تأثير هوية المتحدث النموذجي على التقارب الصوتي لمتعلمي اللغة الإنجليزية العراقيين

Model Speaker Identity Effect on Iraqi EFL Learners' Phonetic Convergence

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الكلمات المفتاحية: التقارب الصوتي، هوية النموذج، المتعلمين العراقيين الاجانب، وقت بدأ الصوت

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الملخص

غالبًا ما يقوم متعلمو اللغة بتكييف نطقهم استجابةً لمن يتحدثون إليه في ظاهرة لغوية تسمى التقارب الصوتي. تناولت هذه الدراسة نطق متعلمي اللغة الإنجليزية كلغة أجنبية في العراق في ثلاث مهام. وبشكل أكثر تحديدًا، قامت الدراسة بقياس قيم وقت ظهور الصوت في ثلاث سياقات صوتية مختلفة: تسجيل اساسي، بعد متحدث اجنبي، بعد متحدث اصيل. يعتبر وقت بدأ الصوت مختلفا بين اللغتين العربية والانكليزية، حيث أن اللغة العربية هي لغة لا تحتوي على اصوات مستنشقة على عكس اللغة الإنجليزية. افترضت الدراسة أن المتعلمين يتكيفون مع نطقهم استجابة لما يستمعون إليه. ومن ثم، حاولت الدراسة تحديد ما إذا كانت هوية النموذج، سواء أكان أصليًا أم غير أصلي، تؤثر على نطق المتعلمين العراقيين. لتحقيق هذا الهدف تم تسجيل وقت بدأ الصوت باستخدام برنامج (برات) ومقارنته باستخدام البرنامج الاحصائي لتحديد اي استراتيجيات تقارب محتملة في نطق المتعلمين تجاه النماذج. أظهرت نتائج اختبارات العينات المستقلة وقيم الارتباط أن المتعلمين يميلون إلى التصرف استجابة لكل من الناطقين الأصليين وغير الأصليين. كان المتعلمون أكثر ارتباطًا بالمتحدث الأصلي الذي

يدعم تأثير هوية المتحدث. أوصت الدراسة بأن يبحث معلمو اللغة الإنجليزية ومتعلمو اللغة الإنجليزية كلغة أجنبية عن تقنيات مبتكرة يمكنهم من خلالها التعويض عن عدم كفاية وجود معلمين غير أصليين ذوي نطق لهجة.

Abstract

Learners of a language often adapt their pronunciation in response to who they are speaking to in a linguistic phenomenon called phonetic convergence. This study examined Iraqi EFL learners' pronunciation in three different tasks. More specifically, the study measured voice onset time (VOT) values in different phonetic contexts; a baseline, after a native model, and after a non-native model. VOT is different between Arabic and English as Arabic is a non-aspiration language; while English is. The study hypothesized that learners accommodate their pronunciation in response to what they listen to. Hence, the study attempted to identify if the identity of the model, being native or non-native, affects learners' pronunciation. To achieve this aim, VOT values were measured via PRAAT and compared via SPSS tests to identify any possible convergence strategies in the pronunciation of learners towards the models. The results of Independent samples Tests and correlation values showed that learners tended to act in response to both native and non-native speakers. Learners were more correlated with the native model supporting speaker's identity effect. The study recommended that English language teachers and EFL learners should seek innovative techniques through which they can compensate for the inadequacy of having non-native teachers with accented pronunciation.

Introduction

Speech is the vocalized type of communication that humans utilize on a daily basis to communicate with others. Speakers may experience different pronunciation as a result of being exposed to phonetic variants that are different from their own. As a consequence, they may pick up those of their interlocutors. There are several reasons why they purposefully or unintentionally change their accent. For instance, speakers who spend a lot of time in a new area and with a foreign accent may unconsciously change the way they talk and pick up dialect-specific traits. Speakers may also believe that their accents reveal their social rank or native tongue (Liu, 2017).

Daniel Jones quoted by Lewandowski (2012, p.28) and in Fromkin, Rodman, and Hyams (2018, p. 49) stated that he "gradually came to see that phonetics had an important bearing on human relations – that when people of different nations pronounce each other's language really well (even if vocabulary and grammar not perfect), it has an astonishing effect on bringing them together; it puts people on terms of equality, and a good understanding between them immediately springs up". Mostly, a person is known after merely speaking a number of words, since pronunciation with its fluctuations is linked to identity. Interlocutors strive to catch a bond between two contrastive needs of identity e.g. the need for assimilation e.g. their desire to belong, and the need for differentiation e.g. their desire to be unique (Gallois, Ogay & Giles, 2005).

