

## MORPHOLOGICAL AWARENESS AND ITS RELATIONSHIP TO VOCABULARY SIZE AND MORPHOLOGICAL COMPLEXITY AMONG IRANIAN EFL UNIVERSITY STUDENTS

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### ABSTRACT

*This research examined the relationship between morphological awareness and vocabulary size in Iranian EFL learners. The participants were 60 senior university students from Azad University of Qaemshahr majoring in English Language Teaching. Morphological awareness test and vocabulary level test were used. Descriptive statistics, reliability measures and correlation coefficients were reported. The results of this study have shown that students performed better in analysis section than what they did in synthesis section but the differences between them were low and there was a high correlation between analytic and synthetic knowledge so that analytic knowledge could highly predict synthetic knowledge and vice versa. The effect of synthetic knowledge on morphology was higher than analytic knowledge but the latter was better than the former in wider words range. Also, the findings have shown that students had medium awareness of analytic and synthetic knowledge but vocabulary level of the students was low. The students performed better in suffix section than prefix. There was a significant relationship between the students' morphological awareness and vocabulary size. Moreover, morphological awareness didn't differentiate between the students' performance on complex words and simple words.*

**Keywords:** Morphological awareness, vocabulary size, Morphological complexity, EFL

### INTRODUCTION

Vocabularies are the primary carriers of meaning, and it is widely recognized that there is a strong relationship between the individual's vocabulary size and his/her general language proficiency Zimmerman (2005). Researchers have examined the use of vocabulary learning strategies for promoting L2 vocabulary knowledge. Nagy & Anderson (1984); Singson, Mahony & Mann (2000) have demonstrated that morphological awareness and vocabulary growth are correlated. The results of researches by Koosha & Salimian (2001), Koosha & Sharifi (2004) in Iranian EFL learners have shown that the vocabulary knowledge of Iranian EFL learners in the first years of studying at university is low. The findings reveal that vocabulary learning strategies such as morphological knowledge have not received any attention in English language teaching (ELT) program in Iran.

### REVIEW OF LITERATURE

Over the last ten to fifteen years, vocabulary has been considered as a component of language proficiency, both in L1 and L2 acquisition. The task of learning new words as students are encountered is tremendous. According to Graves (2004) in order to develop the needed vocabulary knowledge, learners should learn strategies to unlock word meaning. Studies focusing on each of these aspects are reported below.

#### Morphological Awareness

Chang *et al.*, (2005) defined morphological awareness as the awareness of and access to the meaning and structure of morpheme in relation to words. Kuo & Anderson (2006) defined morphological

awareness as the ability to understand and manipulate the smaller meaningful parts that build words such as prefixes, roots, and suffixes.

### **Morphological Awareness as a Vocabulary Learning Strategy**

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. One potential vocabulary learning strategy is the use of morphological awareness. Morphological knowledge is a potential learning strategy that seems helpful for the learners when attempting to deal with the meanings of new words. Studies show that applying morphological analysis is potential for promoting learners' vocabulary knowledge.

### **Morphological Awareness and Vocabulary Knowledge**

There is now an increasing interest in morphological knowledge as a crucial aspect of vocabulary knowledge. Carlisle (2000); Kuo & Anderson (2006) found that morphological knowledge is closely correlated with vocabulary and comprehension. Mansour Koosha & Mohsen Salimian (2011) have shown that there is a significant relationship between overall morphological knowledge and vocabulary knowledge in Iranian pre-university students. Researches underline the importance of morphological awareness in promoting vocabulary size. Hence, it seems crucial to conduct more studies examining the importance of morphological awareness in vocabulary learning.

### **RESEARCH QUESTIONS**

The purpose of this study was to identify the level of morphological and vocabulary knowledge of senior university students majoring in English language teaching in Azad University of Qaemshahr. It also examined the relationship between morphological awareness and vocabulary size and how it is related to the learners' ability to deal with morphological complex words. The present study sets out to answer the following research questions:

1. Are students aware of analytic and syntactic word formation rules?
2. Is there a connection between morphological awareness and vocabulary size?
3. Does morphological awareness differentiate between the students' performance on complex words and simple words?

### **METHOD**

#### **Participants**

Participants were the last year students since they had received enough input to answer the morphology and vocabulary level tests while the first year students might have not received enough input and could not answer these tests. Initially, participants in the current study were 82 senior university students from Qaemshahr Azad University majoring in English language teaching. Both genders were represented in the research comprising 20 male and 62 female students, altogether. After tallying the results, twenty two participants were excluded. They have done vocabulary level test and morphology test perfunctorily and randomly and have answered many parts as blank answer sheet. At the end, the participants were 60 university students. The participants were Farsi native speakers, homogeneous in respect of nationality, mother tongue and educational background.

