

## **Pitch Accent Pattern in the Persian Speech of Iranian Persian-English Speaking Men and Women**

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*Received: 14 March 2015*

*Accepted: 10 June 2015*

### **1. Introduction**

Auto segmental-metrical (AM) phonology distinguishes two types of accents (stresses), namely: lexical accent and pitch accent. The present study offers an acoustic analysis of the prosodic feature, pitch accent, in the Persian speech of Persian speakers who are fluent in English as a second language (English instructors). Language interference has often been dealt with as the effect of first language on the second, but this paper deals with a reverse effect, that of the second language on the first, which has often been neglected. Thus, the accent patterns of Persian and English have been introduced and the Persian speech of Native Persian bilinguals has been analyzed from this point of view. Former studies have shown that English has leftmost accent pattern and Persian has rightmost accent pattern. The data were analyzed by means of PRAAT 5.3.71 and the accent pattern of the subjects was extracted in separate male and female groups. The results indicated a relative effect of the English accent pattern on the Persian speech of Persian bilinguals. The effect was found to be stronger in females.

### **2. Methodology**

Suprasegmental elements of language such as stress and intonation have been analyzed in the study of different languages. Stress is defined as the saliency of a syllable of the word in comparison to other syllables. The intonation in national phonology as a new field in phonology (cf. Pierrehumbert, 1990) makes use of abstract tones in the representation of the intonation curve. Pierrehumbert's theory was further developed to auto segmental phonology and later to Auto segmental-metrical (AM) phonology.

This branch of phonology distinguishes two types of stress: lexical and pitch stress. Lexical stress refers to saliency within word while pitch stress is defined at the utterance level. Intonation as another suprasegmental element has been studied in Auto segmental-metrical (AM) phonology (cf. Lad, 1961).

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The present study deals with the acoustic analysis of the pitch stress pattern in Persian. It seeks to find out whether the stressing patterns of the individual's second language (English) interferes with the corresponding patterns in their first language (Persian). In other words, do they adapt the pitch stress of their continuous speech to the stress pattern of English?

The literature shows that the most important acoustic factor in stress is the base frequency or F0. The researchers compared the F0 in the stress pattern of Persian and English to analyze the individuals' speech.

Most sources report that Persian often has word-final stress. Ferguson (1957) believes that this is true only when a lexical dictionary as recorded in the dictionary is considered without its inflectional morphemes.

Moreover, some linguists have focused on the contrastive analysis of stress pattern and pitch in different languages and considered the possibility of transfer from L1 to L2 while learning a new language.

### **3. Discussion**

For example Yarmohammadi (1996, p. 116) has compared English and Persian and assumed that "under specific conditions while learning English, mother tongue stress patterns may transfer to L2". Although most researches have dealt with the effect of L1 on L2, some scholars have considered the reverse possibility, i.e. the effect of L2 suprasegmental features on L1 patterns. For example, Vahidian Kamyar studied the transfer of suprasegmental features of Arabic to Persian and discussed whether Arabic stress has entered Persian.

The present paper carries out an acoustic analysis of stress in the natural speech of Persian speakers who speak English fluently as their second/foreign language to discover whether there is any tendency in the subjects to shift from Persian pattern to English pattern.

### **4. Conclusion**

The research sample consisted of eleven bilinguals who had learned English in academic settings as their second language. PRAAT software was applied to analyze the speech produced by the subjects.

The result indicated that in Persian-English bilinguals, the transfer has been from L2 to L1, i.e. from English to Persian. The stress patterns in the Persian words produced in their speech had a stress pattern which resembled the English pattern. In other words, the word stress in the data was often left-most accent. This means that the stress was mainly placed on the first or middle syllable. The effect was more significant in women, so that 28% of the extracted words with shifted stress belonged to women while only 17% belonged to men. It can be concluded that in proportion to the fluency in the second language, the transfer takes a reverse

direction and the sociolinguistic factors such as gender, age and social class can intervene in this relationship.

**Keywords:** acoustic analysis, Autosegmental-metrical (AM) phonology, bilinguals, leftmost accent pattern, rightmost accent pattern.