Phonetic convergence describes a process whereby people get closer to each other's pronunciation in the course of a communicative interaction. The disposition for more synchrony, in respect to the phonetic domain, extends to segmental (sound formants, durations…) and suprasegmental features (intonation, rhythm….). Convergence is

affected by the identity of the speaker and the interlocutor at the same time. The current paper attempts to investigate the impact of the identity of the model talker being a native or a non-native on the pronunciation of Iraqi EFL learners with specific relation to voice onset time (VOT).

1. Literature Review

This section attempts to briefly account for the theoretical background of phonetic convergence and states some related previous studies.

2.1 Phonetic Convergence

Pickering and Garrod's (2004) interactive alignment theory makes an effort to account for all varieties of linguistic alignment, including phonetic accommodation. Pickering and Garrod assert that dialogue is the fundamental form of communication, and each level of linguistic representation-semantics, syntax, and phonology-is intricately linked both within and between interlocutors in the course of a communicative interaction. In everyday conversation, interlocutors regularly engage in a dialogue, and exchange information at all levels of linguistic representation. If the speaker is unable to understand the other person's expression, the self-monitoring mechanism reformulates the statement to lead to the already-established implicit common ground. Overall, interlocutors align to each other, and this alignment is automatic e.g. it occurs at the sub-conscious level.

An exemplar-based theory, proposed by Goldinger (1998), posits that an automatic cognitive reaction is what causes phonetic accommodation. Based on this model, precise traces are saved in the lexicon and can be recalled at a later time. Goldinger's (1996) study examines both explicit and implicit memory for spoken words and showed that voice characteristics of spoken word were remembered. Goldinger (1998) use a lexical shadowing task in a subsequent

investigation to demonstrate the relationship between rare words and distinct voices. As a result of speakers having come across fewer instances of these, fewer traces in the lexicon were activated. As a result, speakers are better able to recall the information and are more likely to converge.

Both the interactive alignment theory and the exemplar-based model argue that phonetic accommodation is inevitable and automatic, despite the fact that these two psycholinguistic models differ as to whether it results from phonetic negotiation between speakers or the activation of episodic memory. The communication accommodation theory, on the other hand, is a sociopsychological model that investigates how social context impacts phonetic adaptation. It focuses on the language behaviors of interpersonal and intergroup interactions in an attempt to explain speech accommodation. The basic claim is that language is a tool that people use to influence their interlocutor's social distance in order to attain a desired social distance between them. In the course of a conversational interaction, individuals make use of the three accommodative strategies: convergence whereby they change their linguistic or non-linguistic patterns to be more similar to those of their interlocutors, divergence whereby individuals choose to differentiate themselves from the ones with whom they are interacting usually to socially distance themselves from others, and finally individuals maintain their accommodative patterns no matter with whom they are interacting (Giles, Coupland & Coupland, 1991; Giles, Mulac, Bradac, & Johnson, 2012). Hence, the current paper attempts to examine the impact of the model talker being native or non-native on Iraqi EFL learners' accommodative behaviours.

Moreover, the process of phonetic convergence is examined under different names and via different methodologies. In earlies

studies, it has been investigated in natural conversational settings, and it was termed as speech accommodation, see Giles (1973). In addition, convergence was detected in laboratory settings where no virtual interaction could exist between the participants, and it was termed phonetic imitation, see Goldinger (1998), Goldinger and Azuma (2004). Goldinger was the first researcher who investigated phonetic convergence using the shadowing task. Subsequent studies investigated the phenomenon of phonetic convergence using Goldinger's (1998) paradigm, see Nielsen (2007). More recently, studies merged the two aforementioned conflicting approaches of convergence whereby it was examined in a laboratory setting but interpreted from a sociopsychological perspective (similar interpretation to that of studies based on natural setting), see, Zajac (2015), Abrego-Collier, Grove, Sonderegger and Alan (2011), Hosseini-Kivanani, Tobin and Gafos (2019) and many others. The current study is more interested in examining convergence in laboratory setting which is doable in our university setting.

2. Voice Onset Time (VOT)

Stop consonants are generally distinguished based on features of voicing (voiced vs. voiceless), and aspiration (aspirated vs. unaspirated) whereby measuring one feature on spectrograms predicts the absence of the others. In addition, they can be further distinguished by the articulatory force being fortis or lenis. Lisker and Abramson (1964, p.387) call for more attention toward measuring the amount of voicing of the stops e.g. "the duration of the time interval by which the onset of periodic pulsing either precedes or follows release". This, in fact, does not only distinguish voiced from voiceless but further separates aspirated from unaspirated stops. In particular, there are three conditions of voice onset time:

1- For voiced stops, voicing starts before the release of the stop, VOT is regarded as negative numbers and called voicing lead.

