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English Word Stress Production by Iraqi Arabic ESL Learners: Reliance on the Impact of Stress Position

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A R T I C L E I N F O

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A B S T R A C T

The existing study approves the results and findings of the previous studies Iraqi Arabic ESL learners show their production difficulties and problems in stress assignment and how they are impacted by their L1 stress patterns. The number of syllables and correct stress position on English lexical items has a great influence, as they show more emphasis and tendency when stressing the first syllable in a given word. The researcher has a main goal in investigating which stress position is considered more problematic and which one is easier in predicting stress placement in polysyllabic words of two and three syllables. To achieve this aim, one experiment is carried out: a production test to measure the number of errors and accuracy scores of Iraqi Arabic L2 learners. The production results reveal that Iraqi Arabic ESL learners commit more errors when stress is assigned on the second and third syllables than on the first syllable. This suggests that there is a strong connection between the previous word stress models predictions about predictable stress languages and their poor performance in the assignment of stress on lexical word based on their stress position. The study has arrived at the following conclusions: L1 transfer is considered as an important factor that affects the performance of L2 speech production and the stress assignment is also problematic and the increase in the number of syllables and stress position in the lexical words affect ESL learners' performance.

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تأثير موقع النبر في لفظ الكلمات الانكليزية من قبل متعلمي اللغة الانكليزية العراقيين كلغة ثانية

ا.م.د حسن شعبان علي الثلاب

الخلاصة:

أكدت النتائج الحالية على توافقها مع نتائج الدراسات السابقة التي تبين أن متعلمي اللغة الإنكليزية كلغة ثانية في العراق يواجهون صعوبات عند نطق النبر أو عند تحديد مكان النبر وكيف يتأثرون بأنماط النبر في لغتهم الام. كذلك عدد المقاطع وموضع النبر الصحيح على مستوى الكلمة له تأثير كبير على اداءهم ، حيث اظهرت النتائج مزيدًا من التركيز والميل الى وضع النبر على المقطع الأول في معظم

الكلمات. يهدف الباحث في الدراسة الحالية الى اكتشاف اي موضع للنبر في الكلمة متعددة المقاطع (ذات المقطعين والثلاثة مقاطع) وايهما يعتبر أكثر صعوبة وأيها أسهل. ولتحقيق هذا الهدف ، تم اجراء تجربة واحدة: وهي النطق للنبر لقياس عدد الأخطاء والنطق الصحيح لمتعلمي اللغة الانكليزية لدى العراقيين متعلمي اللغة الثانية ٢. وكشفت النتائج بان النطق لمتعلمي اللغة الإنكليزية كلغة ثانية في العراق يرتكبون أخطاء أكثر عندما يكون مكان النبر على المقاطع الثانية والثالثة مقارنة بالمقطع الأول. وتؤكد النتائج إلى الارتباط القوي بين تنبؤات نظريات النبر للدراسات السابقة حول اللغات التي يمكن التنبؤ بمكان النبر على مستوى الكلمة وأدائهم الضعيف في تحديد مكان النبر. تم التوصل إلى الاستنتاج التالي: يعتبر تأثير اللغة الام (L1) عاملاً مهمًا يؤثر على أداء نطق الكلام في اللغة الثانية ، كما أن تخصيص النبر يمثل مشكلة أيضًا ، كذلك أن زيادة عدد المقاطع اللفظية وموضع النبر يؤثر على أداء متعلمي اللغة الإنكليزية كلغة ثانية في النطق للنبر على مستوى الكلمة الإنكليزية.

1. Introduction

The precise and correct production of lexical stress is considered one of the essential obstacles in the articulation of several ESL learners; this comprises the placement of lexical stress on single and polysyllabic words. This problematic nature, especially in the assignment of English lexical stress, disturbs L2 learners' fluency and their awareness abilities (Avery & Ehrlich, 1992; Celce-Murcia et al., 1996; Hahn, 2004; Ali et al., 2020). This case creates a difficulty in communication between the speaker and the listener, since the wrong placement of stress results in changing the lexical meaning of the words and thus misunderstanding is accompanying events, for example, listening.

One of the main techniques to interpret and avoid such problems, ESL learners need to be effectively get acquainted with stress patterns of their L1 first and then L2 stress rules (Murphy, 1991; Ali, 2009). Consequently, the proper knowledge of English lexical stress is essential in order to obtain the ability to listen and speak correctly. Lately, researchers have begun to vigorously examine production studies regarding English stress assignment,

though it is observed as a significant skill for L2 learners in connection with their experience and proficiency (Ali et al., 2020; Morley, 2001). Many studies attempt to examine the problem of stress placement and its influence on learners' production.

