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Accuracy Order of Grammatical Morphemes in Persian EFL Learners: Evidence for and against UG

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Abstract

This study addresses the acquisition of the morphological markers in Persian learners of English as a foreign language. To this end, the accuracy order of nine morphemes including plural *–s*, progressive *–ing*, copula be, auxiliary be, irregular past tense, regular past tense *–ed*, third person *–s*, possessive *-'s* and indefinite articles was studied in 60 teenage Persian EFL learners. Placement and proficiency tests and a demographic questionnaire were employed to collect the data. The total production of 2160 morphemes was manually checked, classified, and counted to rank their acquisition order. The learners' accuracy order was ranked in a decreased order from 1 to 9 as follows: regular past tense, auxiliary be, copula be, present progressive tense, indefinite articles, plural *–s*, possessive *-'s*, irregular past tense and third-person singular *–s*. The Spearman correlation showed that Persian students' accuracy order had a moderate and weak relationship with the accuracy order of ESL and EFL learners, respectively. This finding proves that Persian EFL learners do not learn English grammatical morphemes in a natural order. Moreover, the universal grammar does not remain fully in these learners. The minor role of UG in EFL acquisition also indicates the important role of transfer in foreign language learning.

Keywords: accuracy, morpheme, Persian, transfer, universal grammar

Introduction

The innateness of language learning ability is the common characteristic of all human beings which accounts for the poverty of stimulus in language acquisition (Chomsky, 1957) explaining the fact that human beings acquire language independently of incomplete and sometimes ungrammatical stimuli they hear or receive from their environment. Language universals or the property that human language is innate and we are born with an inborn capacity for language learning means that we are genetically equipped to learn language (not specific but language in general) and this genetic aptitude explains the speed and ease of first language learning during critical period contrary to fragmented data spoken in our environment.

While there is an agreement that the innate capacity is responsible for language learning in children (Saville-Troike & Barto, 2016, p.17), it is not at all certain whether or not such a natural ability is part of the zero state in older learners for foreign languages. Some linguists and psychologists believe that this genetic predisposition that children have from birth for language learning remains throughout their life and the differences between first and second or foreign languages depend on other elements (Cook, 2010; Özçelik, 2017; Parodi, 2012; White, 2015). Others believe that some aspects of this innate ability remain in force for second or foreign language learning and some are lost with advancing age (Jing Song, 2019; Seog, 2015; Zhanwen Song, 2019). Alongside these two hypotheses, others believe that no innate ability remains beyond childhood and subsequent languages are learned like other domains of knowledge such as mathematics or other sciences meaning that there is no role for universal grammar (henceforth UG) in foreign or second language acquisition (Bley Vroman, 2009; Ellis, 2015; van den Weijer, 2015).

One of the indirect ways in studying the innate capacity of second or foreign language learning is the acquisition of morpheme orders in a second or foreign language. The most important question which has risen from 1970 regarding second or foreign language learning is that whether there is the natural order (universal sequence) in acquiring second language learners' grammatical development. This topic becomes more interesting when we realize that certain elements of a second or foreign language were acquired earlier than others. In other words, language learning processes in

first and second or foreign language learners are the same if, like native language learning, the similar order of acquiring elements (such as grammatical morphemes) is also found in second or foreign language learning.

The study of Brown (1973, pp.105-106) that was considered the initial point in morpheme order studies and was done on 14 grammatical morphemes in three native English children revealed that grammatical morphemes were acquired in a certain order. The natural order of morpheme acquiring in L1 learners made L2 researchers investigate whether morpheme acquisition in L2 learning follows a common order, and if it does, whether it is the same for both L1 and L2 learning. To answer the mentioned questions, Dulay and Burt (1974, pp. 38-50) studied the sequence of eight grammatical morphemes (the plural *–s*, the progressive –ing, the copula form of be, the auxiliary be, the articles a/the, the irregular past, the third person *–s* and the possessive *–'s*) in 6-8 years old children learning English as an L2. Their findings showed that three groups of Spanish native learners acquired these morphemes in a common order despite various hours of their exposure to that L2 as well as their different language backgrounds. Moreover, it was found that L1 does not influence morpheme order acquiring. Other studies proved the findings of Dulay and Burt (1974) and indicated that acquiring grammatical morphemes are independent of age and data environment collection (Krashen, 2009; Krashen, Sferlazza, Feldman & Fathman, 1976). They maintain that the slight differences in acquiring morpheme order are because of acquisition hierarchy and natural order in learning morphemes of L2. The age and L1 independence of acquiring explain the innate ability of L2 learners. This hierarchy proposes four stages in morpheme acquisition with a certain number of morphemes to be acquired in a different sequence in each stage although the stages are always constant. For example, progressive *–ing*, plural *–s* and copula be (*am, is, are*) are located in the first stage. In some cases progressive *–ing* and in other cases, the plural or copula may be learned first, but all of them (the first group) will be learned before those morphemes in the next stage (auxiliary be and the articles). Krashen's (1977) hierarchy for morpheme order acquisition is presented in Figure 1.

