

The Pronunciation Challenges of the English Phoneme /p/ by Saudi ESL Learner: A Comparative Case Study

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Introduction

Each language has its own sound features that differ from other languages. These features can be a combination of sound segments or individual sounds for each letter. People adopt these different sounds and language features since birth through exposure to language input. Then, they acquire linguistic competence and recognize the sound system to make meaningful and understandable sounds. Specifically, when students learn English as a second/foreign language, they have some challenges in case of similarities between first language L1 and second language L2 given that both languages have different phonemes or sounds naturally. In speaking in L2, they may use or substitute certain phonemes from L1. Such similarities or overlapping may create misunderstanding or produce meaningless sounds. To be more specific, some native Arab speakers may pronounce the words *park* and *pig* as *bark* and *big*. This mispronunciation might be an obstacle of communication and understanding in conversing with English native speakers. In my experience of learning and teaching English as a foreign language in Saudi Arabia, I have realized that many EFL Saudi learners pronounce the English bilabial /p/ as /b/ because it is not available in their mother tongue. Sometimes, they even do not realize how /p/ sound is made because it is not in their L1. Besides, they do not have an opportunity to hold a conversation with native English to realize how the sounds are made. Additionally, in International Phonetic Alphabet (IPA), the bilabial stops phonemes are classified into two types; voiceless and voiced. They are called minimal pairs if they are changed in two words, for instance, *pet* and *bet*. So, some the Saudi speakers are not aware of the difference between these two words in pronunciation and therefore, this may lead to different meanings.

Statement of the Problem

The absence of certain phonemes in some language systems may cause miscommunication or misunderstanding. Also it may reduce acquiring the second language if the two languages are different in the phonemic inventory. The number of EFL Saudi learners is growing since the English language became the global language. However, most of EFL classrooms in Saudi Arabia tend to focus more on teaching the four English language skills; reading, writing, listening and speaking. However, pronunciation seems to be neglected sometimes due to lack of specialty and most of the teachers are nonnative English speakers. Therefore, pronunciation remains a challenge for the Saudi learners who learn English. Mostly, students pick their Arabic teachers' accent. They also imitate their pronunciation whether it is

correct or not. This Arabic accent may be an obstacle in communication with native English speakers due to unavailability of the certain phonemes in L1 as well as the incorrect pronunciation of the nonnative teachers.

This study will investigate the problems of a Saudi student in pronouncing the English bilabial aspirated phoneme /p/ in three different positions in each word. The target phoneme occurs as initial, middle or final positions of the word. I will investigate whether the position of the phoneme in the words play a role in pronouncing it or not. The researcher will compare the Saudi ESL learner's utterance of the target phoneme with American native speaker of English. This case study will show the learner's pronunciation with empirical evidence. I will illustrate suggestions to improve learning how to pronounce the English phonemes /p/ for Saudi learners.

Literature Review

In doing this case study, the researcher has looked at a number of relevant studies and theories frame this research. To interpret the results of the study, I will use theories related to the study as well as some previous studies. These theories and studies serve as the theoretical framework of the present study. There are number of theories that will serve this study; The Critical Period Hypothesis, Language Transfer Theory and the Bilingual Production Model. The Critical Period Hypothesis CPH states that there is certain period of every child's life to acquire the language. Lenneberg 1967 illustrates that this period is essential factor in learning a second/foreign language. According to Lenneberg, CPH plays an important role in mastering certain language's skills. If the language's skills were not acquired in that certain time, mastering it later on might be difficult. Consequently, if ESL Saudi students learn English after that certain period, they will face difficulties mastering the language's skills, either the oral skills or written ones (John & Newport, 1989).

Language Transfer Theory LTT refers to the interference between the first language and the second one during the process of learning L2 (Gass and Selinker 1984). This interference includes positive or negative transfer. The positive transfer occurs when the learner transfers rules or knowledge from L1 to use or apply in L2. This type of transfer usually occurs when the two languages share some similarities. On the other hand, negative transfer happens when the learner transfers linguistic features from first language to the second one negatively. This type of transfer affects linguistic competence and performance in L2, especially when learner's L1 and L2 do not share any linguistic features. So, the learner will use some of the features of the L1 in L2 performance, and then the negative transfer will happen.