Hall (1992) concludes that this phonological aspect (stress) is observed through the acoustic difference of specific phonological components. Let's say, the English word "rebel" /ˈrebl / when it functions as a noun, so the stress is assigned on the first syllable, differs from the word /rɪˈbel/ when it functions as a verb, where stress is placed on the second syllable, with reference to the placement of stress. L2 learners and even native speakers will use extra energy to pronounce stressed syllables in a given word in isolation or when it is associated to a sentence.

Therefore, when stressed syllables are produced, more strength and muscular energy will happen; there will be variations in the duration, length and pitch. Moreover, For L1 speakers to achieve mutual understanding and communication with L2 learners, the proper placement of stress may possibly be very significant than grammatical accuracy (Munro & Derwing, 1995; Trofimovich, 2012). To be precise, 'native speakers are able to understand non-native speakers' utterances even when grammatical errors occur, but incorrect stress assignment contributes to the misunderstanding of L2 speech (Munro & Derwing, 1995).

Nonetheless, Lord (2001) realizes that L2 learners encounter difficulty in stress assignment and production due to ignoring L2 stress patterns in L2 classrooms. The significance of stress rules and the proper assignment is revealed in some of previous investigation by L2 learners and researchers, but still the need for more research to decrease that problem encountered by them to achieve the mutual understanding and L1 speakers' unambiguousness. Most of the previous studies signify that the chief cause for improper stress

placement is the transference of L2 stress rules from their L1 (Altmann, 2006; Archibald, 1998).

Some studies give emphasis to the fact that L2 Learners practice particular procedures in the stress assignment of L2 words, which are centered on their L1 stress patterns (Erdmann, 1973; Peperkamp & Vendelin, & Dupoux, 2010; Schwab & Llisterri, 2011; Wang, 2008). Sometimes they generate their own rules of stress to ignore the usage of their L1 rules which are different from their L1 and L2 stress patterns. Other studies assure that words with parallel structure in both L1 and L2 generate a crucial difficulty for L2 learners (Cutler, 1984; Paschke, 2010). That is why, it is primary to comprise different structures, i.e., match and mismatch syllable structures in future research in the field of English stress perception and production of L2 learners.

The idea of learners' L1 effect (interference) on the production of the target language's stress rules has been recognized by a large number of researchers and it is a factor that must be taken into consideration in studying a foreign language. Moreover, any sound which is not found in their L1 will create a problem for L2 learners to produce. Thus, second language learners may put the stress mark on any word in a sentence, lacking the familiarity of which words should receive the primary stress. The present paper highlights the influence of stress position on the assignment of stress on both dysyllabic and trisyllabic words.

2. Methods

In the production experiment, the researcher has used this task to investigate the ability of Iraqi ESL learners of English to generate and predict stressed syllables in disyallbic and trisyabic words. It is hypothesized that there is no significant difference in the accuracy and error scores in the production of lexical stress in different positions of words and that Iraqi Arabic ESL learners will show no preference to any

syllable position since they are experienced stress assignment patterns in English and their L1 language.

2.1 Participants

The Iraqi group of subjects, who participated in the production experiment, consists of (87) Iraqi ESL learners (81 males and 6 females). The Iraqi group age is ranged from 27 to 50 years with a mean of age (M =37). The Iraqi speakers are all native Iraqi Arabic dialect who are recruited from various universities in Malaysia (UPM and UKM universities) and have normal hearing, speech communication and language abilities as it is indicated by their self-report.

2.2 Stimuli

The words of the existing research include multisyllabic words of two and three syllables with different stress positions; initial, penultimate and final respectively. The wordlist represents English nonce and real words which represent the twenty two syllable patterns in Iraqi Arabic dialect. The total number of words is (106) which belong to the grammatical set of nouns. To be precise, the current production task has four tokens for each syllable structure, and (18) distractors are used to separate similar syllable structures in real experiments; they usually appear in isolation in multisyllabic words. Iraqi ESL learners are likely to be acquainted with the lexical words. Entirely, incentives were recorded during the real experiment for all Iraqi subjects and analyzed by using Praat software programme.

