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المحتوى

Problematic Areas of the Pronunciation of /p,v/ of Iraqi Learners According to Optimality Theory View: An Error Analysis Study

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Abstract

"English pronunciation is so difficult ", this is a familiar statement, English teachers often hear from their students in Iraq. Whenever, a teacher makes a pronunciation test to his students or examine the speaking skills of them, he encounters with their inability to pronounce correctly in general and certain sounds in particular. From my own observation and work experience it is obvious that Iraq students of English whose language background is Iraqi Spoken Arabic, have problems with the pronunciation of certain English consonant sound contrasts such as /b, p/, and /f, v/. However, this case is familiar almost in all English classes of Iraqi learners studying English as a second language. The present study is an attempt to tap this problem so as to find solution to help students overcome it. In accordance with this line, the research study aims at identifying the problematic areas in this respect, exploring the principal phenomena underlying them under the umbrella of optimality theory and suggesting some remedies for assisting students overcoming this challenging. The results show that subjects performed differently regarding each sound in each environment. Nevertheless, they do have difficulty in pronouncing /p, v/ which effect on their ability to read correctly and then communicate effectively. In brief and after analyzing the data, it is found that the reasons behind these pronunciation difficulties are many factors such as interference, the differences in the sound system in both languages, inconsistency of English sounds and spelling which all work against improving the competence of Iraqi Students of English in pronunciation. Accordingly, the researcher has put forward a number of recommendations, like, for example constructing educational program concentrating on learning these sounds.

Key words: optimality theory, second language acquisition, markedness hypothesis, error analysis/ bilabial sounds, labiodental sounds, etc.

مجالات مشكلاتية في لفظ الصوتين / P,V/ عند المتعلمين العراقيين حسب النظرية الأمثلية: دراسة تحليلية للأخطاء

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المستخلص

"التلفظ في اللغة الإنكليزية صعب جداً. هذه عبارة مألوفة جدا بالنسبة لمدرسي اللغة الإنكليزية حيث انهم غالبا ما يسمعوها من طلبتهم. فكلما قام المدرس بامتحان شفوي لطلبته او بحث في مهارات التكلم عندهم فانه سيواجه حقيقة عدم قدرتهم على التلفظ الصحيح بصورة عامة ومواجهتهم لصعوبات لأصوات معينة بشكل خاص. على أي حال، هذه الحالة مألوفة جدا في الصفوف العراقية التي تدرس اللغة الإنكليزية. الدراسة الحالية هي محاولة للضرب على هذه المشكلة من قبل الباحث بحيث يستطيع ان يساعد الطلبة في التغلب عليها. وبالاتساق مع هذا الخط فان البحث الحالي يهدف الى تحديد وتعريف هذه المجالات التي تسبب مشكلة للطلبة واستكشاف الظواهر الخاصة بها وكذلك اقتراح بعض العلاجات لمساعدة الطلبة في تجاوزها والتغلب عليها. اظهرت النتائج ان أداء الطلبة كان مختلفاً حسب كل صوت وكل موقع لهذا الصوت. باختصار وجد ان الطلبة يعانون من صعوبة تلفظ بعض الأصوات الإنكليزية التي لا يوجد لها مقابل او مشابه في لغتهم الام وهي العربية. مثل هذه الأصوات هي /p,v/ حيث ان الخطأ في لفظ هذين الصوتين يجعل من تواصلهم مع الاخرين غير مناسب ولا كفوء. وقد وجد ان هناك عدة أسباب لهذه المشكلة منها تداخل استخدام اللغة العربية واصواتها عند التكلم بالإنكليزية. اذ فسرت فرضيات اكتساب اللغة الثلاث هذه النتائج وبصورة مصدقة وجيدة وكل ما سبق يقدم إجابة لأسئلة البحث ومن اهمها وجد ان عينة الدراسة تعاني حقا من هذه الصعوبة في لفظ الصوتين /p,v/ عند استخدامها للغة الإنكليزية. وعلى ضوء ذلك وضع الباحث عدد من التوصيات.