The Bilingual Production Model_BPM asserts that L1 and L2 are related in production. De Bot 1992 states that second language learners use their mother tongue as a model for the sounds when they speak in L2. He adds that they use their first language sounds in their L2, especially when there are similarities in the two sounds.

A number of researches have been done related to the problem of this study. These researches concentrate on the pronunciation of Saudi learners. Flege 1980 has mentioned that Saudi ESL learners face some difficulties in pronouncing the English phoneme /p/. His participants in the research were two groups. One group was a Saudi students and the other one was native English speakers from the U.S. Flege tries to investigate the difference between certain English phonemes such as (k,p,t) and (g,b,d). He also measures the length of the vowels that occur in the words with these certain phonemes in Saudi L2 pronunciations (Flege 1980).

Another study has been done by Ahmad (2011) on eight Saudi students pronunciations. His participants were university students who speak ESL in the Saudi Arabia. Ahmad has his participant's pronunciations recorded and analyzed by a native English speaker. The native English speaker confirms that these students pronounce the certain phonemes incorrectly. The English phonemes that Ahmad focuses on are /p,d,v, tʃ, ʒ, ɳ/. He concluded that the Saudi learners pronounce these phonemes incorrectly.

Altaha (1995) worked on the Saudi students who are at the second year of the University. He investigated some of these students' errors in pronunciation. In his study, Altaha tracked the problems of the same students for four years. He concluded his study that ESL Saudi learners had several pronunciation errors. These challenges included insertion and substitution. He noticed that most of his subjects had an insertion process when they pronounce any English clusters.

Buali (2010) examined the pronunciation of Saudi learners of English as a foreign language. He focuses on the perception and production of certain English phonemes such as /v/ and /p/. He found out that about 50 percent of his participants mispronounce these certain phonemes. He used certain words that include the phonemes /b/ and /p/ with different position each word. His subjects read sentences in English that has these words of the given sounds. The researcher found out that his participants have issues in recognizing the /p/ phoneme in the given words for perception task. Buali added that they pronounce the phoneme /p/ in informal speaking but not in careful speech. In other words, they mispronounce the phoneme when they do not pay much attention to their speech or pronunciation.

Methodology

For this case study, two participants were selected: one Saudi ESL student who has been studying English for almost a year so far and the other one is a native speaker of American English. Both of the participants will utter 15 words that contain the target English phoneme /p/. Five words contain syllable-initial of the target phoneme, five for middle and five for final syllable phoneme. Both of the participants utter the 15 words and their pronunciations are recorded. The pronunciation of both of the participants will be analyzed in speech analyzer software "Praat". This program will help to show the Voice Onset Time duration of the target phoneme. The measurement will be shown in milliseconds. The researcher will compare both

the participants' utterances of the target phoneme in using the duration's measurement of VOT of the target phoneme. In doing so, the research will be able to answer the following questions:

Research Questions

1. To what extent the absence of the English phoneme /p/ in Arabic language influence its pronunciation in English by ESL Saudi learner?
2. How does the position of /p/ in English words affect its pronunciation by Saudi learners?
3. Does the pronunciation of English phoneme /p/ affect communication with native speaker of English?
4. What are the pedagogical implications of /p/ pronunciation for English instructors of Saudi learners?

In this study, the researcher will answer the above research questions and confirm the other studies. In addition to that, the researcher will investigate the factors that may influence the way that the Saudi student pronounces the English bilabial phoneme /p/. In doing so, the researcher will provide suggestions for improving teaching pronunciation in EFL classrooms in Saudi Arabia.