#### **Research Instruments**

Two tests were used to the purposes of the study: morphological awareness test with its subtests (analysis and synthesis) and vocabulary level test.

**Morphological Awareness Test**

The learners’ morphological knowledge was tested by the morphological awareness test presented in Chang *et al.*, (2005). This test included both the analytic and synthetic aspects. Analytic aspect was concerned with breaking words into smaller parts. It consisted of 13 test items. Synthesis aspect measured students’ ability to synthesize morphemes to create new meanings. The test consisted of 14 items.

**Vocabulary Level Test (VLT)**

The test consisted of five sections (the 2,000, 3,000, 5,000 and 10,000- word levels). Each level included ten items and 30 questions; each item comprised 6 words on the left side with 3 meanings on the right. The participants were asked to choose the right word that matched with each meaning.

**Procedure**

Before administering the tests, the researcher explained about the test and the purpose of this study. The research has been done on senior university students in Qaemshahr University. The test lasted for almost 45 minutes. First, students answered morphological awareness test with its two parts of analysis and synthesis. After taking the afore-mentioned test, the students were asked to answer the vocabulary level test.

**Data Analysis**

The data in this study include descriptive statistics, reliability and correlation coefficient. This research used Spearman rank order correlation. To answer the first research question, mean, standard deviation and Spearman’s rho for analytic aspect and synthetic aspect were used. To answer the second research question, mean, standard deviation and variance of students’ scores for each level of vocabulary level test were calculated. Then Spearman’s rho on overall morphological awareness was assessed. To answer the third research question, mean, standard deviation and Spearman’s rho were reported.

**RESULTS**

**Results for Question 1**

The first research question concerned the students’ morphological awareness of analytic and synthetic aspects. At first, the researcher checked the reliability of the morphological awareness test. As this test was of large- scale data, Cronbach’s alpha was used. The reliability of this test was .91, which indicated that the test is reliable.

**Table1. Descriptive statistic for analytic and synthetic and morphology**

	Analytic	Synthetic	Morphology
Mean	8.95	8.15	16.90
Std. Deviation	1.799	2.583	3.904
Minimum	6	4	10
Maximum	12	14	26

Table 1 shows mean, standard deviation for analytic and synthetic aspects and morphology.

**Table 2. Spearman's rho for analytic and synthetic**

			Analytic	Synthetic
Spearman's rho	Analytic	Correlation Coefficient	1.000	.613**
	Synthetic	Correlation Coefficient	.613**	1.000
N			60	60

Table 2 shows there is a high correlation between analytic knowledge and synthetic knowledge. To gain more information on the students' morphological knowledge, the knowledge of prefix, suffix and stem were sought. The total number of morphemes were 3 prefixes and 13 suffixes and 17 stems in the analysis section and 3 prefixes, 9 suffixes and 23 stems in the synthesis section.

**Table 3. Students' scores in prefix suffix and stems of both analysis and synthesis sections of morphological awareness test**

	Analytic Prefix	Analytic Stem	Analytic Suffix	Synthetic Prefix	Synthetic Stem	Synthetic Suffix
Mean	1.53	14.05	9.10	1.58	17.37	6.48
Std. Deviation	.623	1.969	2.006	.645	3.113	1.510
Minimum	1	8	5	1	9	4
Maximum	3	17	13	3	23	9

This table shows students scored better in the suffix section than prefix both in analytic and synthetic aspects.

### Results of Question 2- Part I (Results of the Vocabulary Level Test)

The second research question concerned with the students' morphological awareness and its relation to vocabulary size. As this test was large-scale data, Cronbach's alpha was used. The reliability of total items of the test was 0.88.

**Table 4. The Mean, Standard Deviation and Variance of Students' Scores for Each Level of Vocabulary Level Test (Each Level Is out of 30) Taken by Iranian EFL Learners in (N= 60)**

	vlt2000	vlt3000	vlt5000	vlt10000	sum. Vlt
Mean	23.65	15.97	8.77	2.07	50.45
Std. Deviation	3.709	4.345	4.127	1.885	12.771
Variance	13.757	18.880	17.029	3.555	163.099
Minimum	14	8	4	0	28
Maximum	30	28	26	12	96

Table 4 shows the descriptive statistics of the students' scores in each level of the VLT.

### Results of Question 2-PartII (Results of Morphological Awareness Test and its Relationship to Vocabulary Level Test)

Question 2 examined if there was a relationship between the students' vocabulary size and morphological awareness.