1-Introduction

In Iraq, English enjoys a significant position being the major foreign language widely taught in schools, universities and institutions of higher education. Given that all learners of a second language work seriously to acquire native-like pronunciation, it is not surprisingly to find them eager to make use of courses and other instruction methods to attain this goal from their teachers or any other sources. Needless to say, that pronunciation directions play an important role in learning English articulation where improving English is one of the ultimate aim, any teacher and learner of English seek to (Jahan, 2011). As Hinofotis and Bailey (1981) state that "problems and difficulties in perception and production of a second language hinder communicative efficiency". Therefore, it is hypothesized that Iraqi Arabic learners experience difficulty in production and perception of the sounds /p/ and /v/ in all positions (i, e., initially, medially and finally).

The weakness in English has long been a matter of discussion almost in all learning settings among Iraqi educators. Subsequently, the researcher believes that the first step in dealing the weakness of students in learning English is to identify the errors made by these learners when trying to speak or read English. One of the principal goals of this study is to acquaint with the pronunciation errors committed by Iraqi ESL learners in order to identify the source or sources of difficulty concerning the acquisition of the bilabial voiceless sound /p/ and the labiodental voiced sound /v/ of English by the Iraqi learners. Moreover, the present study attempts to answer the following three questions:

1-Are the bilabial voiceless stop /p/ and the labiodental voiced fricative /v/ create a problematic area in pronunciation and communicative competency of Iraqi learners?

2-What are the influences of the L1 (Arabic) on articulation errors committed by the English language learners of Iraqi students?

3- Have the hypotheses of markedness within optimality theory played a crucial role in identifying illustrating the facts about the pronunciation of /p,v/ by Iraqi learners.

2-Optimality Theory

After long years of dominance of the generative theories, new lines of investigations to the emerging issues and phenomena in linguistics become necessary. The optimality theory (OT) emerges as "a framework in theoretical linguistics. It is a theory of generative linguistics distinguished in the nineties of the last centuries". Alan Prince and Paul Smolensky presented their prolific paper, simply entitled "optimality" in 1991, followed by their famous book " Optimality Theory: Constraint Interaction in Generative Grammar" in 1993. Its first and greatest contribution is in phonology. Optimality theory "is used to formalize analysis in phonology". Within phonology, the obvious applications of this theory are in speech recognition and production (Kager, 2000). However, it moves the "focus of linguistic discovery from rules and derivations to constraints and rankings". It is a theory that has been most widely accepted in the realm of phonology, but has implications for all areas of linguistics (Dekkers et al, 2000). As Archangeli (1997:13) states: "optimality theory, like other models of linguistics, proposes an input and an output and a relation between the two". Optimality theory involves "a set of innate, universal, violable constraints on *output* (surface) representations". There are two large sets of proposed interacting and interrelaying constraints according to this theory: "markedness constraints, which demand structural unmarkedness of output representations, and faithfulness constraints, which demand that the output representations are similar to the input (underlying) representations". These many requirements are often in constant conflict across levels of linguistic analysis and across languages. For example, markedness constraints prefer output representations that are unmarked, but if the input representation contains a marked configuration, faithfulness constraints require this marked structure to show up in the output. These and other types of conflict are resolved by constraint ranking. "A higher ranked constraint takes precedence over a lower-ranked constraint in determining the ultimate shape of the output" (Boersma, and Levelt, 2003: 2).

3-Markedness

The principle of markedness is one of the remarkable concepts recently distinguished within the framework of optimality theory, but its roots trace back to "Prague School of Linguistics" (Eckman,1977: 318). Within the context of optimality theory, markedness is "encoded in the form of universal constraints that favor less marked structures. These constraints are assumed present in the grammars of all languages, but may be rendered inactive by more highly ranked constraints" (Prince and Smolensky 2004). Eckman (1977: 325) exemplifies markedness as:

" The idea behind this concept was that binary oppositions between certain linguistic representations (e.g. voiced and voiceless obstruents, nasalized and oral vowels, open and closed syllables) were not taken to be simply polar opposites. Rather, one member of the opposition was assumed to be privileged in that it had a wider distribution, both within a given language and across languages. Imposing a markedness value on this opposition was one way of characterizing this special status: the member of the opposition that was more widely distributed than the other was designated as unmarked, indicating that it was, in some definable way, simpler, more basic and more natural than the other member of the opposition, which was in turn defined as the marked member".

