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The Perception of English Vowels by Arab EFL Learners: A Case Study of University Students at Zarqa University

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Abstract:
The present paper focuses on the perception of English vowel sounds by learners of English at university level. English and Arabic, genetically two different languages, share some common features on one hand, and exhibit a lot of differences on the other hand. These differences are the chief source of difficulty in the learning of a foreign language. Some Arabic speakers perform oddly on a range of experimental tasks which involve word discrimination. All these tasks involve discriminating words with identical consonant patterns, but differing in their vowels. Some Arabic speakers, it seems, are conspicuously inaccurate in handling vowels in English words, and are much more prone to make errors involving vowels than subjects of other mother tongue backgrounds. One possible explanation to these effects is that Arabic speakers seem to transfer to English a set of psycholinguistic strategies that are more appropriately deployed in processing Arabic words. Unlike English, Arabic vowels are of secondary importance both in script and in word building, and the word recognition system depends heavily on the tri-consonantal roots which are the basis of most Arabic words with vowels variations placed within the consonantal framework. From pedagogy point of view, such differences between the two languages will be determined and included in various teaching material. In some other words, teaching will be directed at those differences. This in turn determines what the teacher has to teach and what the learner has to learn. The present researchers anticipate that the similarities between the two systems would act as a reference point for the learner's perception of the English vowels. The results of the present research would in turn encourage instructors to follow similar procedures in their teaching of sounds at university level in particular.
Keywords: English as a foreign language (EFL), Modern Standard Arabic, Zarqa University

1. Introduction

English and Arabic, genetically two different languages, share some common features. They also exhibit a lot of differences. These differences are the main source of difficulty in the learning of English as a foreign language and vice-versa. It is observed that one of the major problems in the learning of a foreign language is the interference caused by the differences between the native language and the second language. When a child acquires his native language, he develops his native language behaviour which gradually becomes internalized. However, in learning a foreign language, the learner is very much influenced by his native language behaviour. Where the structure of the two languages is the same, no difficulty is anticipated. Where the structure of the second language (L2) differs from (L1), we can predict both difficulty in learning and error in performance. The bigger the differences between the two languages, the greater the difficulty will be. Thus, it is important in learning a foreign language to overcome these difficulties. In other words, learning a foreign language means changing one's native language behaviour to that of the speaker of the target language.

The present study focuses on the perception of English vowel sounds by EFL learners of English at university level. The aim of this study is pedagogical. When EFL learners are exposed to a set of vowel sounds that are not present in their own language, they will typically not perceive this set of sounds as an English native speaker's perception. From a theoretical point of view, the present researchers anticipate that the similarities between the two systems would act as a reference point for the learner's perception of the English vowels.

Vowels are almost always found at the centre of a syllable, and it is rare to find any sound other than a vowel which is able to stand alone as a whole syllable (Roach, 1992). Each vowel has a number of properties that distinguish it from other vowels. These include; the shape of the lips, which may be rounded, neutral, or spread. The second property is the position of the tongue, which could be front, middle, or back. Finally, the tongue may be raised giving different vowel qualities.

Even though, Arabic has many varieties, Modern Standard Arabic (MSA) will be referred to in the present research because it is widely used in formal situations of everyday interactions in the Arab world especially in education. Contrary to English which has a larger vowel system containing about seven short vowels and five long vowels, Arabic has only three short and three long vowels. (Kara, 1976). The Arabic vowel

system is characterized by trilateral roots from the phonological point of view, the initial syllable structure of Arabic always begins with a consonant, i.e., if these vowels are pronounced in isolation, they are presented by a glottal stop (hamza). It is the aim of this study is to see if training Arabic EFL learners at university level would influence the perception and production of vowel sounds. MSA has three short vowels /i, a, u/ as in /si/ /sa/ /su/ and three long vowels /i:, a:, u:/. However English has seven short vowels /ɪ, e, æ, ʌ, ə, ɔ, ʊ/ and five long vowels /i:, ɜ:, ɑ:, ɔ:, u: / eight diphthong / ɔi, ai, ei, əʊ, au, iə, eə, uə/ some of them are non-existent in Arabic .

So, as Amer (2012) claims that English and Arabic vowel systems differ in a number of ways: Firstly, vowel sounds in English are more than Arabic vowels. Secondly, there are some non-existent English vowels in Arabic, like /e, ɔ, ɒ, ɜ:, ə, ɑ:/. "Thirdly, English vowels are affected by consonants following them, while Arabic vowels are not." By looking at this contrast and how the two languages differ in their phonological systems, it is obvious that Arab learners will have difficulty in learning some vowels especially those that are not available in Arabic. The assumption is as stated earlier that Arabic EFL learners will ignore unessential vowel variations in L2 and replace them with vowel sounds that are existent in L1.

