

The Potential Relationship between English Vocabulary knowledge and Morphological knowledge of Iranian Pre_ University Students

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ABSTRACT

The present study aimed to examine the possible relationship between English morphological knowledge as a powerful vocabulary learning strategy and English vocabulary knowledge of Iranian pre_university students. The study was conducted on 70 Iranian pre-university students aged 18-19. Morphological knowledge and vocabulary size of Iranian pre_university students were assessed through using Nation's 2,000-word level Vocabulary Test (VLT) and Morphological Knowledge test which evaluated students' knowledge of inflection, derivation and compounding. Then the results were correlated in order to find out whether morphological knowledge plays any role in vocabulary size of Iranian pre_university students or not. The results showed that there is a significant relationship between the students' overall morphological Knowledge and their vocabulary Knowledge. In addition, the results underscored the potential importance of different aspects of morphological knowledge for increasing vocabulary knowledge. Students' ideas regarding the tests were also investigated through using a questionnaire. The findings of this study led to the suggestions to improve Iranian pre_university students' English learning in general and their vocabulary size in particular through using morphological Knowledge as a very useful vocabulary learning strategy.

Key Words: Vocabulary, Morphological knowledge, Morphological Structure knowledge

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1. Introduction

All languages have words. Language became known first as words. The way each of us learned our first and any subsequent languages shows this fact. Words are so pervasive in our life that we do not often stop to think about their importance and power. The words that we use both express and shape who we are and our vocabulary shows our social and educational background. In fact, words open or close access to sources of information that will influence our future. So, it is absolutely impossible to underestimate the power of words.

Consequently, vocabulary learning plays a vital role in language acquisition, whether the language is first, second or foreign. There is now a general agreement among vocabulary experts that lexical competence is at the center of communicative competence (Coady & Huckin 1997). This can be realized by the very fact that it is closely related to all language skills. For instance, it is not only related to proficiency in L2 listening (Chang, 2007; Nation, 2006; Smidt & Hegelheimer, 2004), but also to L2 writing (Astika, 1993; Coxhead & Byrd, 2007; Santos, 1988). Moreover, the results of several other attempts demonstrate that vocabulary knowledge most assuredly correlates highly with proficiency in L2 reading (Nation, 2006; Nation & Wang, 1999). In fact, vocabulary knowledge correlate so significantly with reading comprehension (in the 0.85 to 0.95 range) that some authors have argued that they are psychometrically the same (Carver, 2003).

Nation gives surety to us that “if more than five percent of the running words are unknown, then it is likely that there is no longer meaning-focused learning because so much attention has to be given to language features” (2001, pp. 388–389). Since learners’ skill in using the language is deeply dependent on the number of vocabularies they know Nation (1993 and 2001) underscores the importance of developing an adequate high-frequency vocabulary. According to him, this is particularly true in the early stages of learning a foreign language, in which about 3,000 word families is considered to be a crucial threshold. A person who knows more words can speak, and even think more precisely about the world because words divide the world meaning that the more words we know, the more complex ways we can think about the world.

In addition to learners, vocabulary is also important for teachers. When the text has many new vocabularies, students quickly despair and are disheartened. Meanwhile, when the vocabulary of the text is more familiar, students are more likely to continue with the reading task. Laufer and Sim (1985) show that FL learners seem to rely more on vocabulary meaning than on knowledge of the subject or syntax. This means that a certain size of vocabulary has to be known to the learners before they approach a text comfortably.

Despite the huge learning load, L2 learners also face a real time limitation. Cobb aptly sums up this dilemma: “Students typically need to know vocabularies measured in thousands, not hundreds, but receive language instruction measured in months, not years” (1999, p. 345). In fact, what ELLs

have been saying all the time is that they need more vocabulary. This is quite clear from the lexical gap shown by current data. This is because ELLs have inadequate vocabulary knowledge, especially when compared with their native speaker counterparts and they consider their lexical deficiencies as a big source of frustration (Green & Meara, 1995; James, 1996; Leki & Carson, 1994).

As such, vocabulary learning and teaching must be an important activity in the L2 classroom and researchers have examined the use of direct teaching including teaching vocabulary learning strategies as one of the means of promoting the development of L2 vocabulary knowledge. As a matter of fact, it has been suggested that one way to increase the speed of learning vocabulary of a second or a foreign language is to teach learners how to learn vocabulary more efficiently and effectively.