2- For unaspirated stops, voicing begins immediately after the release, VOT is considered as positive numbers and is termed as voicing lag.

3- For aspirated voiceless stops, the onset of voicing lags behind the release, and, again, VOT is considered as positive numbers and is termed as voicing lag.

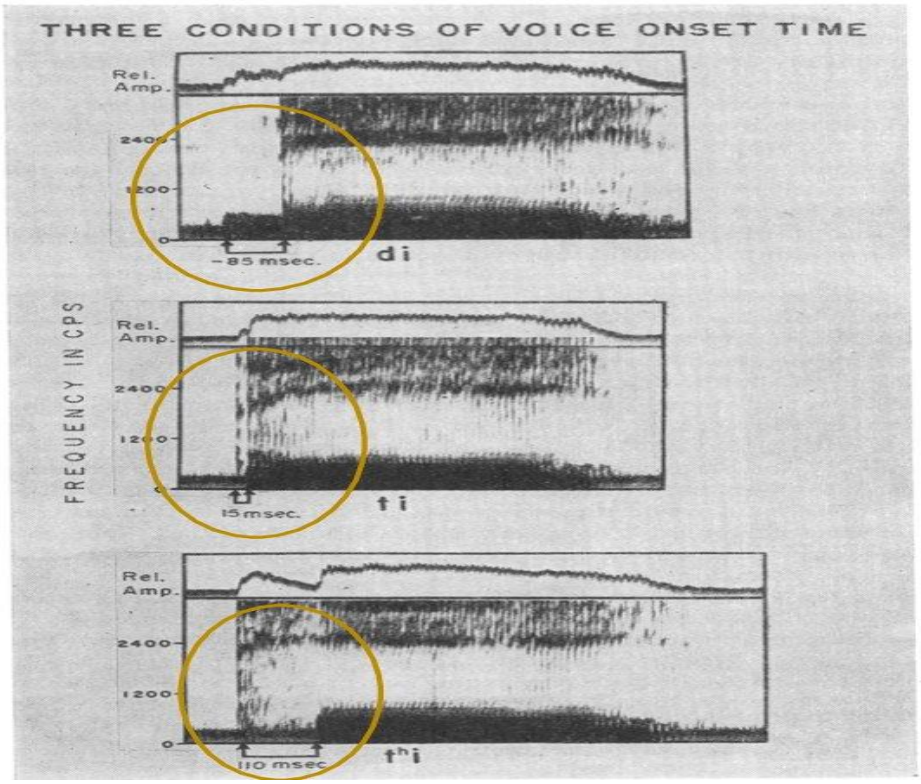

Figure (1)

Conditions of voice onset time adopted from Lisker and Abramson (1964, p.390)

2.2 Previous studies

Nielsen (2007) conducted an experimental study to examine the effect of linguistic knowledge on phonetic imitation, especially when the change spoils linguistic contrasts. To this end, 39 undergraduate Americans were selected for the study. In order to examine the extent of phonetic imitation on lengthened VOTs as well as shortened VOTs, 150 words with initial /p/ were included in four tasks which the participants were asked to perform. At first, they were asked to read the words silently (warm-up task), then they were asked to identify the words they saw on a computer screen by saying them out loud (baseline task). The listening task involved an American speaker, who was good at phonetics, to pronounce the tokens twice, the first one with lengthened VOTs, and the second time with shortened VOTs, and the participants listened to him carefully. At last, the participants were asked to pronounce the tokens again. Their productions were analyzed using waveforms as well as spectrograms. The participants converged to lengthened VOTs, but did not converge towards shortened ones since they may impair linguistic contrasts. The results contradicted the automaticity of phonetic imitation which was predicted by the exemplar theory.

Abrego-Collier, Grove, Sonderegger and Alan (2011) investigated the impact of the speaker's attitude toward the model talker. 72 tokens with initial (/p/, /b/, /t/) were produced by the participants in three tasks, the baseline production and two shadowing tasks. In between the two shadowing tasks, two model talkers, narrated a first-person story in which the 72 tokens were embedded. One of the narrative was positive, and the other one was negative. Using PRAAT, the tokens in each production task along with the other tasks were analyzed. The data obtained were processed using a linear mixed-effects model. The results showed that there was an impact of the

participants' attitudes towards the model talker on the degree of phonetic convergence. In particular, those with positive attitudes towards the model speaker showed convergence whereas those with negative attitudes showed divergence. Moreover, the results showed that there was no effect of macro-social variables such as gender on the likelihood of phonetic convergence.