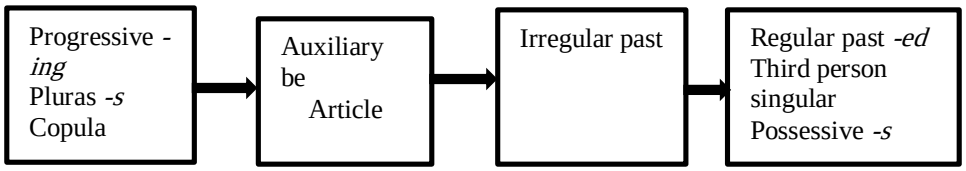

Figure 1. The Natural Order of Morpheme Acquisition Proposed by Krashen (1977)

Luk and Shirai (2009, pp. 720-724) studied the influence of L1 on grammatical morpheme order of plural *–s*, possessive *–'s* and articles in Japanese, Korean, Chinese and Spanish speakers. They concluded that earlier or later learning of grammatical morphemes depended on the presence or absence of those categories in L1. Moreover, they indicated the role of L1 transfer in L2 learning. Japanese and Korean L2 learners acquired possessive *–'s* earlier than Chinese and Spanish because of their language similarity to English structurally. On the other hand, Japanese and Korean learners of English had difficulty learning the articles because of their absence in their languages.

Barrot (2010) studied the accuracy order in Filipino adult learners learning the second language through narrative and expository essays and concluded that the accuracy of morphemes displayed variation from the natural order acquisition. The study of the accuracy order of grammatical morphemes in the oral production of Filipino preschool pupils also showed that the childern*'s* acquisition order was different compared to natural order acquisition (Barrot & de Leon, 2014). Moreover, the accuracy order of English grammatical morphemes in Filipino university freshman multilingual speakers showed that their accuracy order was different from natural order acquiring (Lebeco, 2013)

Murakami (2011) investigated different languages and indicated the role of L1 in acquiring English morpheme orders. He also, like Luk and Shirai (2009), rejected the common morpheme order of Krashen (1977). Moreover, studying the morpheme order in Swedish students learning English as a second language in grades 6 and 7 indicated the role of L1 on morpheme order studies. These learners learned the grammatical morphemes in a certain order, not in a constant common order (Khor, 2012).

Testing foreign language learning in Japanese students aged 13-18 years old done by Tono and Aoki (2000, p. 132) showed that unlike Dulay and Burt (1974), acquiring morpheme order was not common in Japanese learners. The study of Muñoz (2006, pp. 112-114) showed that foreign language morphemes were acquired independent of age. Moreover, the speed of learning was different and older learners compared to younger ones had better performance on foreign language morphemes. Studies of Seog (2015) through the written samples of Korean elementary students learning English as a foreign language implied no natural sequence in acquiring eight grammatical morphemes. Moreover, studying the perceptual salience, semantic complexity, morphophonological regularity, syntactic category, frequency and L1 transfer in Korean learners of English in a foreign language context through timed writing test responses indicated no natural common order in acquiring grammatical morphemes (Schenck & Choi, 2013). On the contrary, Schuwerk (2004) studied the acquiring of indefinite articles, progressive *-ing* and third-person singular morphemes in Korean students and reported the natural order of morpheme acquiring. Studies of morphological markers in the Saudi EFL learners (Mohammed & Sanosi, 2018) and the Croatian EFL learners (Semren, 2018) also showed discrepancies in the ranking orders compared with the natural order hypothesis.

Moreover, studies on acquiring morpheme orders demonstrated that the variables such as perceptual salience, semantic complexity, morphophonological regularity, syntactic category, frequency, and L1 transfer play an important role in acquiring grammatical morphemes and their orders (Ellis, 2006; Goldschneider & DeKeyser, 2001; Hulstijn, 2015; Hulstijn, Ellis & Eskildsen, 2015; Kwon, 2005). The study of the accuracy order of grammatical morphemes among high-level and low-level groups of L1-Thai learners who learned English as a second language proved that the performance of these two groups was different from each other as well as natural order acquiring or hypothesis (Chumkamon, 2017).

Researchers, in general, investigated the regularities and common features found in language learning process (Lightbown & Spada, 2013; Muñoz, 2006). These studies showed that English speaking children follow a certain

order in learning grammatical morphemes. In other words, language acquisition has the same path in children independent of external factors though its speed may be different from one child to another. Other studies (Goldschneider & Dekeyser, 2001; Krashen, 2009; Kwon, 2005; Luk & Shirai, 2009; Pica, 1983) maintained that second language learners follow a certain order in learning inflectional morphology meaning that UG plays an important role in learning the second language. As for foreign language learning, some studies show the natural order acquisition (Muñoz, 2006) while others conclude no natural order in learning grammatical morphemes (Seog, 2015) proving the lack of agreement on morpheme order studies in foreign language learning. Lack of agreement on the acquisition order of English grammatical morphemes among second and foreign language researchers indicates a need to conduct a research on the accuracy order of Persian EFL learners to add riches to the prior studies and to examine the role of UG in foreign language learning.