Despite the fact that vocabulary has not always been recognized as priority in language teaching, interest in its role in second language (L2) learning has grown rapidly in recent years and specialists now emphasize the need for a systematic and principled approach to vocabulary by both the teacher and the learner. This increased interest in this topic is evident by a rapidly expanding body of experimental studies and pedagogical material. To this end, teachers are advised to teach their students different vocabulary learning strategies (Hulstijn, 1993, cited in Morin & Goebel, 2001). Studies show that the intentional, explicit teaching of specific vocabularies and vocabulary -learning strategies can not only add to students' vocabularies (Tomeson & Aarnoutse, 1998; White et al., 1990) but also improve reading comprehension of texts containing those vocabularies (McKeown, Beck, Omanson, & Pople, 1985).

According to Graves (2000) if students want to be successful in understanding unfamiliar vocabulary in their reading, they need to learn *about* words not simply acquire new words. Instruction that supports independent vocabulary learning strategies guides students in how to get on with determining the meanings of unknown vocabularies. On the whole, independent vocabulary -learning strategies are procedures that teachers can model and teach explicitly to students to show them how to determine the meanings of unknown vocabularies. Additionally, directly teaching vocabulary learning strategies can help students become better independent vocabulary learners (Baumann, Edwards & Kame'enui, 2003; Blachowicz & Fisher, 2000; National Reading Panel, 2000).

Therefore, in order to help learners to gain control over processes for managing their own lexis a number of different vocabulary learning strategies have been proposed by researchers and teachers as well. Strategies that have been proposed to help develop vocabulary learning include: Memory Strategies, Social Strategies, Cognitive Strategies, Metacognitive Strategies and Determination Strategies (Schmitt, 1997). Other researchers have also suggested that use of morphological cues for inferring meaning can help L2 learning (Morin, 2003; Schiff & Calif, 2007). Although only a limited numbers of

studies have examined the role of morphological awareness in L2 vocabulary development, the findings suggest that various aspects of morphological awareness may be particularly useful for vocabulary building.

Despite the fact that, teaching morphological knowledge is not the only strategy teachable to increase learners' vocabulary size, it is a potential learning strategy that seems particularly helpful for the learners when attempting to deal with the meanings of new words. There is now an increasing interest in morphological knowledge as a crucial aspect of vocabulary knowledge, particularly in reading. In the first place, morphemes have semantic, phonological and syntactic properties. For example, *-s* in the verb *rides* indicates that the action doer is only one person who does the action in the present time (Singson, Mahony & Mann, 2000). This in turn, express the role of a given word in the reading context. Secondly, vocabularies are organized in the mental lexicon according to their phonological properties and morphological knowledge acts as a framework for storing vocabularies (Sandra, 1994). Moreover, it is also argued that morphological knowledge makes the learner more conscious of the writing system (Sandra, 1994).

Carlisle and Stone (2003) found that morphological analysis is a widely used vocabulary learning strategy by students to understand the meaning from words. They further mentioned that morphological structure which uses bases, prefixes and suffixes to connect large families of related words is a candidate for generative vocabulary instruction. In another study Carlisle and stone (2003) found that leaving morphological analysis to be discovered by students on their own means that those who are not knowledgeable in linguistics are likely to be left behind their peers in the development of vocabulary, word reading and comprehension, and spelling.

Later, it was also found that if learners want to know what new words mean and if they want to know how to write them, they have to be able to make use of their morphemic structure (Nunes & Bryant, 2006). Hence, morphological awareness strategy based on Oxford taxonomy can be used for vocabulary learning tasks, the effect of which has been a motive to conduct the present research on vocabulary learning for pre-university students in Iran.

Chang defined Morphological knowledge as the "knowledge of and access to the meaning and structure of morphemes in relation to word" (2005, p. 417). In other words, it means the process of analyzing morphologically complex words into the morphemes that constitute them (word meaning parts including prefixes, roots, base words, and suffixes). According to Anglin "words are made of morphemes and morphemes are the minimal meaningful linguistic units that don't have any smaller meaningful linguistic unit" (1993, p.17).

With the morphological knowledge, learners can distinguish phonological and spelling irregularities as in *sign* and *signature* (Kuo & Anderson, 2006). They would be also able to learn morphemes and morphemic

boundaries by disassembling complex words into meaningful parts. That is to say, they would be able to analyze the word *childhoods* in to *child* + *-hood* + *-s*. In addition, morphological knowledge can also enable them to learn the meanings of affixes, roots (*child*= baby, 2 *-hood*= the state of being, *-s*= to indicate plural nouns) or to reassemble the meaningful parts to form new meanings (*motherhood*, *fatherhood*, *brotherhood*). The practice of this dissembling reassembling method is called *morphological analysis*.