4-Second Language Acquisition According to (OP)

Optimality Theory makes two particular strong points for investigations related with language acquisition. One point has just been mentioned previously in the preceding section, is the fact that optimality theory has incorporated notions such as “markedness” and “output constraint” which have already played a crucial role in studies on child acquisition of the phonology of a language. The other significant aspect of optimality theory concerning studies on acquisition rests in the way it encourages the hypothesis and models associated with this substantial question in research acquisition. Where it is likely to formulate specific hypotheses and to exam them (Boersma, and Levelt, 2003: 3).

Two approaches to universality in second or foreign language acquisition are presently in existence. "One stemming from the topological universals" (Greenberg, 1976). Whereas, the other emerges from Chomskan traditions. Both of each of these models are associated with the concept of markedness. Markedness is distinguished differently from distinct viewpoints. According to theories of language learning currently in work, markedness "is defined in terms of subset principles". These two approaches correspond in a number of predictions they work for L1 and L2 acquisition, despite their upcoming from distinct standpoints (White, 1989). A number of investigations concerning the acquisition of the sound system of L2 emphasizes on "how L1 can be influential in shaping learners' sound configurations and patterns" (Major, 2008:34).

5-Hypothesis of L2 Acquisition

1-Contrastive Analysis Hypothesis (CAH)

This hypothesis that proposed by Lado (1957) stated that "those features of L2 that are similar to the L1 would be easily acquired, while those aspects that are different from the L1 in acquisition would be difficult". Over again, this phenomenon is ascribed to "universal principles such as “markedness,” where “unmarked” structures are generally considered to be those that are more basic, typologically communal, and phonetically easier to perceive and produce than more marked constructions (Kager, 1999; Rice, 2007).

2-The Markedness Differential Hypothesis (MDH)

Given that, there is a number of areas of difficulties in second language acquisition, Eckman (1981: 211) proposes a corresponding hypothesis which is called as "Markedness Differential Hypothesis". He proposes this hypothesis is depending on the markedness phonological theory. "The common sounds in many languages are considered unmarked, while the less communal sounds are considered as marked". Eckman expects that "the second language learners acquire an unmarked sound like unaspirated stops easier than the aspirated stops which are considered marked" (ibid.).

Instances of this sort of proofs about the markedness differential hypothesis comes from a study by Benson (1988)، in which Benson conducts a research about the performance of Vietnamese speakers on "a number of onset and coda clusters in English". The data are produced by using a reading task in which the subjects produced single words, and the outcomes are in accordance with the expectations of the MDH.

3- The Naturalness Differential Hypothesis (NDH)

The areas of complexity that a language learner will undergo can also be anticipated on the foundation of "a systematic comparison of the phonological systems of the native language, the target language and the set of universal phonological processes", such that: " Those natural processes of the native language which are inhibited in the target language will be difficult to suppress. Those natural processes of the target language which are either inhibited or latent in the native language will not be difficult to activate. Those natural processes which are latent in the native language and suppressed in the target language will appear in the interlanguage phonology" (cited in Schmid, 1997: 339).

This gives the impression that the most difficult step in language acquisition is the first one, since learners encounter a great deal of difficulty in suppressing the natural phonological processes inhibited in their native language. A good example is that, "the Spanish phoneme system lacks the alveolar affricate /ts/ of Italian words like *emigrazione* Emigration' and *iniziato* ('begin', past participle)، so that Spanish learners replace this segment with the homorganic fricative /s/". For the same reason, Spanish learners have a tendency to construe "the Italian geminates of *freddo* 'cold' and *donna* 'woman' as single short consonants, since long consonants, which are universally dis-preferred, do not occur in the phonological system of their native language" (cited in Schmid, 1997: 339).