Table 5 shows the correlation coefficient of the students' morphological awareness and their vocabulary size at each level.

**Table 5. Spearman's rho for the Variables of Vocabulary Size, Overall Morphological Awareness, Analytic and Synthetic Aspect.**

		Analytic	Synthetic	Morphology	2000	3000	5000	10000
Spearman's rho	analytic	1.000	.613**	.789**	.430**	.423**	.469**	.544**
	synthetic	.613**	1.000	.881**	.561**	.547**	.458**	.471**
	morphology	.789**	.881**	1.000	.545**	.512**	.481**	.545**
	vlt2000	.430**	.561**	.544**	1.000	.790**	.660**	.578**
	vlt3000	.423**	.547**	.512**	.790**	1.000	.703**	.636**
	vlt5000	.469**	.458**	.481**	.660**	.703**	1.000	.795**
	vlt10000	.544**	.471**	.545**	.578**	.636**	.795**	1.000

**Results for Question 3**

Question 3 examined if the performance on morphological awareness differentiated between students' performance on simple vs. complex words on the VLT.

**Table 6. Descriptive Statistics of the Students' Scores on Simple Words vs. Complex Words for 2000 and 3000 Levels of Vocabulary Level Test.**

Level		Simple words	Complex words
2000level	Mean	12.57	9.50
	Std. Deviation	2.037	2.960
	Minimum	6	3
	Maximum	18	15
3000level	Mean	9.52	6.10
	Std. Deviation	3.100	2.735
	Minimum	4	1
	Maximum	17	14

Table 6 shows the descriptive statistics of the students' performance in simple vs. complex words of 2000 and 3000 levels of the VLT. Because students' performance in 5000 and 10000 was very low, researcher ignored more study in these levels and examined simple vs. complex words of 2000 and 3000 word levels of the VLT. Looking at the average scores and their dispersions, the students performed better in simple words than what they did in complex words.

Table 7 shows the correlation of simple vs. complex words of 2000 and 3000 vocabulary level and analytic and synthetic aspects.

**Table 7. Spearman's Rho of Simple vs. Complex Words of 2000 and 3000 Vocabulary Level and Analytic and Synthetic Aspects**

Level				Simple words	Complex words
Spearman's rho	2000 level	Analytic	Correlation Coefficient	.743**	.707**
		Synthetic	Correlation Coefficient	.621**	.618**
	3000 level	Analytic	Correlation Coefficient	.676**	.629**
		Synthetic	Correlation Coefficient	.779**	.715**

## DISCUSSION

The first question of this study investigated the degree of the students' morphological knowledge and word formation rules (analysis and synthesis). This question was answered on the basis of the students' performance on the morphological awareness test with two subsets of morpheme identification (analysis section) and morphological structure (synthesis section). The findings have shown that the students' morphological awareness was medium (62%).

The students performed better in suffix than prefix. Students didn't usually separated prefix from stem. The results have shown that the students performed better in the analysis section than what they did in synthesis section but there were few differences between them. There was a high correlation between analytic and synthetic knowledge so that analytic knowledge could highly predict synthetic knowledge and vice versa. Knowing one of them could affect the other. Also, the effect of synthetic on morphology was higher than analytic but analytic was better than synthetic in wider words range.

The second question of the study examined the students' vocabulary size and its relationship to morphological awareness. This part was answered using Nation's VLT. In this research, as the levels got more sophisticated and advanced, the students' performance decreased more. According to Nation (2001) a learner needs to learn a 90% of the vocabulary level in order to achieve 80- 95 % coverage of text coverage. The present study's students' vocabulary knowledge represented a potential coverage of only 42% of a text vocabulary. It was clear that the students in this study have not reached this level.

The second and third research question concerned whether any correlation existed between morphological awareness and vocabulary size, and between performance on complex words vs. simple words and morphological awareness. The present study demonstrated that there was a relationship between morphological awareness and vocabulary size. The results of the current study were consistent with a number of studies done by Singson, Mahony, and Mann (2000); White, Power and White (1989), indicating that vocabulary size and morphological awareness have significant positive correlation. Regarding the results obtained for 2000 and 3000 levels, there was a significant relationship between students' analytic and synthetic morphological awareness on the one hand and their performance on simple and complex word comprehension on the other hand. Totally, it was evident that the morphological awareness didn't differentiate between the students' performance on simple vs. complex words.

There are implications for facilitating English vocabulary learning for EFL students in Iran. A new viewpoint of vocabulary instruction should emerge in the college and there is a need to include explicit instruction on morphological knowledge. Also, developing students' morphological awareness should be seen as a metalinguistic tool for word consciousness.

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