Indeed, English words are morphophonemic which means that the word's spelling suggests information which is related to morphemic meaning and phonological sound, or pronunciation. It is estimated that over half of the words in English are morphologically complex (Goulden, Nation, & Read, 1990). Morphologically complex words are more common in written language, especially in academic language, than in spoken language and their number increases as frequency decreases.

Consequently, with each grade learners meet a growing number of morphologically complex words the meanings of which can be inferred from the meanings of their component parts. As a result, learning the morphological structure of words can help learners to interpret their meanings quite effortlessly. In fact, morphological knowledge will become more important as students get older and texts become more replete with morphologically complex words. As a case in point, textbooks of primary-grade contain fewer morphologically complex words than the intermediate and secondary texts (Nagy & Anderson, 1984).

In spite of the recognized potential of morphological knowledge for vocabulary leaning, little research to date has focused on morphological knowledge and its relationship to vocabulary size in L2 (Singson, Mahony, Mann, 2000). Even fewer studies have dealt with vocabulary learning and morphology or morphological knowledge. However, the small amount of existing research suggests that there is a strong link between morphological knowledge and vocabulary learning. For instance, it was found that morphological knowledge is closely correlated with vocabulary and comprehension (Carlisle, 2000; Ku & Anderson, 2003).

In fact, the relationship between morphological knowledge and vocabulary knowledge should be subjected to more empirical studies before proposing that morphological knowledge be incorporated in the vocabulary learning strategies taught in the Iranian pre-university classrooms. Indeed, Iranian learners of English are aware of their limitations in recognition and use of English vocabularies and perceive lack of vocabulary as their major problem. In particular, pre_university students confirm that inadequate vocabulary knowledge is their major problem in reading a text. A good evidence for this is their poor performance on the vocabulary section of university entrance exam (konkooor). Likewise, the results of the empirical researches conducted by Koosha (2001) and Sharifi (2004) on the lexical development and the

vocabulary size of Iranian EFL learners revealed that the vocabulary knowledge of Iranian EFL learners before entering university and also in the first year of studying at university is far below the acceptable threshold level required for minimal reading comprehension and meaningful communication.

The findings of the afore-mentioned studies show that the current English language teaching (ELT) program in Iranian high and pre-university schools do not lead to good results. Maybe the reason lies in the fact that that vocabulary learning strategies such as morphological knowledge which is the focus of the present study does not receive any attention in the present English language teaching (ELT) program in Iranian high and pre-university schools. That is, despite the vital role of morphological knowledge in fostering the development of English vocabulary knowledge (Carlisle, 1995; Carlisle & Stone, 2003), Iranian high and pre-university English textbooks do not reflect this fact. Indeed, after examining the English books designed by Ministry of Education for teaching English to high school and pre-university students the researcher came to the conclusion that the morphological aspect of language has not being paid attention to. The problem is more agonizing in the books taught in the first and second years of high school level because in these books even a word has not being mentioned about the use of morphological strategy for learning new words. In addition, the review of previous studies done at pre-university level in Iran suggests that no study in this case has been conducted. Put together, the researcher found this gap in high school and pre-university books and was motivated to put this problem under a careful examination.

2. Materials

To collect the data required for finding out whether there is a relationship between vocabulary size of the Iranian pre-university students and the amount of their morphological knowledge, the current study employed three tests:

2.1. Nation's Vocabulary Levels Test (VLT)

In order to assess vocabulary size in a valid and reliable way, Nation's (1990) Vocabulary Levels Test (VLT) is widely used as a vocabulary size test based on word frequency. It has often been used by researchers who needed to estimate the vocabulary size of non-English speaking learners (Read, 2000) due to the fact that it is easy to take, easy to mark and easy to interpret (Nation, 2001). VLT test is divided in to five frequency levels: 2,000_word level, 3,000_word level, 5,000_word level, university word level, and 10,000_word level. The test task requires test takers to match a word with its definition, presented in multiple-choice format in the form of a synonym or a short phrase. According to Nation 2,000 level word contained the high frequency words that all learners need to know in order to function efficiently in English .The learners need to know these words to read basic texts and they should be concentrated on in class (Nation, 2001). Since the participants were Iranian pre-university students,

the receptive vocabulary levels test used tested the participants' knowledge of vocabulary items from the 2000 most frequently occurring words. In a research conducted by Akbari(2010)it was shown that Iranian pre-university students have learned 1851 English words during seven years of English teaching in schools.