Subject and Data Collection

This study is carried out on a volunteer Saudi ESL learner who enrolled in Intensive English for International IEI, at The University of Memphis on August 2013. For the present case study, Sultan Alqasem volunteers to be a participant. Sultan has been in the US for almost a year so far. He started at level one at IEI and now he is in level five. He has studied English at one of the high schools in Riyadh Saudi Arabia for three years. After he graduated from high school, he has never had any English language instruction from a native speaker of English before he arrived to the US. Now, his English is considered as upper-intermediate level. He is chosen for this study due to his proficiency level of English as upper-intermediate Saudi student and he is 20 years old. Arabic language is his mother tongue and he learns English as a second language. Most of his teachers at IEI are native English speakers. To compare Sultan's utterances with a native English speaker, Scot was selected as a 30 year-old native speaker who has a master degree from The University of Mississippi. Scot speaks only one language which is English and he has never travelled outside of the US.

Initial	Middle	Final
Plan	Apple	Map
Play	Oppose	Dip
Pain	Appeal	Flap
Pig	Lapping	Rape

Pray	Support	Camp
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For collecting the data of the study, Sultan will be given the list of words above to read. These words contain the English phoneme /p/ where the target phoneme occurs in three different positions. Five words in each position: word initial, word middle and word final. The total is fifteen English words that are used to elicit the pronunciation of the target phoneme /p/. The same list will be given to an American native speaker of English. Both of the participants will read every word three times and each utterance will be recorded in audio-file and analyzed using the speech analyzer program “Praat”. For this research, the word that shows average number in VOT measurement will be selected as evidence; that is one word from each position; initial syllable, middle and finale will be considered for analysis. By doing so, the researcher will compare between the native English speaker’s pronunciation and the Saudi ESL learner’s utterance. The native Speaker of English’s pronunciation is used as a model to compare with Sultan’s utterance.

Data Analysis

In analyzing the data using the speech analyzer program “Praat”, the researcher analyzes the recordings of Sultan and English native speaker for the same 15 words. But, only one word will be selected from each different position; initial, middle and final syllables. The one word should reflect the average in VOT measurement from each different syllable. The analysis of the participants’ pronunciations is done through “Praat” to show whether the participants pronounce /p/ or /b/ by measuring Voice-Onset-Time VOT for the target phoneme and by using the spectrogram, which shows the alternation of light and dark waves. The VOT refers to the gap between the release of the closure and the start of the voicing for the vowel. The researcher measures the VOT by looking at the waveforms for exact measurement and taking under consideration the parameters of the release duration. The duration of the aspiration is measured in millisecond (MS). The spectrogram below shows the VOT duration for both the participants pronouncing the same word.