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## Future Perfect and a Few Rare Tenses in the Khanik Dialect

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*Received: 22 October 2015*

*Accepted: 20 January 2016*

### 1. Introduction

The people of Khanik village have a number of fascinating linguistic features in their speech.

In their dialect, there are particular verbs and tenses which are rather unprecedented in the history of Persian language. Also, in cases where the reported verbs are restricted to one or two structures, the Khanik dialect comprises of the whole range of their structures including future perfect, subjunctive past continuous, farthestmost perfect tense, distant farthestmost perfect, future continuous and imperative continuous.

### 2. Methodology

Following discussion with the senile and often illiterate speakers for Khanik dialect, the results were presented in form of a research paper. In the process of writing the papers on the inflection of some rare verbs and arguments in Khanik dialect, a number of rather archaic or non-existent tenses in Persian language were found.

In the future perfect, we have the intention of doing something in the past, which has not been realized until the present time, but it is expected to be completed in the future. This tense is unheard of in Persian language.

Example: *ma:yesta m boda bo bor om* (I had wanted to have eaten)

The structure of future perfect: present perfect continuous of " *ma:yesta* " + participle (to be) + third-person singular past tense of "to be" + present tense of the verb in the question.

Subjunctive past continuous tense is commonly used in Khanik but no reference has been made to this structure in the Persian grammar books. (Ahmad, 2001: 502). It is one of the rare tenses in the Persian language, which is created by adding the prefix "mi" "to the past subjunctive" (Ibid.).

Example: "This whim be cooking in the brain" (ibid: 166).

Example: *maborda bašom* (having been carrying over)

The structure of subjunctive past continuous: the prefix "ma" + present perfect of the desired verb + subjunctive present (to be).

The farthestmost perfect tense is "on some occasions rarely found in the early Persian writings." (Khanlari, 2008, p. 269)

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Example: "Twelve clergymen having bought a pearl for eighty thousand dinars" (Juwayni, n.d.).

Example: be rafta m boda (having gone)

Structure of farthestmost perfect: Be + present perfect of the desired verb tense + infinitive (boodan)

Farthestmost perfect continuous tense is one of the most infrequently used tenses in Persian. In Khanik dialect, this tense is produced by adding prefix "ma" to the verb of farthestmost perfect tense. "Of the tens of thousands of evidences recorded from ancient Persian texts, only two examples of this tense were found. (Ahmad, 2005: 157).

Example: A hundred years having been dead here" (Shonghoshi, 1976, p. 54).

Example: ma rafta m boda (had being going).

Distant farthestmost perfect tense is used to indicate the performance of an act in the distant past that is discussed in the present time.

It is similar to the farthestmost perfect tense, yet it refers to a farther point in the past. I have used the term "distant farthestmost" to refer to this time. This time is unheard of in the ancient and standard Persian.

Example: bumad am boda bo (I had had come)

The structure of distant farthestmost perfect: the present perfect of the desired verb + participle (to be) + past root of "to be".

### 3. Disussion

Future continuous is comparable to the simple future, but the prefix [ma] is added before the auxiliary (to want). In the history of Persian language, only one example of this verb was found (Ahmadi, 2005: 208): "This hadith will want to be until the Day of Judgment" (Muhammad ibn Munawar, 1987, p.337). In the above tense, an action is expected to be repeated frequently.

Example: [Enahllah šomâ vaxte k beyoya y var hamsayagi mâ, bēštar ma: xa: h em raf]. (God willing, when you've moved to our neighborhood, we will want to be going together more often).

It is the same as imperative structure in terms of meaning, but without continuity.

Example: Tø marrow ba, mo xâ r be tø xo m rason (you go, I will catch up to you).

The structure of imperative continuous: the prefix "ma" + imperative construct + dialectic "ba".

### 4. Conclusion

In the Khanik dialect, there are a number of tenses that are unprecedented or rarely used in Persian language, including future perfect tense.