While there is much research on grammatical morphemes in SLA (Krashen, 2009; Luk & Shirai, 2009; Schuwerk, 2004), most of them are conducted in non-Persian languages, leaving this area of research productive. As the previous morpheme investigations were done on children acquiring English as L1 and bilingual ESL learners, it is particularly motivating to examine the English grammatical morphemes on teenage Persian speakers as EFL learners to shed light on the issue of generalizability of morpheme acquisition order across learners. The aim of this study is to investigate the role of UG in foreign language learning. To this end, we investigated the accuracy order of English morphemes' acquisition in teenage Persian learners learning English as a foreign language to see whether the collected data will confirm the role of UG in foreign language learning or not.

The review of the literature in morpheme order studies also shows that since most of studies review language acquisition in natural environment and a few studies have investigated morpheme acquisition in foreign languages, it is necessary to study the sequence of acquiring morphemes among Persian speakers of English as a foreign language to examine whether or not learning grammatical morphemes in a formal setting follows a certain order. Moreover, the consideration of morpheme order studies

clarified that further investigation on different learners such as Persian speakers learning English is essential to add additional value to morpheme studies and put more weight on previous data to achieve more reliable results.

To this end, the present study concentrated on English inflectional morpheme acquisition of Persian high school EFL learners to answer the following research questions:

1. What is the order of grammatical morphemes acquired by Persian EFL learners?
2. Does the order of Persian EFL learners' morpheme acquisition confirm the natural order?
3. What is the role of UG in learning English morphemes?

Method

Participants

In this study, 85 teenage EFL students (40 male and 45 female) from two public high schools of Kerman took the language proficiency test to ensure their homogeneity. They were within the age range of 15 to 17 years old. All of the students who were Persian speakers had already studied English at junior high school. Then, 65 students with upper intermediate level were asked to accomplish the demographic questionnaire and a proficiency test on grammatical morphemes. Some of these students were excluded from the investigation because of incomplete performance and finally, a sample size of 60 EFL learners took part in the study and their performances were analyzed. The mean age of the sample was 15.63±0.51. The respondents self-reported that their English proficiency level on reading, writing, speaking and listening skills was intermediate. The students started to learn English as a foreign language from ages 6 to 13 and their mean age of onset was 10.95±2.1 showing that some of them had learned English outside school setting. They were first-grade students of two high schools in Kerman. We chose the students whose native language was Persian and did not know another language since some studies have shown the influence of L1 on acquiring the structure order of L2 (Barrot, 2010; Luk & Shirai, 2009; Murakami, 2011). Moreover, based on the demographic questionnaire, they

reported that their aptitude to learn English was higher than average. Since students were under 18, we asked permission from the principals of the schools as well as English language teachers. The questionnaire and proficiency test were administered at school in December 2019. The testing session lasted for 30 minutes. Although the learning context was the same for all students (they learned grammar, vocabulary, reading, and speaking), the amount of their exposure varied based on the courses that they passed in private institutes.

Instruments

In this study, three tools were employed to collect the data: The placement test, the proficiency test and the questionnaire on the students' demographic information. We chose the placement test from the Outcomes Placement Test Package (2019). It consists of 50 items testing grammar and vocabulary presented over the whole range of the Outcomes series. Since the students had different proficiencies and also knowledge of the English language and morphemes, therefore, we ensured their homogeneity in terms of language proficiency by a pretest. We considered the proficiency level essential since choosing students with the same proficiency makes the results more valid and stable. Moreover, it allows us to observe the language behavior and morphological knowledge of the same group of learners' in the acquisition process.

After homogenizing the students and determining their appropriate language level, upper intermediate students were asked to fill the profile questionnaire. It consisted of a set of questions regarding age, gender, course level, school, mother tongue, beginning age of learning, their perception of L2 level, other foreign languages and their aptitudes in learning English. Moreover, this questionnaire was completed anonymously by the students to keep their privacy. We assured the students that their information on the forms will be kept strictly confidential.

Having completed the learners' profile questionnaire, the students took a test on nine grammatical morphemes. The researchers devised a testing instrument similar to Schuwerk (2004) to collect the data on the nine English grammatical morphemes. The students were confronted with a series of 36 pictures for each of the morphemes and were asked to fill in the blanks based on what they saw in the pictures (see Appendix). The 36

pictures were clustered in groups of four pictures for each of the nine target morpheme structures: plural *-s*, possessive *-'s*, progressive *-ing*, the third person *-s* marker, regular past *–ed*, irregular past morpheme, copula *be*, articles *a/an* and auxiliary *be*. The instrument was administered to the students in one session. The content of fill-in-the-blanks items were evaluated focusing on the use of those nine specific morpheme structures.

To help the students use the target morphemes, a prompt was given at the beginning of incomplete sentences. Moreover, some clues such as a *noun*, an *adjective* or *action* or *state* were provided in parentheses to direct the students and help them create a sentence containing the desired morpheme. Some clues showing the tense type such as *now*, *yesterday* or habitual context like *every week* were employed to direct the students to use the target morphemes like progressive *–ing*, regular past, irregular past and third person *–s* markers.