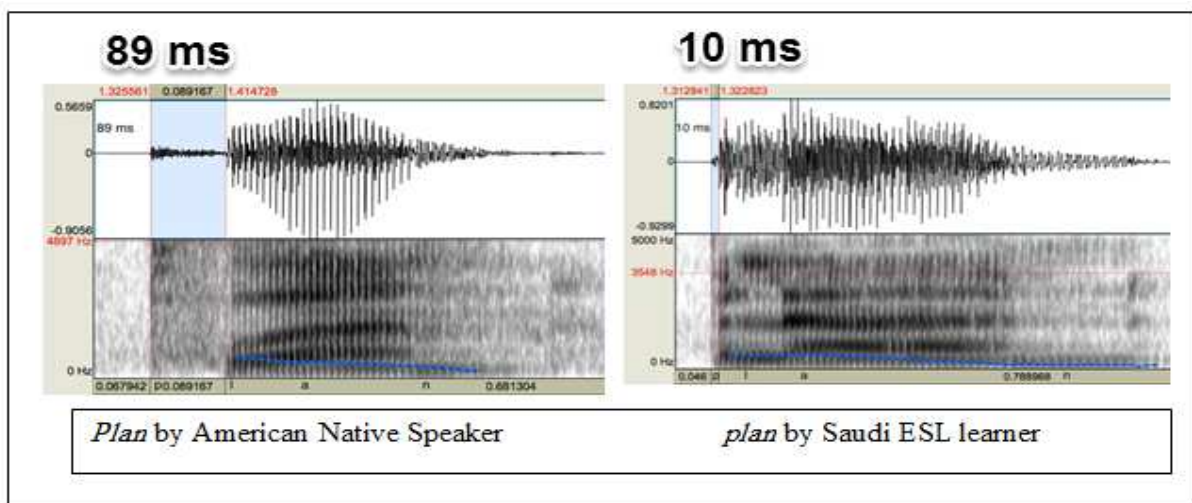


Figure 1. The word *plan* pronounced by a native speaker and Sultan

For the syllable initial phoneme /p/, five words were used *plan*, *pain*, *pig*, *play* and *pray*. Each participant utters each word three times. Each utterance was recorded and analyzed through the software. The word that has average number in VOT measurement was selected to be used as evidence for this study. Figure 1 above shows the spectrogram of the target phoneme /p/ as it occurs as word initial of the word *plan*. The spectrogram shows the duration of the aspirated /p/ between the two participants. For native speaker of English, the duration of VOT is 89 milliseconds, whereas Sultan's is 10 milliseconds. The native speaker's VOT duration was used as a model to compare it with the Saudi ESL duration of the VOT. So, if Sultan's VOT was close to the native speaker's, then Sultan utters the target phoneme correctly. As the above spectrogram shows, the difference in VOT duration between Sultan's and the native speaker's in pronouncing the aspirated /p/ phoneme. The VOT measurement indicates that Sultan has pronounced the target phoneme /p/ more likely as the phoneme /b/. In other words, he substitutes the phoneme /p/ by the phoneme /b/.

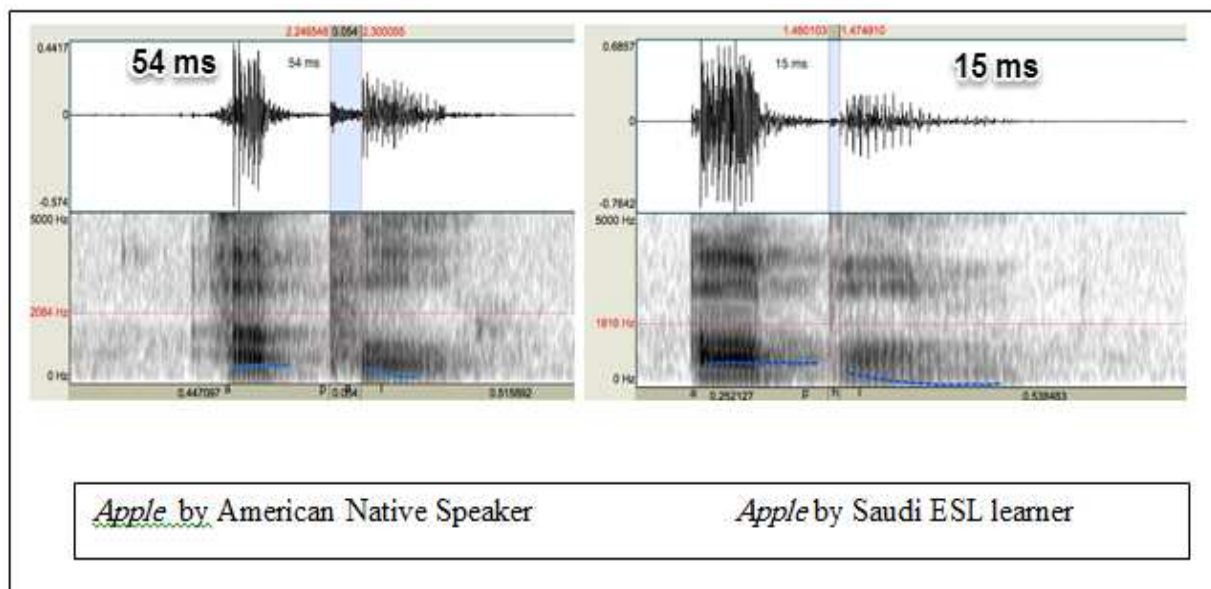


Figure 2. The word *apple* pronounced by a native speaker and Sultan

For the syllable middle of the target phoneme, five words were used *Apple*, *oppose*, *appeal*, *lapping* and *support*. The word *apple* was used among other words where the target phoneme occurs as middle of the word. The above figure 2 shows the VOT duration of the native speaker pronunciation of the word *apple* is 54 milliseconds whereas Sultan's is 15 milliseconds. It goes without saying that the VOT duration of the native speaker of English is longer than Sultan's VOT duration on the same word. This indicates that Sultan's utterance is closer to the phoneme /b/ than the aspirated /p/ phoneme. If Sultan's VOT duration in the above spectrogram were higher or closer to the native speaker's, then we would assume that he pronounces the target phoneme correctly. However, he utters the target phoneme as voiced.