Phonetic convergence in the speech of college roommates was investigated by **Pardo, Gibbons, Suppes, and Krauss** (2012). Five pairs of previously unacquainted roommates were separately recorded four times. One before the time they have met, twice during the first semester and the last one was after the winter break. Four phrases were picked from the four recordings: *greasy, oily rag, dark suit, and wash water*. Applying an AXB perceptual similarity task, thirty listeners were involved to analyze the data. Items in the AXB task were acoustically measured for their duration. F1 and F2 of vowels /i, a, o, u/ were measured. An attitudinal questionnaire was used to assess the effect of the individual's closeness to his roommate on the degree of convergence. The overall convergence was modest along the three intervals.

Zajac (2015) investigated phonetic convergence in the speech of Polish learners of English after exposure to two model talkers: a native speaker of English and a Polish speaker of English. 38 participants were involved in an experiment of four phases; a baseline production of 48 target word, two imitation tasks whereby participants were asked to loudly identify what they immediately heard from the models (the native at one time and the non-native at another), two accommodation tasks whereby the participants were asked to read the target words for each model talker. The variables of VOT, pre-voicing lead and vowel duration before voiced and voiceless consonants were

all analyzed using PRAAT. The data were processed statistically. The results showed that the extent of convergence toward the native talker was greater than for the Polish speaker of English which could be the consequence of a bias standing in favour of native-like pronunciation over non-native. Therefore, attitudes of the participants towards the model talker affected the degree of phonetic convergence.

Burin and Ballier (2017) adopted a longitudinal database collection from Gouteraux (2015) in attempt to investigate the phenomenon of phonetic convergence. Fifteen learners of English were recorded while spontaneously conversing with a native speaker of English in three 15-minute conversational sessions that lasted over about two years. F1 and F2 of seventy hundred and forty five vowels, namely, the /a:, u, u:, i, i:, e, and a/ were analyzed using Praat, and then these vowels were normalized using Lobanov's method of vowel normalization which, originally, aimed at making acoustic data comparable across individual speakers, see Lobanov (1971). For measuring speech rate, a script which was designed by Jong and Wempe (2009) was used. Vowel durations were extracted using PRAAT. While the learners showed more deviations in F2 of all high, back and front vowels respectively, they showed more deviations in the F1 of all low vowels. In respect to speech rate and vowel duration, it was found that all of the interlocutors converged towards each other.

The present paper attempts to examine the impact model talker identity has on the magnitude of phonetic convergence by Iraqi EFL learners. VOT values in voiced and voiceless consonants were used as the basis of measuring phonetic convergence.

3. Methodology

In this section, information about the sample of the study as well as data collection and data analysis methods will be discussed briefly.

3.1 Participants

The researcher was ethically approved to collect data from students at the department of English at the University of Anbar. Thus, a letter of participation acceptance was sent to the students in order to attain their approval to volunteer in the tasks of the experiment. Twenty Iraqi EFL learners were given a demographic questionnaire in order to check if they were appropriate for the experiment, see appendix A. The questionnaire included personal information about age, birth and current residence, dialect etc. All the participants live in different places at the Anbar Province. Their age ranges between 22-30 years. All of them took four courses in English phonetics based on O'Connor (1980), and Roach (2010).

3.2 Stimuli

Twenty four word tokens, with initial stop consonants, were selected for the current study. They were divided into two groups based on mere voicing differences in each pair. That is to say, one group consisted of twelve words with initial voiced stop consonant /b, d, g/, and the second group consisted of twelve words with initial voiceless stop consonants /p, t, d/. The overall words took the form of minimal pairs, which were selected for the purpose of measuring (VOT), which can be identified from the point of the very onset of the stop sound to but not including the vowel sound, See appendix B. In voiced stops, it is termed as pre-voicing lead while in voiceless stops, it marks the period of aspiration.

3.3 Data Collection

Adopting Goldinger (1998), the participants were asked to read, as casual as possible, a list of words containing stop consonants, aspirated and unaspirated, and they were directly recorded to serve as the baseline of their pronunciation. Then, they listened to, and repeated after two model speakers (a native and an Iraqi-accented speaker of English) respectively. Thus, the participants pronounced the list of words thrice; for the baseline, shadowing after a native, and shadowing after a non-native in order to examine the impact of the model speaker's identity on their pronunciation. It is worth noting that the recording sessions were conducted at different times so that participants will not be affected by the native or non-native model due to listening to them one after the other.