In this tense, we have the intention of doing something in the past, but it has not taken place until the present time. Also, subjunctive past continuous, farthestmost

perfect tense, distant farthest perfect, future continuous and imperative continuous are other examples of tenses exclusively used in Khanik dialect.

**Keywords:** future perfect (past in the future), rare or ancient tenses, khanik dialect, standard persian.

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## **A Comparison of Some Phonological-Morphological Aspects Of Verb System in Adkani Tati Dialect and Standard Persian**

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*Received: 17 June 2015*

*Accepted: 16 February 2016*

### **1. Introduction**

Languages and dialects are considered as the most important cultural elements and as a great human asset. Since more and more dialects -and even languages- are becoming extinct every year, it would be necessary to study, collect, and describe this human heritage. This research aims at describing the phonological-morphological aspects of verb system in Adkani dialect, the dialect of Adkan, a village of Esfarayen, a town in North Khorasan Province in the northeast of Iran.

### **2. Methodology**

Adkani is classified as one of Khorasani Tati dialects which has not been studied fully yet. This paper is, in fact, part of the first comprehensive description of the dialect, carried out by the writers. It should be mentioned, however, that such major neighbouring dialects as Ghuchani, Sabzevari, and Neyshabouri –which share many features with Adkani dialect– had already been described according to scientific linguistic criteria. The linguistic data of this research was gathered by interviewing ten old and middle-aged, uneducated Adkani speakers of both genders; it was because one of the goals of this study was to collect and record older verb forms. At the same time, one of the writers, a native speaker of the dialect, has also made use of her own linguistic intuition. The speakers had to answer some prefabricated questions so that they could be able to produce more language material in a natural manner.

### **3. Discussion**

The collected data were later transcribed using IPA phonetic symbols. According to the data collected, it was clearly evident that Adkani verb system is completely

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different from that of Standard Persian. The results showed that 1) Unlike Standard Persian, Adkani dialect lacks present perfect progressive tense, distant past perfect tense, and progressive tenses; 2) Adkani inflectional endings are completely different from those of Standard Persian; 3) Adkani past tense morphemes are different from those of Standard Persian; 4) this dialect, because of the highly frequent verbal prefix vowel harmony with the main verb stem vowel in Adkani verb forms shows phonetically different verbal prefixes. For example, Standard Persian prefix /mi-/ which indicates both declarative form and present progressive tense is sometimes changed into /mo-, and /mu-; similarly, Standard Persian prefix /be-/ for subjunctive form is occasionally changed into /bo-, and finally Standard Persian verb negation prefixes /næ-/ is often changed into /ne- and /no-; 5) In Adkani, the difference between present perfect and simple past tenses is a matter of the place of stress. By moving the stress from the last syllable which is a defining characteristic of simple past tense verbs and moving it to the penultimate syllable, they are changed into present perfect form ; 6) In Adkani, future tense can be composed in two different ways: it can be formed by using declarative present tense; it can also be formed by using the non-finite form of the auxiliary *xastæn*(want), i.e. *mexa* plus present stem and adding the proper inflectional ending; 7) In both Adkani, and Standard Persian, making the imperative forms follows the same pattern, i.e. for second person singular by adding prefix /be-/ (or one of its forms) to the bare present stem: no inflectional ending is needed except for such few verbs as *?istadæn* (to stand), which take the inflectional ending /-æg/. For second person plural, the inflectional ending /-in/ is added. It is worth mentioning that the imperative form of the verb *bæstænis* made by its past stem.

#### 4. Conclusion

Imperative verbs are negated by prefix /mæ-/ which was used in Middle Persian as well. 8) In Adkani dialect, auxiliary verb form /bud/ is reduced to /-d/; this complex prominent phonological phenomenon can be explained based on the following stages; for example, for the past perfect of the verb *goftæn*(to tell), in the first person singular in this dialect (Standard Persian /goftæbudæm/), the following stages have to be considered: at the first stage, we have the underlying form /goftæbudom/; at the next stage, long vowel /u/ -because of lacking stress- changes into weak vowel /ə/ (/goftæbədōm); then, the weak vowel schwa is deleted and a new syllabification takes place (/goftæbdōm/); later, /d/ and /b/ are merged (/goftæddōm/); then, there would be the deletion of one of the consonants of the geminate /-dd-/ (/goftædom/); and at the final stage, we have compensatory lengthening because of the deletion of one of the «/d/»'s in the geminate (/goftæ:dom/). It is suggested that in order to facilitate the process of designing a comprehensive dialect atlas of the verb forms for the area, other dialects in the area

be studied and described fully; this helps the historical linguists to study the process of verb form change and trace it much easier.