Normally, EFL learners perceive sounds that don't exist in their native language in a way that is not as good as the native speaker's perception of those sounds (Perez, 2003, Bradlow and Pisoni, 1997,Munro, Fledge and Mackay, 1996, Munro, 1993, Werker,1989). From a practical point of view in second\ foreign language teaching, the teacher can anticipate the difficulties that students face in differentiating between sounds in second/foreign language teaching. Thus, the teacher may search for circumstances that would facilitate the EFL learner's ability to distinguish the new sounds in language. It is the goal of this study to look at the theoretical implication of this phenomenon in the context of training Jordanian University students in particular at (Zarqa University) to identify English pairs of vowels (/ɪ/ /e/, /e/ /ei/, / ɑ:/ /ɜ:/, / ʊ/ /ɔ/, /i:/ /iə/)

Perez (2005) claims that in the phenomenon of categorical perception; is the process of labelling that limits our perception of sounds. In such cases listeners break words down to their phonemic categories in the listener's language, and ignore the unessential variations within a category .i.e. categorical perception within the sound system of the first language hinders the perception of new sounds (unessential) variations of the second language. However, Eimas (1975) argues that infants can group speech stimuli in phonemic categories soon after birth, and they don't have to learn them when they acquire their native language. Streeter (1976) further explains that infants are able to perceive most but not all sounds that are not used in their native language. So, if this is the case in first language acquisition, why aren't the adult EFL learners able to perceive sounds that are nonexistent in their native language? Wreker (1939) conducted a study on the change of speech perception during development. The test was applied to different age groups eight months, four years, eight years, twelve years and adults. The study confirmed that the decline in the universal phonetic sensitivity begins at the age of six months onwards. She further argues that it is difficult to regain phonetic sensitivity in adulthood and there normally would be a lack of ability to differentiate between phoneme contrasts.

More recent studies however (Bradlow and Pisoni, 1997, Rochet, 1995), have tackled training adults to perceive and discriminate new phonetic contrasts that are nonexistent in their native system. The results show that with training, there is a chance for improvement; but most studies have focused on training EFL learners to differentiate consonant sounds, and there is little research that has been conducted on perception of vowels especially in Arabic.

One of the pioneers in training adult learners in the perception of new sounds in FL is Brown (1995) who argued that training with minimal pairs was not as useful as training with superasegmentals, but no evidence was provided for such a claim. To contend this claim Perlmutter (1989) carried on a study on ESL learners who were given language instruction with special emphasis on pronunciation. The results of the study reflected an improvement in the students' perception of new speech sounds specific to the second language. Dewing, Munro and Wiebe (1998) have shown that a twelve weeks course of intensive training can improve second language learners' ability in realizing the phonetic contrasts that are no existent in their native language. Although the above mentioned studies emphasize that superasegmentals pronunciation aspect, it would be interesting to conduct studies using superasegmentals and minimal pairs and find out about their results.

2. Methodology

Thirty-six native speakers of Arabic, ranging between 17 and 25 years of age, and at second and third year university level took part in the study. All of the participants are from Jordan and they are all classified as foreign language learners. They were also enrolled in a Listening and Speaking course – a first year course for students majoring in English Language and Literature and translation. The students were split randomly into two groups – an experimental group and a control group. Each group consisted of 18 students, and all participants had a positive attitude towards the training process.

No specific pronunciation instruction was provided for the control group, while the experimental group was provided with 50 minutes of pronunciation classes, three times a week for four weeks. The students in both

groups attended 48 hours of language classes per semester, the courses run over a period of 16 weeks three times a week which emphasized pronunciation. Students in the experimental group were introduced to the vowel systems in English and Arabic, and their progress was evaluated by a quiz at the end of the instruction stage. No recordings were used in the training.

Thirty different words were given to the subjects. These words were recorded by a British native speaker and were grouped into five groups according to the vowel contrast as follows:

Group one:	/ɪ/ /e/	six sex
Second group:	/e/ /ei/	wet wait
Third group:	/ ɑː/ /ɜː/	dart dirt
Fourth group:	/ ʊ/ /ɔ/	put pot
Fifth group:	/iː/ /iə/	seal sear

3. Discussion and results:

Generally speaking, it is observed that subjects in both groups face no problems in pronouncing the /ɪ, iː/ sounds because they are existent in their native vowel system. However, the phoneme /e/ has no equivalent in Arabic, thus students generally tend to replace it with /ɪ/. For example, the words *set* and *sit* would be pronounced as /sit/.