3.4 Data Analysis

Voice Onset Time (VOT) was measured using PRAAT Software Programm. 720 tokens (240 for each task) were used to measure pre-voicing lead in /b, d, g/ and the same number of tokens was used to measure aspiration in /p, t, k/. The productions of VOT for the two model talkers were measured the same as those of the participants.

The mean values of VOT in the two settings were calculated separately. Descriptive as well as inferential statistics such as independent samples tests and Pearson Correlations were computed to assess if there was a statistically significant difference between the participants' productions of VOT in the baseline and their VOT values in the two shadowing tasks. Furthermore, the productions of the two shadowing tasks were compared to those of the two model speakers in order to detect if there was convergence, divergence or maintenance in their pronunciation.

4. Results and Discussion

This section offers the results of the study obtained from Independent Sample Test, and Pearson Correlation tests conducted using SPPS program version *IBM SPSS Statistics 26*. These tests are supposed to test the study hypotheses.

Hypothesis 1 predicted that there was no difference in convergence strategies for pre-voicing lead of voiced stops and aspiration for voiceless stops as produced by Iraqi EFL learners in the two tasks. Group statistics showed that the mean value of pre-voicing lead in the baseline was (N= 12, M = 0.031, SD = 0.007), and in the shadowing task after a native was (N= 12, M = 0.029, SD = 0.005). To identify any significant difference in the two tasks, a two-tailed Independent Samples Test was conducted. The *P* value was greater than 0.05 which indicated no statistical significant difference in the pre-voicing lead between the two aforementioned tasks, see table (1) below.

Independent Samples Test

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean	Equal variances assumed	.336	.568	.812	22	.425	.00198750	.00244661
	Equal variances not assumed			.812	20.988	.426	.00198750	.00244661

Table (1)

pre-voicing lead comparison between baseline and shadowing after a native

Figure (2) below shows Iraqi EFL learners' behavior in respect to VOT mean durations in voiced stop consonants in the baseline and shadowing after a native tasks as compared to those of the native model. As related to /b/, VOT in both baseline and shadowing after a native were longer than those of the native model, but this difference was not statistically significant. The participants maintained their pronunciation of the /b/, which means that they were not affected by the native model's pronunciation. Although there was no statistically significant difference between learners' productions of /d/ and those of the native model, they slightly diverged from the native model in words

such as *dip, dank, and dart*. The participants maintained the VOT value of /d/ in the word *dean*. In terms of /g/, slight divergence was observed in *ghee, gill and gap*, and slight convergence was observed in *guard*.

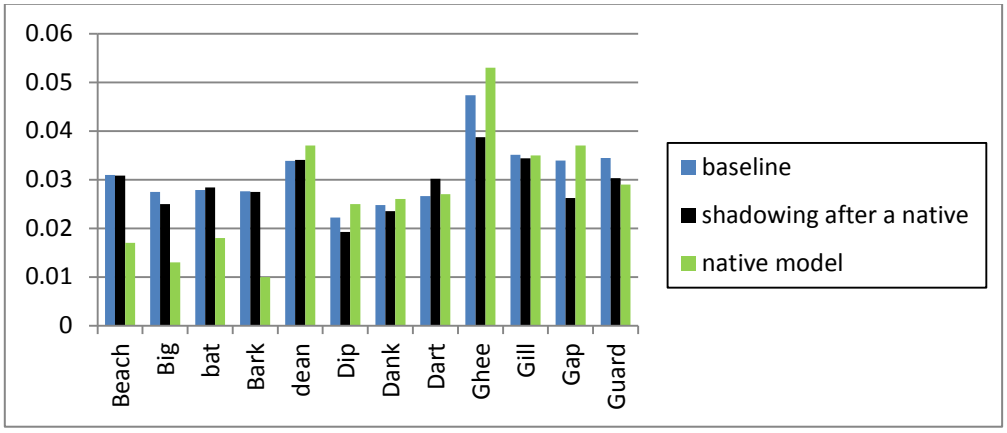

Figure (2)

Pre-voicing lead values in the baseline, shadowing task as compared to the native model

As related to voiceless stops, group statistics revealed that the mean value of VOTs in the baseline rated (N= 12, M = 069, SD= 0.020), and in the shadowing after a native was (N= 12, M= 0.077, SD= 0.021), see appendix (K). Again, an Independent Samples Test showed that there was no statistically significant difference in VOT values between the two tasks as the *P* value was 0.328 > 0.05, see table (2).