**Keywords:** Dialect, TatiAdkani Dialect, Verb System, Inflectional Verb Endings.

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## Hiatus Resolution Strategies in Persian

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*Received: 6 July 2015*

*Accepted: 13 March 2016*

### 1. Introduction

Hiatus is a situation in which there is no consonant between the nuclei of two adjacent syllables. It occurs when the left syllable lacks a coda while the right one lacks an onset. Hiatus occurs in underlying representation or at a level between underlying and phonetic representations. Its occurrence is expected in every language, but its resolution is obligatory in languages which require syllables to have onsets. Strategies such as intervocalic consonant insertion, vowel deletion, vowel coalescence, diphthong formation, and glide formation are usually used to resolve hiatus.

### 2. Methodology

In this research the conditions and possibilities of using each hiatus resolving strategy in Persian are discussed. However, only those strategies which are employed in this language are analyzed using Optimality Theory (Prince & Smolensky, 1993/2004).

Optimality Theory is one of the most significant developments in generative grammar. The first detailed exposition of the theory appears in Prince and Smolensky (1993), entitled 'Optimality Theory: Constraint Interaction in Generative Grammar.' Its goal is to explain the phonology of languages only by using a set of universal constraints. No phonological rule is being applied in its analyses, because they generally explained language-specific phenomena. In contrast, constraints in OT are not merely solutions to language-specific problems; they are claims about Universal Grammar (UG) seeking to explain phonological phenomena universally. Furthermore, there is no interaction between rules and constraints, i.e., OT is not a mixed theory. The principles of SPE namely rules and serial derivations between underlying representation (UR) and phonetic representation (PR) have been abandoned by OT; however, UR and PR which are renamed as input and output respectively, are being assumed in the classical sense.

The ultimate goal of this research is to come up with a single inclusive ranking of constraints which explains all the hiatus resolving strategies in Persian. The results section of this research includes several facts about the processes and strategies used in resolving hiatus in Persian.

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### 3. Discussion

In Persian hiatus occurs in the underlying representation or in an intermediate representation. It certainly cannot be prevented if it occurs in the underlying representation. Therefore, it must be resolved. However, if it occurs in an intermediate representation there are two ways to prevent it; by avoiding the deletion of glottal stop/fricative as well as by avoiding fast pronunciation of those words in which hiatus usually resolves by insertion of the glottal stop in their slow pronunciation.

The reason why hiatus must be resolved is the dominance of the anti-hiatus constraint \*HIATUS in Persian. Persian applies three hiatus resolving strategies: insertion of an intervocalic consonant, deletion of one of the vowels, and vowel coalescence. This language never allows diphthong formation and glide formation to resolve hiatus.

### 4. Conclusion

The significance of this research is that it introduces five hiatus resolving strategies and meanwhile, it argues for the occurrence of three of which in Persian. It argues for the non- occurrence of the other two in this language as well. A significant feature of this paper is that it starts with explaining each of these three strategies using various constraint rankings and ends with coming up with a single inclusive ranking of constraints that is capable of explaining all the hiatus resolving strategies in Persian. The inclusive ranking is in fact a combination of different constraint rankings.

**Key words:** Hiatus (resolution); Intervocalic consonant insertion; Vowel deletion; Vowel coalescence; Glide formation.