2.3 Procedures

Total of (9,222) words (87 subjects x 106 words) were presented on a laptop screen at a comfortable level of speed. The (106) English words were presented separately in a single randomised slide. L2 learners were asked to pronounce

the single item that is shown in the laptop screen which lasted for 5 seconds for the next item to be seen. During the real experiment, they were not able to repeat the same given word and they do not have the chance to correct themselves. Learners were recorded independently in a sound-treated room. Each word was offered in isolation without a carrier sentence, in order to simplify its production. The isolated words were presented on a computer screen. L2 learners were instructed to read them at a normal rate. If they paused, subjects were asked to move to the next word.

3. Data Analysis and Results

This section presents an account of the main findings of the research question namely the influence of stress position on the assignment of stress on both dysyllabic and trisyllabic words. The discussion section infers the findings for the readers and conveys their importance.

3.1 Position of Stress in Disyllabic Words

What is the difference in the performance of each language group in the production of lexical stress based on stress position? H0. There is no significant difference in the performance of the Iraqi Arabic in the production of lexical stress based on stress position. The investigation of the effect of the internal structure of the stimuli is an essential part to decide whether there were differences rely on the position of stress within a word. Figure 1. describes the results for Iraqi Arabic group in the production of lexical stress in disyllabic structures.

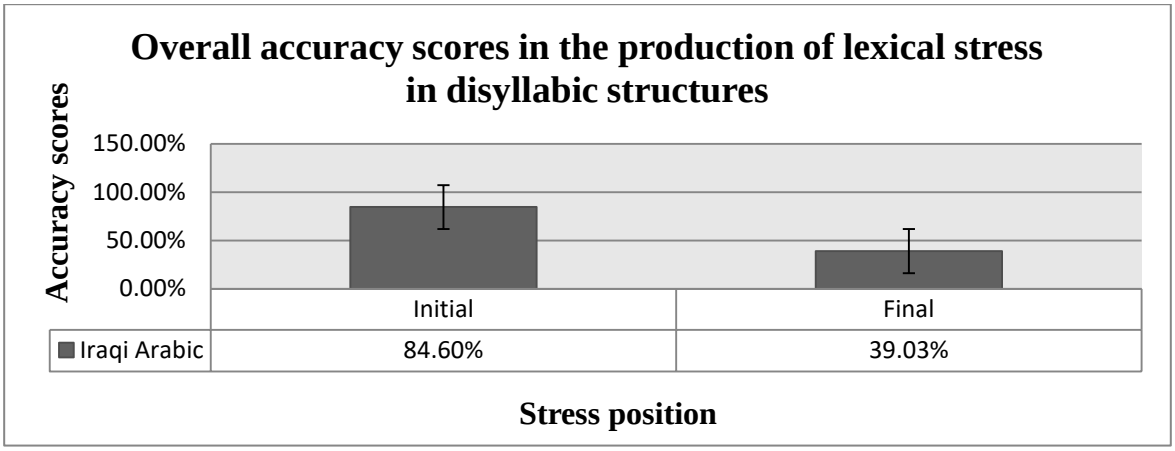

Fig. 1 The mean percentages by Iraqi Arabic group in the production of lexical stress in disyllabic words

The results of the production test show that the Iraqi Arabic subjects score (84.60%) in the production of lexical stress in the initial position is considered very high in contrast to their accuracy scores in final position with a mean percentage (39.03%). On average the Iraqi Arabic subjects performed better in the production of lexical stress in initial position of disyllabic structure (M = .8463, SD = .08311) as compared with the production of lexical stress in final position of disyllabic structure (M = .3906, SD = .14596). Based on the results of paired samples t-test, t (86) = 23.623, p = .000, 95% CI [.41740, .49410] see Table 1. Since the significant value was smaller than alpha at .05 level of significance, the null hypothesis was rejected. It can be concluded that subjects 'performance in the production of lexical stress in initial and final position had a significant effect on their performance mean percentage scores.

Table 1. Paired sample statistics for Iraqi Arabic language group production

Paired Samples Statistics

		Mean	N	Std. Deviation	t	df	Sig.	95% Confidence Interval of Difference	
								Lower	Upper
Pair 1	InitialDi.	.8463	87	.08311	23.623	86	.000	.41740	.49410
	FinalDi.	.3906	87	.14596					

3.2 Position of Stress in Trisyllabic Words

Further, the Iraqi Arabic performance in the production of lexical stress in trisyllabic structures was also better than their performance in the production of lexical stress in other positions with a percentage (65.81%) in initial position and (44.55%) in penultimate and (13.41%) in final positions. See Figure 2. Below which indicates the mean percentages of the Iraqi Arabic subjects.