The test was designed and checked in terms of reliability and validity. Its reliability, according to Kuder-Richardson formula 20, was 0.897. Its content validity was controlled by five experts in language testing individually and independently and then it was employed for the purposes of the research. Moreover, the familiarity and visual complexity of the pictures used in the proficiency test were considered and controlled through a naming picture task. The task included random sequences of the 36 pictures. The familiarity and visual complexity of the test pictures were rated by five people (3 students and 2 teachers) based on a 5-point scale before administrating the test to see whether the familiarity and simplicity of all pictures were the same. Running a one-way analysis of variance (ANOVA) showed that there was no significant difference concerning visual complexity, $F(8, 171)=1.260$, $p=0.268$, and familiarity of pictures, $F(8, 171)=1.595$, $p=0.130$ at the $p > 0.05$. The study of the abovementioned variables proved that there was no statistically significant difference between the norm variables for the contexts of different morphemes proving that the morphemes and their corresponding pictures could be used to evaluate the performance tasks of Persian EFL learners.

Procedure

In this study, three instruments were employed to collect the data from the participants: the placement test, the learners' profile information and a proficiency test. At the outset, 85 first-grade students of two high schools were chosen. After homogenizing, 15 students were excluded from the study, and 65 students at upper intermediate level were asked to complete the demographic questionnaire and take the proficiency tests on grammatical morphemes. Five students were also excluded from the study because of their incomplete performance and finally, a sample size of 60 EFL learners took part in the study and their performances were analyzed.

The participants produced a total of 2160 grammatical morphemes in specific linguistic contexts. Each morpheme had 240 occurrences in this test. A total of 2160 sentences were manually checked for the accurate use of nine grammatical morphemes produced by foreign language learners. The correct and incorrect morphemes were classified and counted in order to rank morpheme acquisition order among teenage Persian foreign language learners. To this end, the researchers classified incorrect grammatical morphemes into *underuse*, *overuse*, *misselection*, *misrealization*, *unclassified* and *no functor* groups. *Underuse* forms of grammatical morphemes were those morphemes that students did not use them in an obligatory context; a context in which a native speaker would use it (e.g. *look* for *looked* or *come* for *came*). If the participants produced a morpheme in a nonobligatory context, it would be called the *overuse* form of that morpheme (e.g., *did not drew* for *drew*). *Misselection* was the form that exists in English, but it is incorrect in that context (e.g., *are* for *was* or *goes* for *went*). If the students produced a form that did not exist in English, it was a *misrealization* form (e.g., *drawed* for *drew* or *taked* for *took*). Using a morpheme in place of another morpheme is the *unclassified* form (e.g., *made* for *was* or *gold* for *an*). In this situation, the types of morphemes were different, that is, the students employed lexical morphemes in place of grammatical ones. *No functor* was a context in which the students were not able to determine the type of morpheme; therefore they employed no morpheme in the obligatory context (e.g., *egg* in place of *eggs* for the plural or *make* instead of *making* for progressive *–ing* or writing nothing in a blank

for the desired morpheme). Table 1 shows the distribution and number of produced morphemes by the students.

Table 1
Type and Distribution of Grammatical Morphemes Produced by the Students

Morphemes	No of morphemes in the paper test	No of students	Total
Plural *–s*	4	60	240
Progressive *–ing*	4		240
Copula be	4		240
Auxiliary be	4		240
Irregular past tense	4		240
Regular past tense *–ed*	4		240
Third person *–s*	4		240
Possessive *'s*	4		240
Indefinite article *a/ an*	4		240
Total	36	60	2160

Design

Given the nature of variables and their relations, purpose of the study and the research questions, this study was conducted in the light of correlational-descriptive survey-based methods in the sense that the variables focused in the first question which investigated the frequencies of grammatical morphemes were more descriptive while those of second question comparing the acqisition order of morphemes to natural order were investigated through correlational method. The variables posed through the third question were investigated through both descriptive and correlational methods.

Results

We employed the usage accuracy to infer morpheme acquisition following Brown (1973). The Students were asked to determine and write the correct inflectional morphemes based on the obligatory linguistic and situational context to measure their accuracy rate. To this end, we took some steps to calculate the accuracy rate; first, we classified the students' performances into correct and incorrect morphemes. Incorrect morphemes were classified

into *misuse* suppliance (*misselection* and *misrealization*), *underuse* suppliance, *overuse suppliance*, *no functor*, and *unclassified* forms. Next, we quantified and scored the accurate usage of the grammatical morphemes and then, calculated the accuracy rate or acquisition percentage. For scoring, the target morphemes were manually checked for accurate use based on the participants' performances and assigned point values according to Table 2. We employed the obligatory contexts, as indicated in Table 2, to score the grammatical morphemes' acquisition.

Table 2
The Value Points to Evaluate the Accuracy Rate

Morpheme use suppliance		Score	Example: irregular past
Correct		1.0	They drew yesterday.
Misuse	*misselection*	0.5	They goes yesterday.
	misrealization	0.5	They drawed yesterday.
underuse		0.0	They draw yesterday.
overuse		0.0	They didn't drew yesterday.
No functor		0.0	They …… yesterday.
Unclassified		0.0	They get yesterday.