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## **The Sound Level Structure in Farsi Speakers' Mental Lexicon: A Priming Study**

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*Received: 14 March 2015*

*Accepted: 10 June 2015*

### **1. Introduction**

Every human being capable of speaking knows over 75000 words, on average. All of these words have their own phonological forms which must be distinguished from each other. These forms are stored and organized in our mental lexicon in a way that accessing each of them would not take more than a fraction of a second during our daily language production and perception. Therefore, many structural models of mental lexicon have already been proposed to account for different language phenomena. There have been two major approaches for modeling the mental lexicon: holistic and distributed. In holistic models, every node include all (or a major part of) the information regarding a word. Hierarchical models and spreading activation models are examples of holistic approach. In distributed models, every node contains a single feature, thus, each word is a collection of different nodes. The present study is based on the spreading activation theory; therefore, next part is dedicated to a brief introduction of these models. The ultimate aim of this paper is to reveal how phonological forms are placed next to each other in the Farsi speakers' mental lexicon.

### **2. Theoretical Framework**

There are different models based on spreading activation theory but all of them share three main principles. First, retrieving anything from our memory is equal to activating its mental representation. Second, the activation spreads to the related concepts. Third, these indirect activations will cause a facilitated retrieval of those related concepts. The spreading activation models divide mental lexicon to some levels. For example, Bock and Levelt (1994) introduced a three-layered model, including a semantic level, a lemma level and a sound level. Each of these levels is a network in which every node is connected to some other related nodes by links.

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In the semantic level, these links are semantic in nature. In lemma level, each word is linked to its word class and sub-categorical information. Finally, in sound level, the phonological forms of words, according to literature, are linked based on rhyme and phonological similarities, especially similarities in their onsets. The most common way for identifying the nature of the links in any level is with the use of a priming experiment. The experiment used here is a masked phonological priming test which is shortly described in the succeeding part.

### **3. Methodology**

Priming experiments have their origins in psychology. Generally speaking, priming is facilitation, caused by a stimulus called prime, in recognition of a target. In psycholinguistic studies, the prime-target pairs are mostly words which may be related to one another. A task usually paired with priming experiments is lexical decision task. In a primed lexical decision, the prime is shown to the participants and after that the target appears. Participants must decide whether the target is a word or a non-word by pressing a key and their response time (RT) is recorded. According to spreading activation theory, the target of the related pairs would be recognized sooner than the one in unrelated pairs due to spreading of the activation of prime to its related nodes. The priming experiments in which the prime is shown for less than a second are called masked priming experiments. As mentioned above, this study has made use of a masked primed lexical decision for identifying the nature of links in sound levels of Farsi speakers' mental lexicon. The prime-target pairs in this experiment were divided into 3 categories: rhyming (prime and target rhyme with each other), similar 3 initial phonemes (prime and target share the same first 3 phonemes) and control (unrelated pairs). Each category contained 10 pairs. All target words were controlled for their frequency (the frequencies were limited between 900-1400). Also, there were 30 word-non-word pairs in order to make the lexical decision task possible (non-word ratio (NR) = 0.5). In this study, 30 undergraduates, graduates or postgraduates of Ferdowsi University have participated in the experiment.

### **4. Results and Discussion**

The result of descriptive statistics showed that the RT mean for rhyming category was less than the other two (0.638 ms). After that there was control group (0.673 ms) and the RT for the similar initial phonemes was the highest (0.687 ms). The paired sample t-test was used for deciding the significance of these differences ( $\alpha < 0.05$ ). The result confirmed that the difference between rhyming group and control group is significant ( $0.003 < 0.05$ ). However, the difference between the similar initial phonemes group and control group was not significant ( $0.276 > 0.05$ ). In literature, whenever a primed lexical decision was used, the similarity of the prime's and target's phonemes caused a significant delay in recognition of the

targets. This phenomenon is due to inhibition which is caused by two (or more) competing words during language processing. Researchers believed that if this inhibition occurs, it would mean that the target was activated by the prime, thus they are linked in the mental lexicon. As there was no significant difference between the similar initial phonemes group and control group in our results, we can claim that sound level in Farsi speakers' mental lexicon is mostly rhyme-oriented, and phonological similarities play a less active role in its structure.