2.2. Morphological Knowledge Test

This test consisted of two parts and both parts were distinctively correlated with knowledge of vocabulary. The first part was McBride-Chang's (2005) Morphological Structure test and the second part was knowledge of derivational prefixes and suffixes test.

2.2. 1.Morphological Structure test

This test intended to check if the participants could show their ability to combine morphemes in a productive manner. In other words, it evaluates the students' ability to create new meanings by making use of familiar morphemes and it aimed at evaluating the participants' knowledge of compounding and inflections .In the morphological structure test, 20 scenarios were presented in two- to four-sentence stories. The students were then requested to come up with words for the objects or concepts presented by every scenario.

2.2. 3.Knowledge of Derivational Prefixes and Suffixes Test

This test contained one hundred items aimed at checking the participants' knowledge of the most commonly used prefixes and suffixes available in English lexicon. The questions were in line with the level of students' language proficiency, that is to say the researcher included the words participants had previously acquired in their textbooks during the high school period.

In addition, so as to have a more comprehensive understanding of the participants' perceptions of the tests and their vocabulary learning strategies, a 7 items questionnaire was also administered.

The study was conducted on 70 Iranian pre-university students aged 18-19 who were selected randomly from among 167 accessible pre-university students. Before administrating the tests to the students a pilot testing was carried out to see whether the tests which were planned to be used in the study serve the intended purpose or not. In addition, in order to control such factors as language proficiency and hence to make the sample homogeneous, a placement test formed by some experienced and knowledgeable English teachers teaching in pre-university level was administered. The test contained 50 items varied in their forms including multiple choice items; fill in the blanks items and cloze test.

After selecting the students and also after gaining the teacher approval, the researcher administered the tests to the students. At first, Nation's 2,000_word level test (VLT) was administered. Unlike the VLT test, the Morphological Knowledge test was consisted of two parts. Due to the scarcity of time the first part was administered in the same day and after students finished the VLT test and the second part was administered in the following

day. The first part of the other test, namely morphological knowledge test was administered after students finished the first test. The participants then were given a questionnaire which aimed at revealing their attitudes and opinions about the tests.

3. Results

3.1. Results of pilot testing

The results of pilot testing indicated that the reliability of the morphological structure test and knowledge of derivational prefixes and suffixes which were 0.71 and 0.77 respectively. Moreover, the correlation coefficient of the students' morphological knowledge and their vocabulary size was obtained to measure the degree and direction of association between the two tests. The results are shown in table 1.

Table 1. The Pearson Correlation between the students' morphological knowledge and their vocabulary size in the pilot testing

| | | VLT | Morphological Knowledge |
|-----|---------------------|-----|-------------------------|
| vlt | Pearson Correlation | 1 | .681** |
| | Sig. (2-tailed) | . | .000 |
| | N | 10 | 10 |
| | | | |

The results of the pilot testing showed that there was a significant correlation between the students' morphological knowledge ($r=0.68$) and their vocabulary size ($p < .01$).

3.2. Results of the study

First of all, in order to summarize the data a number of descriptive statistics such as mean, median, variance and standard deviation were conducted.

Table 2. Descriptive statistics of the VLT test

| Std. Deviation | Mean | Maximum | Minimum | N | |
|----------------|-------|---------|---------|----|-----|
| 5.791 | 19.73 | 28 | 0 | 70 | VLT |

Table 2. shows the minimum and the maximum scores, mean standard deviations of the VLT test.

Table 3. Descriptive statistics of the Morphological Knowledge test

| Std. | Mean | Maximum | Minimum | N | |
|------|------|---------|---------|---|--|
| | | | | | |

| | | | | | |
|-----------|---------|-------|-------|----|--|
| Deviation | | | | | |
| 21.50466 | 64.3143 | 99.00 | 14.00 | 70 | Morphological Knowledge Test |
| 3.963 | 13.50 | 20 | 0 | 70 | Morphological Structure Test |
| 19.80945 | 49.8143 | 79.00 | .00 | 70 | Knowledge of Derivational Prefixes and Suffixes Test |
| | | | | 70 | Valid N (list wise) |

Table 3. shows the minimum and the maximum scores, mean standard deviations of the Morphological Knowledge Test along with its two subsets of Morphological Structure Test, Knowledge of Derivational Prefixes and Suffixes Test.