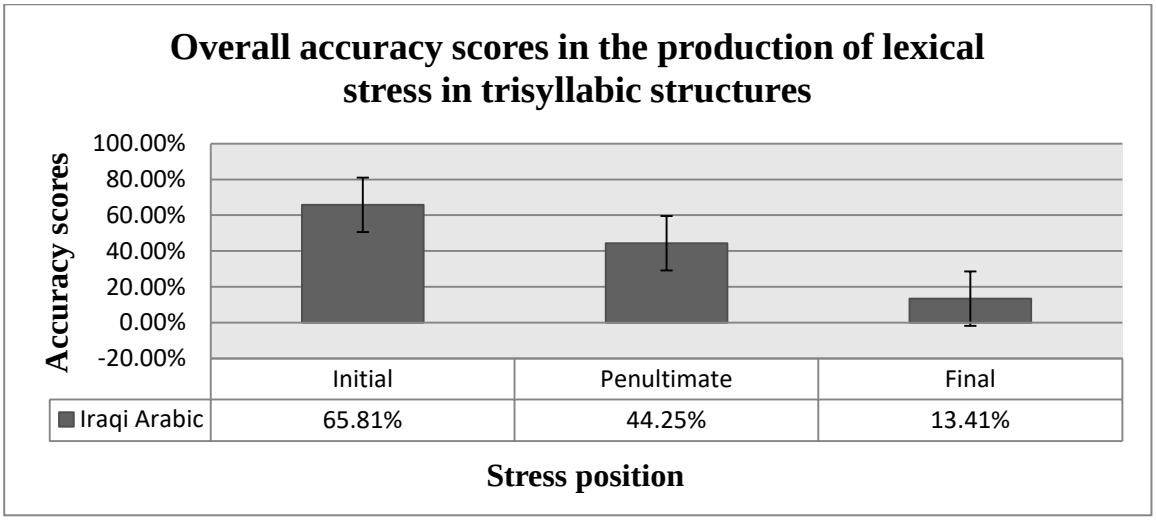

Fig. 2 The mean percentages by Iraqi Arabic group in the production of lexical stress in trisyllabic words

On average the Iraqi Arabic subjects performed better in the production of lexical stress in initial position of trisyllabic structure (M = .6580, SD = .16744) as compared with the production of lexical stress in penultimate position (M = .4425, SD = .13437) and final position of trisyllabic structure (M = .1336, SD = .21233). Based on the results of Friedman test result, there was a statistically significant difference in the production of lexical stress depending on types of stress position, $\chi 2$ (2) = 119.24, *P*=.000 see Table 2. Since the significant value was smaller than alpha at .05 level of significance, the null hypothesis was rejected. It can be concluded that subjects 'performance in the production of lexical stress in initial, penultimate and final position had a significant effect on their performance mean percentage scores.

Table 2. Friedman test results for Iraqi Arabic learners' production based on stress position

Descriptive Statistics

	N	Mean	Std. Deviation	Mean Rank	Chi-Square	Sig.	df	Percentiles		
								25th	50th (Median)	75th
TriSyInitial	87	.6580	.16744	2.82	119.241	.000	2	.5400	.6500	.7700
TriSyllPenult	87	.4425	.13437	2.02				.3500	.4500	.5500
TriSyllFinal	87	.1336	.21233	1.16				.0000	.0000	.3300

3.3 Error Scores in Disyllabic and Trisyllabic Words

As it is indicated in Fig.3 below the number of errors in final position (60.77 %) is higher than the errors in initial position (15.77 %) in disyllabic words which reflects the tendency of Iraqi learners to assign stress on the initial onset syllables than on final syllable.