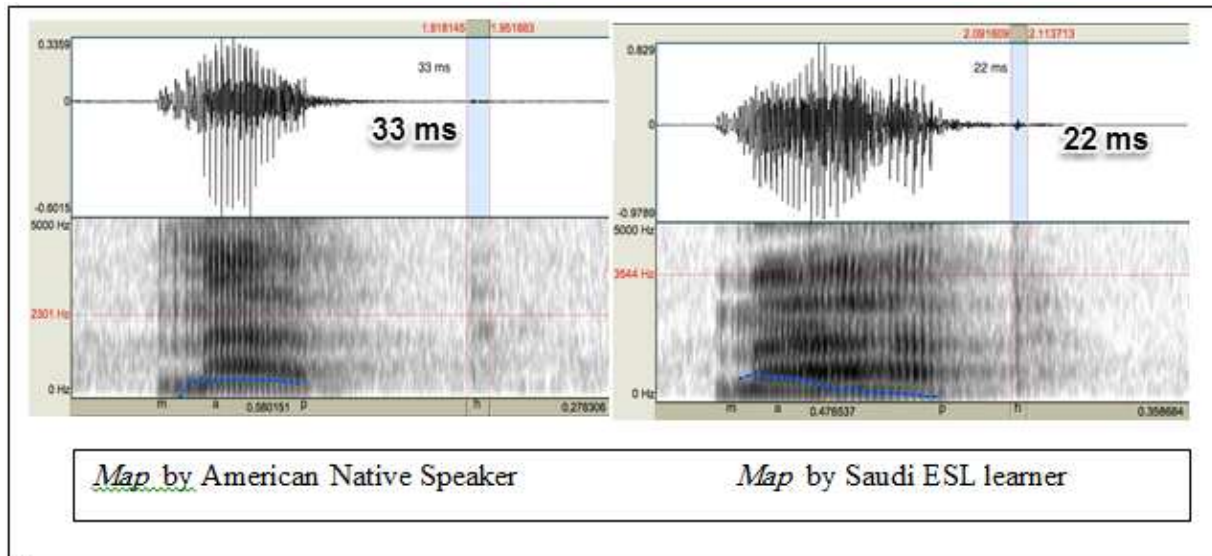


Figure 3. The word *map* pronounced by a native speaker and Sultan

For words with /p/ in the final position in the target language, five words were used: *Map*, *dip*, *flap*, *rape* and *camp*. The above figure 3 shows the spectrogram of the word *map* uttered by native speaker of American English and Sultan. In the word, the target phoneme occurs as word final. The above spectrogram displays the VOT duration of the native speaker of English as 33 milliseconds while Sultan's as 22 milliseconds. The VOT duration of both the participants is somehow close to each other. The difference is 10 milliseconds. This indicates that Sultan's pronunciation of the target phoneme when it occurs as final is almost correct.

Discussion

Voice-Onset-Time measurements of the target phoneme occur in three different positions of the word uttered by Saudi ESL learner shows different results. There are fifteen different words where the target phonemes occur in three different positions; initial, middle and final. Sultan uttered each word three times and his pronunciation was recorded. For syllable initial position, the word *plan* was selected as an example. The spectrogram displays the VOT measurement of the word for the native speaker's pronunciation and Sultan's. The word *apple* was used as word middle /p/ phoneme. In figure 1 and 2, the VOT measurements show the difference between the native speaker of English and Sultan in pronouncing the voiceless aspirated phoneme /p/. The VOT duration was measured in milliseconds for each of the participants. For the word initial *plan*, the native speaker shows 89 MS, while Sultan has 10 MS only. For word middle *apple*, the native speaker has 54 MS, whereas Sultan shows 15 MS in VOT measurement. The gap in the measurements between both of the participants proves that Sultan has mispronounced the target phoneme. More specifically, the spectrograms in figure 1 and 2, indicates that Sultan pronounces the aspirated voiceless /p/ as voicing. The difference in VOT duration between the native speaker of English and Sultan shows that Sultan utters the