Error Analysis and Types of Errors

After the heavy criticisms on the contrastive analysis approach in 1970s, there appeared the need for new approach to deal with the various errors committed by L2 learners. Error analysis is "an applied linguistics approach used to identify areas of great difficulty for second language learners by applying a system of formal distinction to differentiate between the learner's first language (L1) and target language (L2) " (Corder, 1967; Dulay, 1982). The pioneers of Error Analysis (EA) were Corder and his colleagues who founded the bases of this method in distinguishing errors. It was an alternative technique to what was previously used to explore learners errors namely, contrastive analysis, which fails in expecting the most of errors committed by L2 learners (Corder, 1974, 151). Ellis (1997:15-20) and Hubbard et al. (1996:135-141) give practical advice and provided clear examples of how to identify and analyze learners' errors. The initial step requires the selection of a corpus of language followed by the identification of errors. The errors are then classified. The next step, after giving a grammatical analysis of each error, demands an explanation of different types of errors. Additionally, Gass & Selinker (2001:67) identify six steps followed in conducting an error analysis: "collecting data, identifying errors, classifying errors, quantifying errors, analyzing sources of error, and remediating for errors".

Learnability of new language cannot go without committing errors in every domains of linguistics. Tushyeh (1996) demonstrates that multiple errors are committed by Arab learners of English on various linguistic areas. On the phonological level, Arab learners of English confuse between /p/ and /b/ and between /f/ and /v/. As a matter of fact, they commit errors in morphological, syntactic and semantic levels, and because the focus of the present study is on pronunciation difficulties of Iraqi Arabic learners of English, it will be limited to pronunciation rather than other aspects of acquisition.

Corder (1974) further states that errors fall into two categories. The first one is mistakes. "Mistakes are infrequent and non-systematic occurrences that may occur in the native language of a speaker". Errors are the second set. "They are systematic occurrences in the use of the L2 as compared to the correct use of the native language" (Bayraktaroglu, 1985).

Difficulties of English Acquisition.

As predicted non-native speakers of English would meet never-ending difficulties on their way to acquire a second language given that the differences between languages can be resulted in difficulties in acquiring a second language. A clear picture of such discrepancies would appear when cross-language comparison is made. English is so different from Arabic on the phonological level, for example, when comparing English to Arabic, many differences can be seen in the phonemic inventory, features of sounds, sound phonotactic, distribution and configuration of phonemes, patterns of syllable structure, stress pattern, rhythm in addition to intonation.

Another difficulty confronted by learners of English، namely, L1 interference. Mukattash (1981) states that L1 interference played a more significant role on "the phonological and the lexical levels than the syntactic and morphological levels". Furthermore, (Parker & Riley, 2009) state that "Common pronunciation variations facing Arabic speakers learning English are due to a language transfer from their native language".

Furthermore, the differences in the phonological inventories between the native language and the target language have influential effects in acquiring second language. Many studies demonstrate that languages differ in their realization of the stop voicing contrast, among them (Flege 1991; Sancier and Fowler 1997; Fowler et al. 2008). Subsequently, when "the L1 and L2 differ in phonetic realizations of voicing contrasts, L2 stops tend to show "compromise" voicing values intermediate between the L1 and the L2 stops." (Flege, 1995).

Bilabial Sounds in Arabic and English

Bilabial consonants in the Arabic language include the nasal bilabial voiced /m/ as in: /madresea/ (school)، /jum/ (day) and the oral bilabial voiced stop /b/. However, all bilabials are articulated with the upper and lower lips being in touch with each other. Thus, it is evidant that there is only one bilabial stop in Arabic which is also called plosive, namely the bilabial voiced stop /b/ as in: /bab/ (door)، /bareed/ (post)، /ibreh/ (needle)، /qalb/ (heart). In English bilabial stops are /b, p/ as in /buk, plei, kab, lap/ which can be either voiced or voiceless. Nevertheless, such contrast is not available in Arabic concerning the voicing characteristic. A quick glance at both languages bilabial oral systems, it can be seen that the main difference is that the Arabic language lack the voiceless bilabial stop /p/. As Newman states: "Unlike its other Semitic sisters such as Hebrew, Aramaic, Amharic and Socotri, Arabic lacks the voiceless bilabial stop /p/" (Newman, 2002). This lacking of the sound /p/ in Arabic creates a problem for EFL and ESL learners because their articulation organs are not prepared or adapted for pronouncing the voiceless bilabial stop /p/. Several linguists contend that the sound /p/ does exist in Arabic, not as a phoneme, but as an "allophone of the bilabial voiced stop /b/", for instance, Newman (ibid.) advocates that the voiced bilabial /b/ is often "devoiced in a voiceless environment".