Then, the correlations between both the VLT total scores and morphological knowledge total scores of the participants were analyzed through using Pearson Correlation coefficient. These correlations emphasized the relationship between the vocabulary size and the morphological knowledge of the participants.

Table 4. Pearson correlation between both the VLT total score and morphological knowledge total score

| Morphological Knowledge | derivational prefixes and suffixes | Morphological structure | VLT | | |
|-------------------------|------------------------------------|-------------------------|-----|---------------------|-----|
| .524(**) | .485(**) | .420(**) | 1 | Pearson Correlation | VLT |
| .000 | .000 | .000 | . | Sig. (2-tailed) | |
| 70 | 70 | 70 | 70 | N | |

** Correlation is significant at the 0.01 level (2-tailed).

Table 2. Clarifies the point that there is a strong correlation between participants' vocabulary size and the morphological knowledge ($r=0.52$, $p < .01$). Therefore, we can claim that the two variables are significantly related to each other ($p < .01$). Thus, the research null hypothesis can that there is no relationship between English vocabulary size and morphological knowledge of Iranian pre_university students, is rejected.

The results of Table 4.also show the correlation between VLT total score and Morphological Structure test and Knowledge of Derivational Prefixes and

Suffixes test. As it can be seen in Table (4.5), the Pearson correlation between the Morphological Structure scores and VLT total scores is 0.42, which means that there is a significant but weak statistical relationship between the two variables ($r=0.42$, $p < .01$). In addition, according to Table 4. the correlation between VLT total score and Knowledge of Derivational Prefixes and Suffixes test is 0.48 meaning that there is a significant relationship between the two variables ($r=0.48$, $p < .01$). Therefore, Knowledge of Derivational Prefixes and Suffixes scores are better correlated with VLT total scores ($r=0.48$) in comparison to the Morphological Structure scores and VLT total scores ($r=0.42$) ($p < .01$). Consequently, it can be concluded that Knowledge of Derivational Prefixes and Suffixes test has a higher predictive ability in predicting VLT scores in comparison to Morphological Structure test.

Table 5. show the correlation between the Morphological Knowledge total score and Morphological Structure test and Knowledge of Derivational Prefixes and Suffixes test.

Table 5. Correlation between both the Morphological Structure and Knowledge of Derivational Prefixes and Suffixes total score and the Morphological Knowledge total score

| Morphological Knowledge | derivational prefixes and suffixes | Morphological structure | VLT | | |
|-------------------------|------------------------------------|-------------------------|----------|---------------------|-------------------------|
| 1 | .851(**) | .503(**) | .524(**) | Pearson Correlation | Morphological Knowledge |
| . | .000 | .000 | .000 | Sig. (2-tailed) | |
| 70 | 70 | 70 | 70 | N | |

** Correlation is significant at the 0.01 level (2-tailed).

According to table 5. while the correlation between Morphological Structure scores and morphological knowledge total scores is 0.503, the correlation between Knowledge of Derivational Prefixes and Suffixes scores and morphological knowledge total scores is 0.851 ($p < .01$). Therefore, it can be concluded that Knowledge of Derivational Prefixes and Suffixes test has a higher predictive ability in predicting Morphological Knowledge scores in comparison to Morphological Structure test.

In addition, in order to see to what extent Morphological knowledge test can predict VLT test scores, a statistical regression at $p < .01$ was also carried out and the following results were found which are summarized in Table 7.

Table 6. The results of regression analysis for VLT scores based on morphological knowledge scores

| Change Statistics | | | | | | | | | | |
|-------------------|---|-----|-----|----------|-----------------|----------------------------|-------------------|----------|---------|-------|
| Sig. Change | F | df2 | df1 | F Change | R Square Change | Std. Error of the Estimate | Adjusted R Square | R Square | R | Model |
| .000 | | 67 | 2 | 14.882 | .308 | 4.890 | .287 | .308 | .555(a) | 1 |

a Predictors: (Constant), Morphological knowledge, morphological structure

b Dependent Variable: vlt

As Table 6. reveals, Morphological Knowledge predicts 30% of variances in VLT scores ($R^2 .30$) ($p < .01$).