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean	Equal variances assumed	.014	.907	-1.000	22	.328	-.00855925	.00855710
	Equal variances not assumed			-1.000	21.958	.328	-.00855925	.00855710

Table (2)

VOT values comparison in baseline and shadowing after a native model

In spite of being statistically insignificant, the participants converged toward the native model in the values of VOT for the /p/ sound in the words *peach* and *park*. Maintenance was observed in the words *pig* and *pat*. Again, convergence was observed for the VOT of *teen, tank, tart,* and maintenance of the VOT of *tip*. Moreover, in *key, kill, cap,* and *card*, a kind of convergence was performed, see figure (3) below.

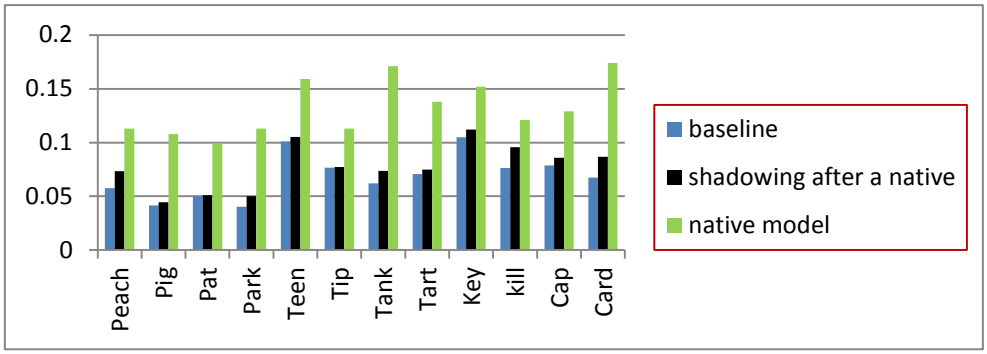

Figure (3)

aspiration in the baseline, shadowing after a native as compared to the native model

In a similar vein, pre-voicing lead was (N= 12, M= 0.031, SD= 0.007) in the baseline, and (N= 12, M= 0.025, SD= 0.005) in the shadowing after a non-native. As indicated by an Independent Samples Test, there was no statistical significant difference in values of pre-voicing lead between the two tasks, see table (3).

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean	Equal variances assumed	1.062	.314	2.279	22	.033	.00545000	.00239134
	Equal variances not assumed			2.279	20.436	.034	.00545000	.00239134

Table (3)

VOT values comparison in baseline and shadowing after a non-native

The participants produced VOTs of the /b/ sounds in the words *beach* and *bat* with convergence toward the non-native model but they maintained the VOT value of the word *big* and diverged its value in the word *bark* from the non-native model since she produced it with longer VOT value, see figure (4) below.

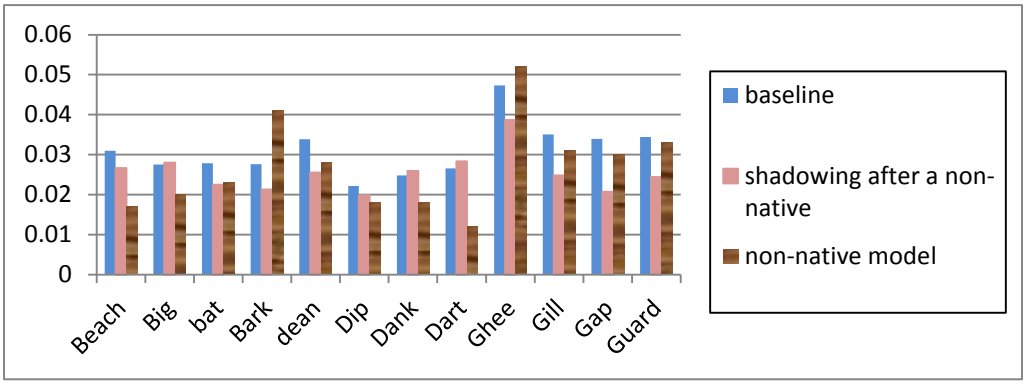

Figure (4)

pre- voicing lead values comparison in baseline, shadowing after the native, non-native

VOT mean values in voiceless stops produced by Iraqi EFL learners in the baseline, (N = 12, M = 0.069, SD = 0.020), were slightly different from those the learners produced after the non-native talker (N= 12, M= 0.059, SD= 0.019), see appendix (M). The productions of VOT in the two tasks were compared using an Independent Samples Test, see table (4). As long as the *P* value was 0.894, there was no statistically significant difference between the VOT values in the two tasks.