Fricative Sounds in Arabic and English

In a Fricative consonant, "the articulators involved in the constriction approach get close enough to each other to create a turbulent airstream". The fricatives of Arabic are /f/, /θ/, /ð/, /s/,/ṣ/, /z/, /ʃ/, /x/, /ɣ/, /ḥ/ and /h/. Whilst in English the fricatives are /f/, /v/, /θ/, /ð/, /s/, /z/, /ʃ/, /ʒ/ and /h/. The concern of this study is the Arabic fricative /f/ which is labiodental voiceless fricative, as in /far/ (mouse)، /dafter/ (copybook) and /seif/ (sword). As for English, the focus of the present study is on the labiodental fricative contrast /f,v/. /f/ is labiodental voiceless fricative as in /fi:l/ (feel). /fa:/ (far) and /li:f/ (leaf). /v/ is labiodental voiced fricative as in /veig/ (vague)، /li:v/ (leave). If a comparison between Arabic and English is made, the same problem appears here, namely the lack of the labiodental voiced fricative /v/ which is an obvious lack in the Arabic fricative sound system. Once again, this creates problem for Iraqi learners when they speak or read English. They often make errors when pronouncing words containing these sounds. They substitute the sound /v/ in (very, verbatim, vanish, etc.) with the labiodental voiceless fricative /f/ instead of it, since they face difficulties in pronouncing the former.

Methods and Participants

The participants in this study are (100) students from the second year in the English department, college of education, Baghdad university/ evening studies in the academic year 2015/2016 who completed a complete year in studying English and agree on participation. The participant are told that this study is conducted to know if they have any difficulties in pronunciation or articulation of English consonants.

Instrument and procedure

There are two parts in the research instrument, a word list and a number of sentences. Both parts of the instrument contain a group of target words, which are selected to elicit each targeted sound (/p/, /b/, /f/ and /v/). The sounds are placed into words in an initial position, an intermediate position and in the final position. The word list includes 30 targeted words for each sound to be written and transcribed (knowing their recognition ability) when they are heard from the instructor. The reading sentences are the second part of instrument (knowing their production ability)، the students have to read them carefully but spontaneously (see the appendix). However, the reading and recording tasks are completed in a quiet classroom in their department by using the recording applications in a smart device type Samsung note three.

Results and conclusions

As far as the recognition of these phonemes is concerned, Iraqi learners of English perform badly in their transcription of the set of words containing /p, v/. More precisely, they do not differentiate most of the times between /p, b/ and between /f, v/. However, the production for the phoneme /p/ concerning the list of sentences in the present study exhibits an interesting contrast between its correct productions in each environment. Where the results of this study indicate that the respondents performe differently regarding each sound in each environment. After counting all the correct instances of the studied sounds, it is evident that most participants faced pronunciation difficulties with the pronunciation of /p, v/ sounds. These sounds are in the order of difficulty as follows: the voiceless bilabial stop /p/ and the voiced labiodental fricative /v/. In terms of the / b, f/ sounds, they do not have any difficulty in their pronunciation.

Regarding the errors concerning these consonants and to be more accurate, 75% of the sample substituted the voiced bilabial /b/ for the bilabial voiceless /p/ in the initial position, 70% substituted it in the medial position and /80% of them substituted the two sounds in final position. When L2 speakers commit this error, the segment loses the articulation feature of [-voiceless] and gains the feature [+voiced], thereby maintaining the place of articulation. Enormous proportions also replaced the labiodental fricative /f/ for the voiced /v/, in the initial position (65%)، in the medial position (75%) and 78% in the final position. When L2 speakers do this error, the segment maintains the place of the articulation feature but loses the [+voiced] manner of articulation. However, these errors occur due to the absence of /p/ and /v/ in the Arabic phonological system, and thus reflect negative L1 interference.