### 5. Conclusion and Suggestions

We can assume that the links in the sound level have been created based on similarity in rhyming and phonological forms with the same rhymes are closed and linked to each other. This can be one of the differences between Farsi speakers' mental lexicon structure and the English speakers' one, in which both rhyming and phonological similarities play active roles. However, an audio priming experiment can be useful for supporting the results achieved here. Moreover, there should be some investigations for capturing the structural differences in other levels of mental lexicon.

**Key words:** Mental lexicon, Sound level, Spreading activation, Phonological priming, Rhyming.

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## **An Analysis of Grammatical Errors in Written Narratives of Mentally Retarded Students**

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*Received: 14 March 2015*

*Accepted: 10 June 2015*

### **1. Introduction**

The effects of mental retardation on the linguistic performance have been the focus of many studies during past decades. This subject becomes even more attractive and necessary when it comes to those whom we categorize as Educable Mentally Retarded (EMR). In Iran we have specific schools for them studying in different grades. Hopefully, with proper education they can function relatively well in the society. Therefore, studying the weak points or strongpoints in their linguistic performance and analyzing that can result in better understanding of their linguistic competence, and can be interesting for specialists in psycholinguistics and cognitive studies. More importantly, it can be used in developing more appropriate educational materials according to their needs. Narratives (written or oral) have been proved to be one of the appropriate sources that can reveal linguistic features and have been recently used frequently as linguistic data for studying language in mentally retarded people as well. This study aims at analyzing and categorizing different grammatical errors in written narratives of mentally retarded students in Tehran.

### **2. Theoretical Framework**

All the observed grammatical errors in the written narratives of mentally retarded students in different grades were analyzed and categorized based on the structural definitions of different parts of speech. In this article, grammar refers to sentence construction, grammatical structures and their relations between them. The interface between syntax and morphology, i.e. those syntactic features represented on or can be traced in words and modify them like agreement, aspect, tense, modality, person and number, are considered as morpho-syntactic features. Syntactic errors refer to those errors concerning the construction of phrases and sentences, for example the word order.

### **3. Methodology**

This research can be categorized as an exploratory research in that there are no presupposed sub-categorizations of the errors. So all the observed syntactic and

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morpho-syntactic errors even if there is just one occurrence of that error have been analyzed and categorized in either groups. Mentally retarded students' errors in different grades have been compared according to the percentage and ratio of errors to the number of clauses in their writings. Descriptive-Analytic method has been used for analysis. Four picture stories have been used for elicitation of the narratives. The sample consists of 125 students in elementary (3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> grades) and 143 students in pre-vocational (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> grades) levels studying at four schools for mentally retarded students which were chosen according to systematic random sampling.

#### **4. Results and Discussion**

Number of clauses in the EMR students' narratives in different grades are as follows: third: 68, fourth: 424, fifth: 289, and in prevocational level: first: 338, second: 413, third: 479. The grammatical errors can be classified in two groups. 1. morpho-syntactic errors including wrong tense, mood, and aspect inflections, lack of verb-object agreement, and lack of noun-pronoun agreement while the first is the most frequent one (23%). 2. Syntactic errors are classified into inversion, deletion, insertion, substitution, and ungrammatical scrambling while deletion is the most frequent one (25%).

#### **5. Conclusion and Suggestions**

In 2011 clauses, 496 grammatical errors have been classified into syntactic (51%) and morpho-syntactic (49%) categorized and analyzed in six grades (primary and prevocational levels) concerning the frequency and type of the error. Comparison between grammatical errors in primary and prevocational students shows that the frequency of both syntactic and morpho-syntactic errors decreases in prevocational level. Deletion has been the most frequent error in all grades, and in this category, deletion of a preposition is the most frequent one. Errors related to the use of preposition have also been one of the most frequent ones in other types of errors such as insertion and substitution. Although among 16 types of errors that have been analyzed under 8 categories, only three types are considered as morpho-syntactic, high frequency of occurrence of these types of errors can be interpreted as EMR students' weakness in morpho-syntax.

**Keywords:** Syntactic errors, Morpho-syntactic errors, Written narratives, EMR students

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