suppletion in the list G.**

1. Go: \_\_\_\_\_
2. Good: \_\_\_\_\_
3. Buy: \_\_\_\_\_
4. Think: \_\_\_\_\_

**Task 8: Write ten sentences using all these words wherever necessary.**