These results coincide with all the three hypotheses of second language acquisition. Concerning contrastive analysis hypothesis (CAH) that proposed that those features of L2 that are similar to the L1 would be easily acquired, while those aspects that are different from the L1 in acquisition would be difficult. Here the similar features are /b,f/ whereas, the different aspect are /p,v/. Thus, the afore-mentioned results support predictions made through this hypothesis. It suggests that the absence of sounds in a first language could result in the difficulty of acquisition of these sounds in the second language. As Bayraktaroglu (1985) advocates that CAH could predict the sounds that may be difficult for learners but at the same time it fails to predict the outcome of those sounds. The data correspondingly show that there is an over-all consent on the difficulty of production and perception of the phonemes /p/ and /v/.

As for Eckman''s (1977) Markedness Differential Hypothesis (MDH)، his phonological hypothesis proposes that the more common phonetic features among the languages of the world, the less difficult those features are to be acquired, but less common features would be more difficult to acquire. This means a more marked sound is more difficult to learn than a less marked sound. In this study, fricatives are more marked than stops. The last hypothesis is the natural differential hypothesis (NDH) " Those natural processes of the native language which are inhibited in the target language will be difficult to suppress" where the findings provide evidence that the designated sounds do pose some difficulty to the participant, regardless of the environment or position.

An interesting phenomenon demonstrates here in the performance of the students which needs an empirical study, they even sometimes replace the phoneme /p/ by the phoneme /b/ or the phoneme /f/ by /v/. They may think that doing this, could make them appear or perform good English speakers. Alternatively, they may believe that this is a more prestigious and correct way to speak English.

The three research questions are verified and satisfied by the afore-mentioned results and conclusions. In consequence, it is essential for language teachers and learners to plan and provide educational programs focusing on these problematic areas that learners suffer from and represent a challenge for them in order for second language learners to construct their competence of English properly. Furthermore, teachers also need concentrated courses to develop their proficiency in English so that to be able and competent enough for teaching English pronunciation.

The Appendix

List of words

	/p/	/b/	/f/	/v/
1.	pig	big	face	van
2.	pie	buy	fly	vat
3.	pay	bay	fall	vote
4.	pair	bear	freedom	vole
5.	pill	bill	fiber	viber
6.	pet	bet	follow	vase
7.	cup	cub	four	vest
8.	pin	bin	feel	vet
9.	poor	bore	floor	vowel
10.	port	bought	five	very
11.	aspiration	abdomen	offense	given
12.	puppy	lobby	often	rival
13.	apply	above	cleft	fava
14.	apportion	abortion	feta	nervous
15.	appear	abbreviated	lift	drivel
16.	apparatus	able	defer	revel
17.	apricot	abase	raft	fiver
18.	apt	laborers	afraid	novel
19.	appeal	abnormal	after	loaves
20.	apart	abuse	safer	verve
21.	dope	rub	deaf	dove
22.	dip	grab	roof	serve
23.	drop	drub	raff	jive
24.	cup	cub	loaf	love
25.	top	bomb	off	of

26.	loop	lob	safe	give
27.	prop	drab	self	selves
28.	hope	rob	reproof	drove
29.	soup	sob	life	live
30.	up	sub	proof	prove

A - Sentences with /p,b/

1- The big puppy barks.
2- The girl was happy.
3- Ride the bicycle to the top.
4- Bob could stop at the library.
5- We bought the purple pie.
6- The baseball player got hurt.
7- The border patrol was given the best officer award.
8- Pollution is caused by heavy explosion.
9- The painting that was stolen was a precious art piece.
10- The lapse of time caused him to bite his lips.

B – Sentences with /f, v /

1- Even though the story was fiction, the children were afraid.
2- He fixed five damages in the car.
3- They believe in that they were victorious.
4- The vase is very important.
5- Its flavor is fantastic.
6- They have got four children.
7- She said it was very helpful.
8- The government is increasing the prices of fuel.
9- Scientists found many proofs in their experiments.
10- Their beliefs are concerned with violence.

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