In the present study, the accuracy rate was calculated by using a combination of Pica's (1983) target-like use (TLU) and Dulay and Burt's (1974) suppliance in obligatory context (SOC) following Seog (2015). This equation accounts for *misformed* suppliance in obligatory contexts and *overuse* or *oversuppliance* of morphemes in non-obligatory contexts (NOC). Moreover, it allows for a way to consider the learner's interlanguage into the calculations. Figure 2 represents the equation used to calculate the accuracy rate.

$$\text{Accuracy rate} = \frac{\text{n correct SOC} + (\text{n misformed SOC} \times 0.5)}{\text{n obligatory contexts} + \text{n suppliance in NOC}} \times 100$$

Figure 2. Accuracy Rate Formula Taken from Seog (2015)

After the students completed the test, the total number of *correct*, *incorrect* (forms of morphemes including *underuse*, *overuse*, *misuse*, and *no*

functor) and *unclassified* morphemes were calculated for each grammatical morpheme. Having completed all the calculations, the researchers ranked and ordered the accuracy rates or acquisition percentages. The resulting acquisition order was compared statistically with ESL (Dulay & Burt, 1974; Krashen, 1977) and EFL studies (Schenck & Choi, 2013; Seog, 2015) using the Spearman rank-order correlation coefficients to discover the similarities and discrepancies of morpheme acquiring orders among these studies.

As the written data was derived from the proficiency test, all types of morphemes were labeled, classified and manually checked. The measurement of morpheme frequencies showed that the most frequently supplied morpheme was regular past tense morpheme while the least frequent one was the possessive -*'s*. Moreover, *misselection* was the most frequent error.

Table 3 lists the acquisition order of Persian participants for the nine grammatical morphemes. According to the ranked grammatical morphemes, the students had the least difficulty with the regular past tense, auxiliary *be* and copula *be* with the highest accuracy rate of acquisition order whereas the possessive *'s*, irregular past tense morpheme, and third-person singular morpheme had the lowest acquisition percentages.

Table 3
Acquisition Order of the Persian EFL High School Students

Rank	Grammatical Morphemes	Acquisition Percentage
1	Regular past tense	96.66
2	Auxiliary be	91.04
3	Copula be	89.79
4	Present progressive tense	85.62
5	Indefinite articles	84.37
6	Plural *s*	82.08
7	Possessive -*'s*	81.25
8	Irregular past tense	80.20
9	Third person singular -*s*	74.16

Table 4 represents the comparison of the natural order acquisition of grammatical morphemes of this study with the acquisition orders of ESL and EFL reported by the studies in the literature review section.

Table 4
Acquisition Order Comparisons

morphemes	This study	EFL studies		ESL studies	
		Schenck & Choi (2013)*	Seog (2015)**	Dulay & Burt (1974)	Krashen (1977)
Regular past tense	1	9 (14)	4	7	7
Auxiliary be	2	2 (3)	7	4	4
Copula be	3	1 (2)	1	3	3
Present progressive tense	4	4 (8)	5	2	1
Indefinite articles	5	7 (11)	-	5	5
Plural *-s*	6	3 (4)	2	1	2
Possessive *-'s*	7	6 (10)	6	9	9
Irregular past tense	8	5 (9)	3	6	6
Third person singular *-s*	9	8 (12)	8	8	8

* A total of 16 morphemes were rank-ordered in Schenck & Choi's (2013) study. The ranked in the parentheses are the original rank of 16 morphemes reported by them.
** The unmarked morpheme was not investigated in Seog's (2015) study.

We employed the Spearman rank-order correlation coefficient according to SPSS version 20 to measure the strength and direction of association that exists between the rank order of our findings and the rank order acquisition of the grammatical morphemes reported by other studies in EFL and ESL settings.

Table 5
Spearman Rank-order Correlations of this Study to Duly & Burt's (1974), Krashen's (1977) Natural Order, Schenck & Choi's (2013) and Seog's (2015) Study

	Duly & Burt (1974)	Krashen (1977)	Schenck & Choi (2013)	Seog (2015)
Correlation coefficient	0.350*	0.383	0.233	0.238
Sig. (two-tailed)	0.356	0.308	0.546	0.570
N	9	9	9	9

* Correlation is significant at the .05 level (2-tailed).

As Table 5 indicated, the correlations were not statistically significant. The results of the Spearman rank-order correlation coefficients of the Persian EFL high school students' acquisition order of grammatical morphemes to Duly and Burt's (1974) and Krashen's (1977) studies revealed a positive moderate correlation with *r* values of 0.350 (p = 0.356) and 0.383(p = 0.308) respectively. Moreover, the Spearman rank-order coefficient showed a weak correlation of Persian EFL learners' morpheme acquisition order with those of Schenck & Choi (2013, r = 0.233, p = 0.546) and Seog's (2015, r = 0.238, p = 0.570).

Discussion

In this study, the role of UG in learning English grammatical morphemes in Persian EFL learners was studied. To this end, the accuracy order of plural *-s*, possessive *-'s*, progressive *-ing*, third person *-s* marker, regular past *–ed*, irregular past morpheme, copula *be*, articles *a/an* and auxiliary *be* were studied to see whether Persian learners acquired these morphemes in a natural order as reported by some ESL studies (Duly & Burt, 1974; Krashen et al., 1976; Krashen, 1977; Krashen, 2009). The rank order of the grammatical morphemes was studied to determine whether Persian learners learning English acquire morphemes in a natural order. The existence or lack of natural accuracy order was used as evidence for testing the hypotheses that UG is part of the zero state in adult foreign language learners.