The participants over generalized the /ɔ/ when pronouncing /ʊ/, so *books* /bʊks/ are the same as *box /boks/*. Furthermore, Arabic has no central vowels like the English ones / ɜ, ʌ/. Thus, there was a tendency among the students to replace these sounds with a schwa /ə / which is existent in unstressed position in Arabic /hʊwə/, but the technical problem here is that it is not phonemicised. Another source of difficulty is the pronunciation of nonexistent diphthongised sounds in Arabic such as /ei, / in *hate* is pronounced as a long vowel not as a glide by the students; i.e. students tend to reinterpret the diphthong in terms of length.

In addition, all vowels in English are lengthened before voiced consonants, such as *seat*/siːt/ and *seed* /siːd/. These differences are normally missed by the students. The same thing can be said about the tendency in English to nasalize vowels before nasal consonants. The classic example of *bean*, *song* and *sum* can be provided here.

In order to measure the effect of the training on students, They were given a pre-test and a post-test design. During the pre-test both the control and experimental groups were first given a printed material and made to listen to the recorded stimuli, which was played only once. They then had to identify and circle the word they heard in the recording.

Whereas in the post-test the experimental group attended 50-minute pronunciation sessions three times a week for four weeks, then students from both groups were again tested using the same method as the pre-test.

Students in the control group did not do as well in the post-test as they did in the pre-test, scoring a mean percentage of 58% before taking the classes, and 55% after. The experimental group however did considerably better. The mean percentage of their scores in the pre-test was 61% which increased to 81% in the post-test.

The following results were arrived at upon analysis of the individual pairs of vowels: First, the control group showed a slight improvement in their recognition of the contrasting pairs /ɪ/-/e/. While their pre-test scores were 50%, their post-test scores went up to 55.5%. The experimental group however showed a significant improvement, with their post-test scores jumping 30% from their pre-test scores. Pre-training the group managed a score of 55.5%, and after 4 weeks of training, their test scores went up to 88.8%, showing that the instructions and practice given on differentiating between /ɪ/ and /e/ helped them considerably.

The analysis of the second contrasting pair of vowels, /e/-/ei/, showed a slight drop in the control group's scores – going from 44.4% in the pre-test to 38.8% in the post-test. There is no obvious explanation as to why this has happened. However, the experimental group showed they had benefited from the training and explanation given during class in order to differentiate between /e/ and /ei/. Their pre-test scores were 44.4% and went up to 66.6% in the post-test.

The third pair of vowels, /u/ and /ɔ/ proved somewhat easier to recognize for the control group. Without the training the experimental group received, the control group's post-test scores increased by 5%, going up from 55.5% in the pre-test to 61.1% in the post-test. Meanwhile, the experimental group achieved much higher results due to the training they were granted. Their recognition of the contrasting pair of vowels went up from 61.1% in the pre-test to 83.3% in the post-test. The fact that emphasis was made on the phoneme /ʊ/ during training might suggest that similar procedures could be useful whenever the lax/tense feature presents the contrast in minimal pairs.

The analysis of /iː/-/iə/ revealed similar results as the contrasting pair /u/ and /o/ for the control group. While there was an improvement, it is not significant enough to imply that the group is better able to identify the difference between the two vowels after 4 weeks. Their pre-tests scores were 33.3% and went up to only 38.8% in the post-test. The experimental group's scores however showed a 33.4% improvement. With their pre-test scores at only 38.8%, the instruction they were given noticeably helped them recognize the difference between the contrasting pairs, making their post-test scores jump to 72.2%.

The fifth and final pair of contrasting vowels /ɑː/-/ɜː/ is the only pair that showed both the control and experimental group were to a high extent able to recognize the difference between them before taking classes. Both groups' pre-test scores were 72.2%, and the control group increased this to 77.7% while the experimental group was able to raise their recognition of the vowels to 88.8% in the post-test.

4. Conclusions:

The discussed results above revealed that training adult learners to perceive new sounds the FL show that perception of new vowel sounds can be achieved not only theoretically but also practically. This should in turn encourage teachers and instructors to follow similar procedures in their teaching of new sounds at Zarqa University in particular. Finally, the researchers hope the present research may stimulate other researchers to start where this paper ends, and do extensive academic research work focused on phonology. If this paper manages to do so, it has, then, and only then, achieved its own objectives.

5. Limitation of the study

The study was carried out with minimal pairs in mind .i.e. single words. In other words, the distinction between the sounds in question was shown at the level of words. It would be useful to carry out similar analysis at the level of sentences and ask respondents to distinguish the sounds that are pronounced by native speakers. But this must be carried out after training students on the perception of sounds at the word level. It is also recommended at the end of this study to increase the number of courses at Zarqa University that incorporate pronunciation exercises, and not limit this to one course in Phonetics and another in Listening and Speaking.

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