		Levene's Test for Equality of Variances						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Mean	Equal variances assumed	.018	.894	1.271	22	.217	.0102285	.0080443
	Equal variances not assumed			1.271	21.83	.217	.0102285	.0080443

Table (4)

Comparison of VOT values in the baseline and shadowing after a non-native

Based on figure (5) below, the non-native model produced longer VOT values than the participants did. There was a kind of convergence toward the non-native model for the word *peach*, maintenance for the word *pig*, and divergence in the words *pat and park*. In terms of /t/ VOT values, divergence in *teen* and *tank*, and convergence in *tip* and *tart* were detected. Finally the VOT values of /k/ for the non-native model were longer than those of the participants in the two tasks. It seemed that the participants were not affected by the model's productions since they diverged from her pronunciation in the

two words *key* and *card* and maintained their pronunciation in the words *kill* and *cap*.

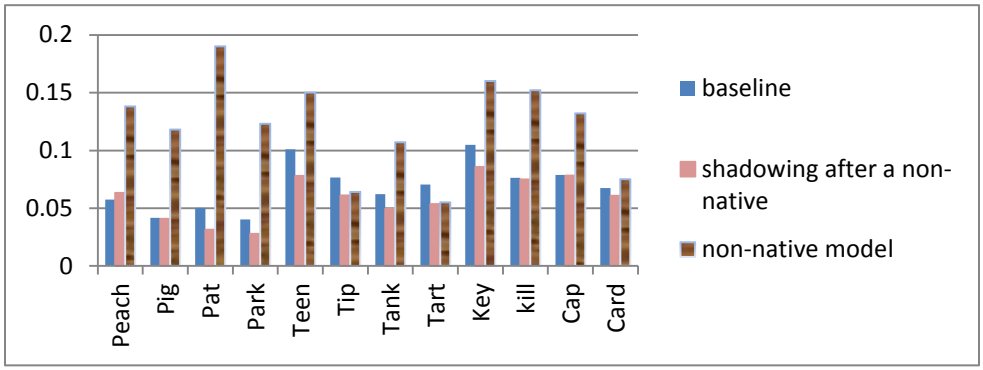

Figure (5)

Aspiration in baseline, shadowing tasks, and the non-native model

A Pearson correlation test was performed to assess the relationship of pre-voicing lead values between baseline productions, the two shadowing tasks, and those of the two models. The results indicated that the relationship between learners' baseline and shadowing after a native was *r*= .774, *P*= 0.000, and between the baseline and shadowing after a non-native was *r*= .780, *P*= .003 < 0.01, which meant that there was a strong correlation between them, and that correlation was statistically significant. There was a strong relationship between learners' productions after the native model and those of the model herself, and the correlation was significant *r*= .591, *P*= .043 < 0.05. Again, the correlation between learners' pre-voicing lead in the baseline and after the non-native model talker was strong and significant at the level of 0.05, *r*= 675, *P*= .016. In order to examine if learners' productions in the shadowing after the non-native model were in line with those of the model, both were calculated in the correlation

test, which revealed a moderate correlation with no statistical significant difference, *r*= 376, *P*= 229, see **table (5) below**.

Table (5)

Correlations of VOT values in three tasks with the two model talkers'

		Baseline voiced	**native**	**after native**	**non native**	**after non native**
Baseline voiced	Pearson Correlation	1	.774**	.851**	.780**	.675*
	Sig. (2-tailed)		.003	.000	.003	.016
	N	12	12	12	12	12
native	Pearson Correlation	.774**	1	.591*	.498	.527
	Sig. (2-tailed)	.003		.043	.100	.078
	N	12	12	12	12	12
shadowing after native	Pearson Correlation	.851**	.591*	1	.571	.665*
	Sig. (2-tailed)	.000	.043		.052	.018
	N	12	12	12	12	12
non native	Pearson Correlation	.780**	.498	.571	1	.376
	Sig. (2-tailed)	.003	.100	.052		.229
	N	12	12	12	12	12

		Baseline voiced	native	after native	non native	after non native
shadowing after non native	Pearson Correlation	.675*	.527	.665*	.376	1
	Sig. (2-tailed)	.016	.078	.018	.229	
	N	12	12	12	12	12

A Pearson correlation coefficient was computed to assess the linear relationship between aspiration produced by Iraqi EFL learners in the three tasks (baseline, shadowing after a native & non-native) and that produced by the two model talkers (native & non-native). There was a strong positive correlation between the aspiration in the baseline and in the shadowing after a native, and the correlation was statistically significant (r= .950, *P*= .000). In respect to the correlation between learners' voiceless VOT values in the shadowing after the native task, and those values of the native model, it was strong and significant at the level of 0.05, r= .609, P= .036.