Comparing the Persian EFL learners' accuracy order of grammatical morphemes with a universal sequence of these morphemes did not fully support the natural order accuracy. As illustrated in Tables 4 and 5, the accuracy order of English morphemes used by Persian teenage learners showed a moderate correlation to natural order accuracy reported by previous second language studies (Duly & Burt, 1974; Krashen, 1977) and a weak correlation to previous foreign language studies (Schenck & Choi, 2013; Seog, 2015). Looking at the comparisons of the acquisition orders in Table 4, ESL and EFL differences can be noted immediately. The regular past tense morpheme was acquired first in Persian learners whereas it was one of the last to emerge in the SL learners' acquisition Trder. The acquisition order of this morpheme has not a stable status among EFL learners too. In some studies (Schenck & Choi, 2013), the acquisition order of the regular past tense morpheme is the last and in some others (seog, 2015), it stands in a nearly middle status. Moreover, comparing the acquisition order of third-person singular *–s* in Persian EFL learners with other previous EFL and ESL studies showed that this morpheme was acquired late in all foreign and second language learners. The only difference was that the Persian EFL learners acquired this morpheme much later than what other studies proposed. Another similarity among these accuracy orders was related to copula *be*. This morpheme was ranked third both in our study and other ESL studies whereas it was the first morpheme that emerged in other English foreign language contexts. Indefinite articles (*a/an*) were ranked fifth both in Persian learners' and in ESL contexts (the same rank) which varies with EFL contexts in which its acquisition stands at the seventh point. The progressive *–ing* appeared later in the EFL acquisition order whereas it was one of the first to emerge in the ESL context.

The closer investigation of the data showed that possessive *-'s* and irregular past tense morphemes were acquired later both by Persian learners and in EFL contexts. The only difference was that this morpheme was acquired much more lately in ESL contexts than the Persian EFL context while irregular past tense morpheme was acquired much more lately in Persian EFL contexts than ESL contexts. The plural *–s* morpheme was also acquired late by Persian learners of English whereas in ESL and EFL

contexts it was acquired earlier compared with other morphemes. The analysis of the data in our study and its comparison with other ESL and EFL studies showed no stable position for the accuracy order of grammatical morphemes, that is, the acquisition order of grammatical morphemes did not match with each other in the same contexts and that acquisition order of morphemes differed from each other in different languages proving that some aspects of UG remain in force for foreign language learning and some other aspects of this innate ability are lost with advancing age.

The moderate correlation of the grammatical morphemes' acquisition order by Persian learners of English as a foreign language with the accuracy order of these morphemes in ESL contexts proves that UG does not remain fully in teenage learners. Moreover, the analyses of the data prove that language learning processes in the first and second/ foreign language learners are not the same. Moreover, if UG plays only a minor role in EFL acquisition, as the discussion here and the studies examined so far suggest (Barrot, 2010; Luk & Shirai, 2009; Murakami, 2011), then it supports the idea that the role of transfer is even larger than usually assumed.

Contrary to the general agreement on the role of innate capacity in language learning in children, comparing the grammatical morphemes' order acquiring in teenage Persian learners of English and other learners showed that the accuracy order of these morphemes in different studies was not in the same order in EFL and ESL learners. The moderate correlation of the accuracy order of Persian learners with ESL learners' proves that the natural and genetic ability to learn a foreign language does not remain throughout language learners' life. Moreover, some aspects of this innate ability remain in force for foreign language learning and some others are lost with advancing age.

The findings of this study revealed that the English grammatical morphemes acquired by Persian learners were ranked in a decreased order from 1 to 9 as follows: regular past tense, auxiliary *be*, copula *be*, present progressive tense, indefinite articles, plural *–s*, possessive *-'s*, irregular past tense and third-person singular *–s*. This acquisition order indicates that Persian learners of English did not exhibit the same order in the acquisition of these nine morphemes although we evidenced some slight similarities.

Moreover, the findings showed that teenage Persian learners did not access the UG or LAD. This finding is contrary to studies of Duly and Burt (1974) and Krashen (2009) showing the natural and common order in acquiring grammatical morphemes in ESL contexts. The finding that foreign language learners do not follow a common rank order is in line with other studies on the sequencing order of grammatical morphemes (Khor, 2012; Luk & Shirai, 2009; Murakami, 2011; Seog, 2015; Tono & Aoki, 2000) proving the minor role of UG in learning English grammatical morphemes.

Discovering the acquisition order of English morphemes can be useful in designing better instructional techniques and procedures to teach them in foreign language contexts and to facilitate the process of language learning. Moreover, to have some ideas about the learning sequence of morphemes would help teachers to comprehend the process of morpheme learning. The information regarding how students learn the morphemes suggest that teachers teach first the grammatical morphemes that learners have less difficulty learning them (such as regular past tense, auxiliary *be* and copula *be*). Another implication of this study is that syllabus designers can use the findings of this study to arrange the content of English books following the grammatical rank order to facilitate learners' grammar learning. The fact that Persian learners of English grammatical morphemes made more errors on the third-person singular present tense and irregular past tense morphemes provide information for teachers to focus on these structures and to spend enough time on the instruction of these structures giving foreign language learners opportunity to acquire them more deeply.