4. Discussion

In this study an attempt was made to further our understanding of the role of morphological knowledge in increasing vocabulary size of Iranian pre-university students hoping that the findings can bring about a positive change in the English learning and teaching vocabulary programs at Iranian pre-university schools. The results of the present study show that there is a significant relationship between the Iranian pre_university students' morphological Knowledge and their vocabulary size. The findings give emphasis to the potential importance of different aspects of morphological knowledge for vocabulary learning which in line with a number of other studies as well (Chang, C. M., Wagner, R.K., Muse, A., Chow, B.W-Y, Shu, H, 2005).

The results of the present study also demonstrate that all the students do possess general morphological Knowledge. In fact, even the least proficient students managed to answer several questions of Morphological Knowledge test correctly. This finding is in agreement with other studies that all learners including both high and low proficient learners have morphological knowledge and they use morphological cues to decode words (Abbott & Berninger, 1999; Carlisle & Stone, 2005). Moreover, the findings are also in line with Mc- Bride Change *et al.* (2005) who found that knowledge of morphology is a good predictor of vocabulary knowledge.

The results of the present study are important because they provided support for the fact that morphological knowledge has different aspects and that each of these aspects is essential in fostering vocabulary learning (Carlisle, 1995; Mc- Bride Change *et al.*, 2005). As mentioned earlier, one aspect of morphological knowledge includes the ability to indicate grammatical changes in words (knowledge of inflections) and it is very important. The findings of the

present study showed that Iranian pre-university students are more familiar with this aspect of morphological knowledge in comparison to the second aspect of morphological knowledge (knowledge of derivational prefixes and suffixes). Actually, they displayed a good knowledge of inflections which is in harmony with another study by (Chang et al., 2005). Maybe the reason for the students' good knowledge of inflections lies in the fact that unlike derivational knowledge, inflectional morphology receives greater amount of attention in the current English language teaching (ELT) program in Iranian high schools and guidance cycle.

The relatively weak performance of the Iranian pre-university students in the creation of compound words (synthesis ability) implies that they are relatively poor at utilizing the parallel sentence and the morphological structure of the words that they have seen before in order to produce new words. This is compatible with Bloom's classification of cognitive domain. According to his classification synthesis requires more advanced skills than analysis does. The reason is that analysis aspect of morphological knowledge is subsequent to synthetic aspects (Arnoff and Fudeman, 2005, Mc-Bride-Chang *et al.*, 2005).

The relatively poor performance of the students in applying morphological structure of the words that they have met previously also suggests that there is a crucial need for explicit teaching of morphological knowledge and the teaching of morphological units. This is maybe because of the fact that morphological knowledge in general contributes to better language learning and is related to different language skills such as reading comprehension (Doehring, Trites, Patel, & Fiedorowicz, 1981; Wiig, Semel, & Crouse, 1973), sufficient vocabulary development (Lewis & Windsor, 1996), vocabulary and comprehension (Carlisle, 2000; Kieffer & Lesaux, 2008), for understanding the writing system and for accuracy in spelling (Bryant, Nunes, & Bindman, 1997; Henry, 1989).

In 54% of the cases, those students who performed poorly in creation of the compound words also displayed a generally poor performance on both Vlt and Morphological knowledge tests. This supports the Linguistic insight with respect to compound words that the least proficient English learners have the least understanding of compound word structure (McBride-Chang *et al.*, 2005; Nagy, Berninger, Vaughan, & Vermeulen, 2003).

In addition, in accordance with previous studies the present study found that Iranian pre-university students use and have mastery on certain morphological rules more than others (Hyla Rubint, 1987). That is, almost 78% percent of the students in this study successfully answered *item 15* and *item 18* which tested students' ability in using the morphological rules for regular past tense (in the nonsense words such as *stot* and *fleamp*). This shows that Iranian pre-university students are very good at using *-ed* suffix. This finding is in contrast with Nunes, Bryant, and Bindman's (1997) study that *-ed* ending poses a serious problem for the English L1 learners and they need several years to learn to use

the *-ed* ending systematically for referring to the past of regular verbs. Put it differently, unlike English L1 learners, Iranian pre_university students have little problem with this morphologically based rule and it poses little challenge for them.