In addition, the correlation between learners' voiceless aspiration in the baseline and in the shadowing after a non-native was positive and significant. The relationship between Learners' VOTs in the shadowing after a non-native and the non-native model productions were positive but not statistically significant, see table (6).

Table (6)

Correlation between VOT values in three tasks with the two model talkers'

		Baseline voiceless	native	shadowing after native	non native	shadowing after non native
Baseline voiceless	Pearson Correlation	1	.522	.950**	.090	.893**
	Sig. (2-tailed)		.082	.000	.781	.000
	N	12	12	12	12	12
native	Pearson Correlation	.522	1	.609*	-.273	.433
	Sig. (2-tailed)	.082		.036	.390	.160
	N	12	12	12	12	12
shadowing after native	Pearson Correlation	.950**	.609*	1	.083	.933**
	Sig. (2-tailed)	.000	.036		.797	.000
	N	12	12	12	12	12
non native	Pearson Correlation	.090	-.273	.083	1	.088
	Sig. (2-tailed)	.781	.390	.797		.786
	N	12	12	12	12	12
shadowing after non native	Pearson Correlation	.893**	.433	.933**	.088	1
	Sig. (2-tailed)	.000	.160	.000	.786	
	N	12	12	12	12	12

5. Conclusions and Recommendations

The ongoing debate about learners' convergence in response to what they hear is still unresolved to either side. The study examined Iraqi EFL learners' convergence strategies when they are exposed to native and non-native speakers. The results obtained here are in line with several studies' such as Zajac (2013), who found that L2 learners converged their vowel duration to be more like those of the native, Burin (2018) who reported that non-native speakers produced longer vowel duration than natives did, and Zajac's (2015) who claimed that participants converged toward the VOT values of voiceless stops of the native model talker, but maintained the same VOT values in comparison with the non-native model talker. These studies implicitly referred to model identity effect on learners' pronunciation; however, such effect was not present in all cases. The current study reported that learners in general converge more towards the native speaker; yet, they maintained their pronunciation in some cases. This conclusion requires another study to be conducted on why learners change their linguistic behaviour when they stimuli differs.

The strong positive correlation identified in statistical tests confirm the assumption that EFL learners are influenced by the nature of exposure they have with the foreign language. This stresses the need for offering native sources and educational materials to EFL learners in and outside the class to make use of their convergence to the pronunciation they are exposed to. The study recommends that language policy planners, English language teachers, and EFL learners should seek innovative techniques through which they can compensate for the inadequacy of having non-native teachers with accented pronunciation in the English language teaching setting. More research is needed to account for the behaviours of Iraqi EFL learners in respect to phonetic convergence and to investigate its impact on language leaning.

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Appendix: A

Demographic Questionnaire adopted from Al-Abdely (2016)

DEMOGRAPHIC QUESTIONNAIRE

Please, fill in the blanks with the information required:

Name: ----------

Age: ----------

E-mail: ----------

Telephone No: ----------

Please fill in the spaces with the information required:

1) Which part of Iraq are you from? ----------

2) What is your birthplace (city and country)? ----------

3) Have you stayed in other countries?

Where ---------- at what age ---------- for how long ----------

Where ---------- at what age ---------- for how long ----------

Where ---------- at what age ---------- for how long ----------

4) Have you learned English from a native speaker before? ----------

If yes, at what age? ---------- For how long? ----------

Where was the teacher from? ----------

What is your first language? ----------

5) What is your parent's first language? Mother---------- -- father --------

6) What are the languages your parents speak? Mother ---------- --- father ------

7) How old are you when you started learning English? ----------

8) Which accent of English do you speak? ----------

9) Do you use English outside the class? ----------How often? (Please, tick your choice)

- Always (100%)
- Frequently (80%)
- Often (70%)
- Sometimes (50%)
- Occasionally (30%)
- Seldom (10%)

10) What kind of activities have you tried to learn English? Tick from the following choices:

- Reading
- Singing English songs
- Watching English TV programs or movies
- Listening to English teaching programs
- Others

11) How many languages can you speak? ----------

What are they? ----------

12) Is your hearing normal? ----------

Thank You

*** Be assured that the information you provided here will remain confidential.**

Appendix B: Word List

Words with Initial Voiceless Stops	Words with Initial Voiced Stops
Peach	Beach
Teen	Dean
Key	Ghee
Pig	Big
Tip	Dip
Kill	Gill
Pat	Bat
Tank	Dank
Cap	Gap
Park	Bark
Tart	Dart
Card	Guard