An obvious limitation to this study was that it was restricted to morphology and certain foreign language learners at a specific language proficiency level. As to future research, it is suggested to do more studies investigating the role of UG in foreign language learning in phonetics/phonology and syntax to see whether the data related to these areas support the findings of morphology data or not. In addition, more studies should be done to investigate the data driven from other foreign language learners at different levels to support and generalize the findings of this study.

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References

Barrot, J. (2010). Accuracy order of selected grammatical morphemes in the monitored written compositions of Filipino adult language learners. *Philippine ESL Journal*, *4*, 45-65.

Barrot, J., & de Leon, K. (2014). Accuracy order of the grammatical morphemes in the oral production of preschool pupils. *Indonesian Journal of Applied Linguistics*, *3*(2), 63-76.

Bley-Vroman, R. (2009). The evolving context of the fundamental difference hypothesis. *Studies in Second Language Acquisition*, *31*(2), 175-198.

Brown, R. (1973). *A first language: The early stages*. Harvard U. Press.

Chomsky, N. (1957). *Syntactic structure.* The Hague: Mouton.

Chumkamon, S. (2017). Use of English Grammatical Morphemes Among L1-Thai Learners. *(Unpublished master's thesis). Thammasat University, Bangkok, Thailand*.

Cook, V. J. (2010). The relationship between first and second language acquisition revisited. In Macaro, E. (ed.), *The Continuum companion to second language acquisition* (pp. 137–157). London: Continuum.

Dulay, H. C., & Burt, M. K. (1974). Natural sequences in child second language acquisition. *Language learning*, *24*(1), 37-53.

Ellis, N. C. (2006). Selective attention and transfer phenomena in L2 acquisition: Contingency, cue competition, salience, interference, overshadowing, blocking, and perceptual learning. *Applied Linguistics*, *27*(2), 164-194.

Ellis, R. (2015). *Understanding second language acquisition 2nd Edition-Oxford applied linguistics*. Oxford university press.

Goldschneider, J. M., & DeKeyser, R. M. (2001). Explaining the "natural order of L2 morpheme acquisition" in English: A meta analysis of multiple determinants. *Language learning*, *51*(1), 1-50.

Hulstijn, J. H. (2015). Explaining phenomena of first and second language acquisition with the constructs of implicit and explicit learning. *Implicit and Explicit Learning of Languages*, *48*, 25-46.

Hulstijn, J. H., Ellis, R., & Eskildsen, S. W. (2015). Orders and sequences in the acquisition of L2 morphosyntax, 40 years on: An introduction to the special issue. *Language Learning*, *65*(1), 1-5.

Khor, S. (2012). A corpus-based study in morpheme acquisition order of young learners of English. Retrieved from Uppsala University*: www. divaportal. org/smash/get/diva2, 608517*, 65-80.

Krashen, S. D. (1977). Some issues relating to the monitor model. *On Tesol*, *77*(144-158).

Krashen, S. D. (2009). Principles and practice in second language acquisition (1st Internet ed.). *Oxford: Pergamon.* Retrieved from http://www.sdkrashen.com/content/books/principles_and_practice.pdf.

Krashen, S. D., Sferlazza, V., Feldman, L., & Fathman, A. K. (1976). Adult performance on the SLOPE test: More evidence for a natural sequence in adult second language acquisition. *Language Learning*, *26*(1), 145-151.

Kwon, E.Y. (2005).The natural order of morpheme acquisition: A historical survey and discussion of three putative determinants. Teachers College, Columbia University Working Papers in *TESOL & Applied Linguistics, 5(1), 1-21.*

Lebeco, E. (2013).The acquisition order of English grammatical morphemes by Filipino university freshman multi-linguals. *Asian Journal of English Language Studies (AJELS.* Volume 1, 117-134.

Lightbown, P. M., & Spada, N. (2013). *How languages are learned 4th edition-Oxford Handbooks for Language Teachers*. Oxford university press.

Luk, Z.P., & Shirai Y. (2009). Is the acquisition order of grammatical morphemes impervious to L1 knowledge? Evidence from the acquisition of plural –s, articles, and possessive 's. *Language Learning, 59,* 721-754.

Mohammed, A. S. E., & Sanosi, A. B. (2018). Accuracy order of English Grammatical Morphemes of Saudi EFL learners. *Eurasian Journal of Educational Research*, *18*(77), 65-80.

Muñoz, C. (2006). Accuracy orders, rate of learning and age in morphological acquisition. *Age and the Rate of Foreign Language Learning*, 107-126.

Murakami, A. (2011). Cross-linguistic influence on the accuracy order of English grammatical morphemes: Insights from a learner corpus. In S. Granger, S. Gaëtanelle, & F. Meunier (Eds.), *Twenty years of learner corpus research. Looking back, moving ahead: Corpora and language in use* - Proceedings 1 (pp. 325–334).