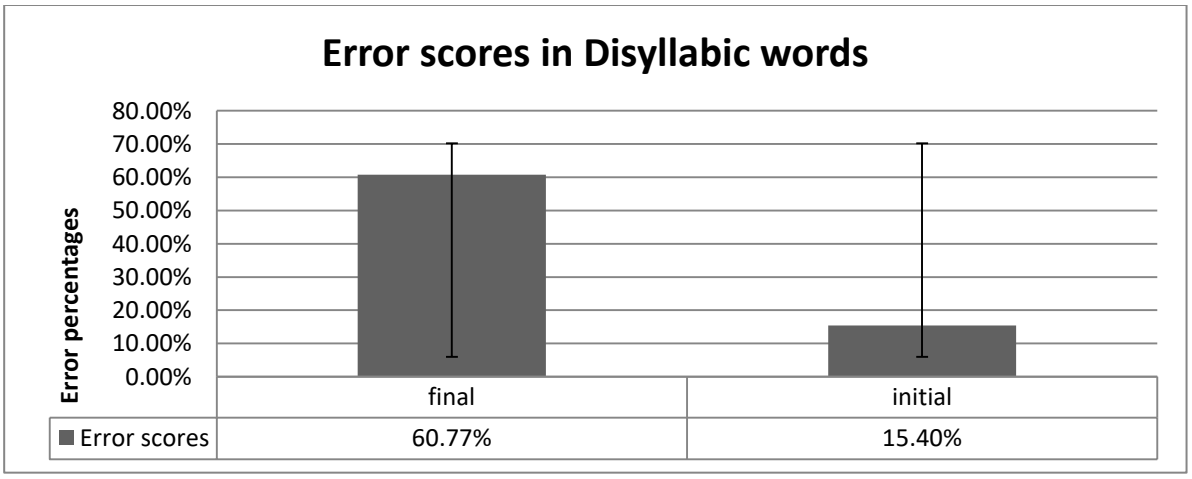

Fig.3 Indicates the error scores in the production of disyllabic words

The case is somehow the same in the production of stress in trisyllabic words, since Iraqi ESL learners commit more errors in the assignment of stress in final and penultimate syllable in comparison with the number of errors in the initial position of the lexical item as it is shown in Fig.4 below which is (86.59 %) in final position, (5.75 %) in penultimate syllable and (34.19 %) in the initial position.

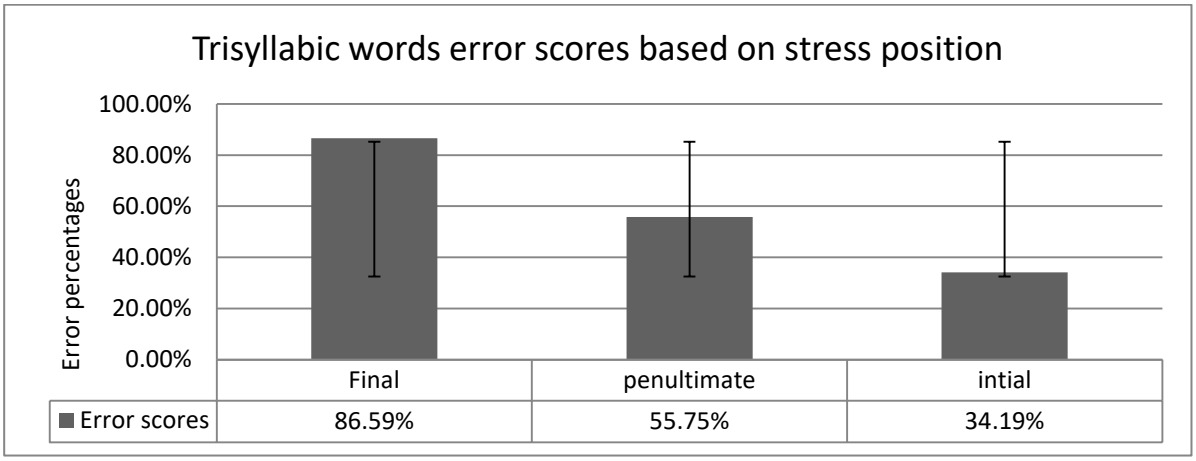

Fig.4 Shows the number of errors in the production of stress in trisyllabic words

Fig.5 below shows the comparison between the number and percentages of errors in disyllabic and trisyllabic syllables. Iraqi Arabic learners encounter difficulty and increasing in the number of errors when the lexical items consist of more than two syllables and vice versa. See Fig. 5 below to examine the difference in performance in the production of stress in disyllabic and trisyllabic syllables.