Those students who failed to provide a correct answer for items 15 to 20 focused more on meaning and showed a lack of explicit morphological knowledge. As a matter of fact, these students' inability to work on inflectional morphemes (questions 15 to 20) seems to reflect a shortage of morphological knowledge, rather than just a semantic problem. At least for these students, this kind of performance implies that it is their shortage of explicit knowledge of morphemic structure that should cause the most concern. This is in line with the results of other study that individual differences with inflectional morphology do exist, and the less proficient English Language Learners in general and students with poor knowledge of inflection in particular manifest difficulty with inflectional suffixes *-s*, *-ed*, *-ing*, *-er*, and *-est*. (Windsor, Scott, & Street, 2000). In the same vein, since inflectional morphology develops relatively early (Selby, 1972), is quite limited and does not cause any change in the grammatical category of a word (e.g., from a verb to a noun) the researcher expected these students to display a good knowledge of inflection, but they didn't. This suggests that greater amounts of morphological teaching on inflectional suffixes should be given to these students.

In addition, most of the students performed poorly on the second part of the Morphological Knowledge test. This implies that they are not familiar with most of the common prefixes and suffixes used in the English lexicon. In fact, the findings of the present study showed that Iranian pre_university students have severe problems with this aspect of morphological knowledge namely knowledge of derivational prefixes and suffixes and it poses the greatest challenge to them. This is line with the findings of other studies that in contrast to inflectional morphology, derivational morphology generally presents the biggest challenge (Anglin, 1993). This illuminates the importance of teaching, and learning common affixes in Iranian pre-university classes. Also, they should be taught how to apply the meaning of the affix to a root or base in order to help them to become explicitly aware of the structure of words. This can aid them understand the internal structure of the new words that they are required to read and write.

Nevertheless, the better performance of the students in certain affixes such as the derivational suffix *-y* and the prefix *un-* might be due to the fact that these highly productive affixes might have been employed in the textbooks of pre_university and high school. This is in line with Bowerman (1982) and Clark and Cohen (1984) studies that highly productive affixes are heard frequently and thus learned first.

Likewise, the results of the present study research questionnaire showed that Iranian pre-university students are not familiar with the crucial role of

morphological knowledge strategy in increasing the number of words they know. This lack of familiarity by them suggests that despite the recognized role of morphological knowledge strategy in increasing vocabulary knowledge, teaching them doesn't receive adequate attention and time in Iranian pre_university classes.

This might explain why the way English is taught in Iranian high and pre-university schools is suffering from substantial deficiencies. Maybe the books are to be blamed. Maybe the teachers are not knowledgeable and competent enough. Anyway, according to the findings of the present study the morphological knowledge of Iranian pre-university is relatively low and the researcher thinks that something should be done to fill this gap. Therefore, more effort should be done on the part of material developers so that some specific parts of English books at the high school and pre-university level should be allocated to teaching morphological knowledge strategy to help the students to learn as many words as possible. In addition, teachers should be informed of the significance of this strategy in acquiring and facilitating English language, so that they include some noticeable time of the class for teaching this strategy in particular.

5. Conclusion

The present study aimed to measure the potential relationship between vocabulary knowledge and morphological knowledge of Iranian pre_university students. To answer this, Morphological Knowledge Test along with its two subsets of Morphological Structure test and Knowledge of Derivational prefixes and Suffixes test and Nation's Vocabulary 2000 word Level Test were employed. After comparing the results of the morphological knowledge test and vocabulary level test, the researcher came to this conclusion that these two factors were significantly correlated and that the relationship between them was linear and positive.

Consequently, through the data gathered the null hypothesis was rejected and it was found that morphological knowledge affect vocabulary knowledge. Additionally, the results revealed that the students better familiar with knowledge of inflections than knowledge of derivations. In the final run, it is suggested that pre-university teachers in Iran focus more on morphological knowledge teaching particularly derivational morphology for increasing vocabulary size of the students. For instance, in developing new English textbooks pre-university materials developers may be convinced and encouraged to pay more attention to the use of morphological knowledge so that some specific parts of English books at the high school and pre-university level should be allocated to teaching morphological knowledge strategy to help the students to learn as many words as possible. At the same time, reading this study may encourage Iranian pre-university English teachers to allocate more time on direct instruction of morphological knowledge as a very useful tool for promoting vocabulary size of their students. In fact, they should consider the

possible benefits of vocabulary instruction that focuses on developing morphological knowledge. The findings of this study led to some suggestions to improve Iranian pre-university students' morphological knowledge, increase their vocabulary learning and vocabulary size, and their English learning.

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