Özçelik, Ö. (2018). Universal Grammar and second language phonology: Full transfer/prevalent access in the L2 acquisition of Turkish "stress" by English and French speakers. *Language Acquisition*, *25*(3), 231-267.

Parodi, T. (2012).*Universal Grammar and second language acquisition*. New York: Blackwell Publishing.

Pica, T. (1983). Adult acquisition of English as a second language under different conditions of exposure. *Language Learning*, *33*(4), 465-497.

Saville-Troike, M., & Barto, K. (2016). *Introducing second language acquisition*. Cambridge University Press.

Schenck, A. D., & Choi, W. (2013). Unlocking the secrets of morphosyntactic development by examining acquisition order disparities in an EFL context. *Open Journal of Modern Linguistics*, *3*(01), 47.

Schuwerk, T. (2004). *Morpheme acquisition in second language learning*. MA thesis at the University of Central Florida.

Semren, M. (2018). The Order of emergence of the morphological markers of temporal expression in the Croatian EFL learners' longitudinal speech production data. *Applied Linguistics Papers*, (25/2), 89-106.

Seog, D. S. Y. (2015). Accuracy order of grammatical morphemes of Korean EFL learners: Disparities among the same L1 groups. *Linguistic Research 32 Special Edition*, 151-171.

Song, J (2019). The Role of Universal Grammar in second language acquisition from the perspective of Chinese acquiring English Reflexives. *Studies in English Language Teaching, 7 (2)* 284-288. doi:10.22158/selt.v7n2p284

Song, Z. (2019, August). Universal Grammar Plays a Minor Role in Second Language Acquisition. In *1st International Symposium on Innovation and Education, Law and Social Sciences (IELSS 2019)*. Atlantis Press.

Tono, Y., & Aoki, M. (2000). A computer learner corpus-based analysis of the acquisition of irregular verbs: optimizing the learning list and monitoring the learning process. *The Bulletin of the Kanto-Koshin-etsu English Language Education Society*, *14*, 103-122.

van de Weijer, J. (2015). The role of Universal Grammar in second language acquisition. *Chinese Accents and Accented Chinese CAAC2014*, 1.

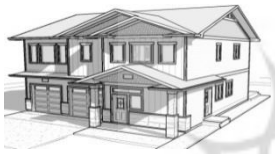
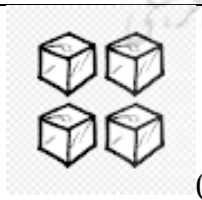
White, L. (2015). Linguistic theory, universal grammar, and second language acquisition. In B. VanPatten and J. Williams (Eds.). *Theories in second language acquisition: An* introduction (PP. 34-54). New York and London, Routledge: Taylor and Francis Group.

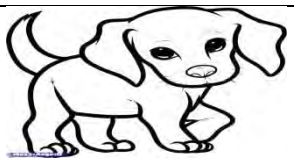
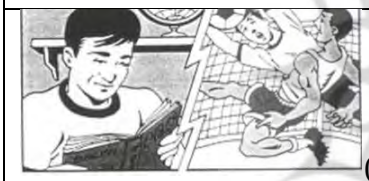
Appendix

Test on Eight Grammatical Morphemes

NAME: ……

Directions: Describe what you see in the pictures below:

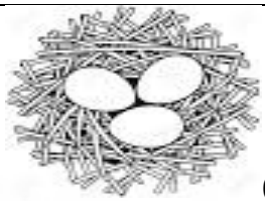
 1) Is this your car? No, it is……. (Reza)	 (fat) 2) Is that man thin? No, he ……..
 3) Whose house is it? It is ……. (teacher)	 (classroom) 4) The teacher ……..
 (study) 5) During the day, Alberto ……..	 (open book) 6) This is …….
 (box) 7) I see ……. in the picture.	 (play music) 8) In his free time, Alberto……..

 (run) 9) They …… to school yesterday.	 10) Is that your dog? No, it is…..... (Jane)
 (buy fruits and vegetables) 11) Last week, Maria ……	 (sick) 12) Now, that man……..
 (study) 13) He ……his English book last week.	 14) Is that your bicycle? No, it is….. (Ali)
 (window) 15) There are …..……..there.	 (draw picture) 16) Yesterday, Maria ……

17) How many doors do you see? I see ……

18) At this moment, they……..running.

19) Yesterday, they ……..in amusement park. (play)



(egg)

20) How many eggs are there in the nest? There are ……

(study)

21) The students ….study their books tomorrow.

22) Now, they …..……football.

(type)

23) At this moment, Mr. Bertolli …….

(picture)

24) That is…….

(run)

25) Right now, she ……

(watch)

26) They ……. Last night.

27) Marya ……after work yesterday. (take a photograph)

(rest)

28) Mr. Bertolli…… in his office every day.

29) He …… a bicycle now.

(drink tea)

30) They ….drinking tea yesterday morning.

(blackboard)

31) There is …….blackboard in classroom.

(write)

32) In the evening, Alberto……his homework.

33) This ….an exciting game.

(type letter)

34)Yesterday, Mr. Bertolli's secretary……

(painting)

35) She …. painting carefully at this moment

36) There is ……egg in his hand.

Biodata

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