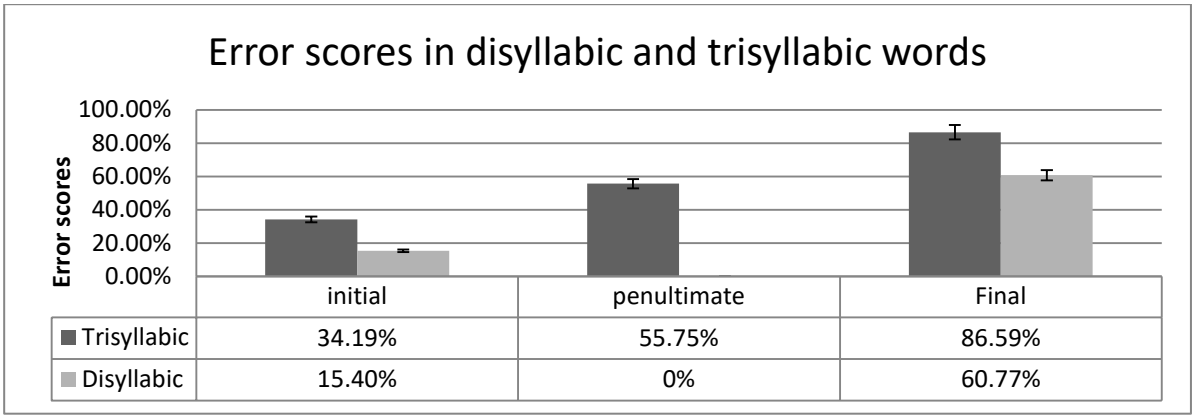

Fig.5 Shows error percentages in disyllabic and trisyllabic words

4. Discussion

The objective of the existing research was to investigate the accuracy and errors scores based on stress position in disyllabic and trisyllabic words at the lexical level in Iraqi Arabic dialect with different lexical stress positions: initial, penultimate and final. To examine and achieve this goal, Iraqi Arabic ESL learners were examined to pronounce 108 words at that age [27–50, M 37]. The researcher has assumed that there is no significant difference in the performance of the Iraqi L2 learners in the assignment of stress in different position of the words and that the accuracy scores and the errors are somehow the same that is; there is a slight difference in lexical stress assignment used in the present study. This proposes that the variety in stress position cannot affect the accurate production of stress used in the produced stimuli. This aspect leads to numerous inquiries to be assessed in the future investigation, linked to the use of various grammatical classes with different position of stress in the given words. First, taking into consideration stress position effect in multisyllabic words, the researcher notices the tendency of Iraqi Arabic learners to assign stress and focus on the initial position of the lexical words. Thus, when the primary stress is placed in the first syllables, learners get more accuracy scores whereas when stress is placed on the penultimate and final position there will be increase in the number of error scores. This stress position influence is seen in both disyllabic and trisyllabic words. As a result the number of errors is

higher in penultimate and final syllable in contrast to initial position with less error scores. Also, it is concluded that there is a significant difference in the assignment of stress in different positions of the lexical items. It is reasonable that the influence is attributable to the tendency of ESL learners to produce the initial syllable with high frequency and pitch of voice in order to make it louder than the other syllables. The chief problem which is distinguished is the effect of L1 in the production experiment is reflected by the variety and preference of predictable stress language subjects' performance in disyllabic and trisyllabic words. One promising explanation for this surprisingly results was that the number of stress in the initial position of the word that was larger than the number of stressed syllable in penultimate and final positions in disyllabic and trisyllabic words. As a result the error scores in these positions were higher than the initial position.

5. Conclusions

The current study is designed to observe whether Iraqi Arabic ESL learners are influenced by particular Lexical stress features and L1 patterns from Iraqi Arabic to L2 English language. Also the main aim is to see the spontaneous tendency of their assignment of stress based on its position on lexical items. In Arabic context, L2 learners tend to place stress mark on the first syllable of the word irrespective of the number of syllables, and there is only one justification for this the impact of their L1 stress patterns. As a result they give more emphasis and prominence on the first and initial syllable of words. In contrast, they ignore and neglect penultimate and final syllables with less prominent production. Assumed that trend in the word initial stress position, the number of errors was much higher when the position of stress is on penultimate and final syllables.

Thus, the researcher in the present study expects to get higher accuracy scores and less errors when the correct position of stress is initially and poor

performance and much errors when its position is on penultimate and final position. The Iraqi Arabic speakers assign lexical stress in a disproportionate manner with stress on the initial syllable for both disyllabic and trisyllabic with a somehow an equal percentage and high error scores when it is assigned on the penultimate and last syllable. The results propose that Iraqi speakers have shifted their familiarity about stress position from Arabic to English L2. Nevertheless, our results exposed that, opposing to our expectations that there is no significant difference in the performance of the Iraqi Arabic in the production of lexical stress based on stress position. Iraqi Arabic speakers have committed more errors when stress position is on the penultimate and final position in contrast to its position in first syllable and there is a significant difference between the accuracy scores in different position of the words and that stress position has an effect on their performance. As a consequence, the researcher can determine that the Iraqi ESL learners of English have learned the awareness that the location of the stressed syllable is not fixed in Standard Arabic in general and Iraqi Arabic in specific that is to say on the initial syllable, but stress position is varied from one syllable to another depending on syllable weight, grammatical category and the number of syllables in a given word.

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