voiced phoneme /b/ instead of the voiceless /p/ phoneme. Both word positions: initial and middle words show the same results. Therefore, the absence of the target phoneme in Sultan's first language has played a role in Sultan's pronunciation in L2 specifically, when the phoneme occurs as initial and middle of the word as shown in figure 1 and 2. Such mispronunciation would affect communication with native English speaker as "park" differs from "bark" in meaning. Moreover, this type of pronunciation error may happen due to approximation of the phoneme /p/ by the phoneme /b/. As De Bot (1992) asserts in his *Bilingual Production Model BPM* that L1 and L2 are related in production which means that second language learners use their mother tongue as a model for the sounds when they speak in L2. Since the aspirated phoneme /p/ is not available in Arabic language, so Sultan has approximated it to the closest sound to the phoneme /p/ which is /b/ phoneme. Sultan was introduced to the voiceless phoneme /p/ when he started to learn English. So, this phoneme was marked for him before he learned English. As Eckman (1977) states, in his *Markedness Differential Hypothesis*, that the marked sounds are more difficult to learn than the unmarked sounds. In other words, the sounds that are not in the learner's L1 would be marked and therefore, would be difficult to acquire. In this case, the aspirated English phoneme /p/ is considered to be marked sound for the Saudi Arabic speakers. The findings of this study support the results of the study that has been done by (Ahmad 2011) that the researcher also found that the English phoneme /p/ as one of the most challenging sounds for Saudi ESL speakers.

For the word final position, the word *map* was selected and analyzed because the target phoneme occurs in the final position of the word. Surprisingly, the VOT measurement between both of the participants shows some similarity. The spectrogram in figure 3 shows that the native speaker has 33 MS and Sultan has 22 MS in VOT duration of the final phoneme /p/ of the word *map*. The difference in VOT duration between both of the participants is 10 milliseconds. This indicates that the Saudi ESL speakers have few challenges in pronouncing the phoneme /p/ when it occurs as word final position. To put it another way, when the phoneme /p/ occurs as final phoneme in a word, it has less aspiration than initial or middle. When the aspirated phoneme /p/ occurs as word final, it has some *flexibility* in its pronunciation according to Byrd 1993. Byrd illustrates that the final word position has more flexibility in pronunciation as it is uttered by native speakers of English with many different correct utterances. Due to its final position, people pronounce it as aspirated, unaspirated, released and unreleased. As a result, pronouncing the final aspirated phoneme by Saudi ESL students will not affect the communication with English native speaker.

Conclusion and Pedagogical Implications

As shown in the data analysis and discussion, there is difference in between the native speaker and Sultan in pronouncing the target phoneme. The spectrogram shows the VOT duration between the two participants. Sultan uttered the English phoneme /p/ as more likely the phoneme /b/. If he uttered the target phoneme as aspirated, then he would show similarities in the

number of VOT measurement. However, he uttered the aspirated phoneme /p/ as unaspirated /b/. Consequently the absence of the target phoneme in Arabic language could affect the ESL Saudi student pronunciation and communication. In doing the present case study, the researcher tried to identify the pronunciation challenges for ESL Saudi students in pronouncing the English phoneme /p/. More importantly, being aware of the problems that the ESL teachers and learners, would help them to overcome the challenges. The teacher needs to pay more attention in introducing any English words that contain the phoneme /p/ and explain to the students how this sound is made. Moreover, ESL teachers should show the students how the sound is produced by pronouncing it, having the students listen to a native speaker uttering it and showing a video of how the sound is pronounced and which parts of the mouth is involved. For the students, they should know English phonemes that are not available in Arabic language and make extra efforts to pronounce them. Phonological knowledge and the skills of teaching that knowledge should be mastered by ESL teachers in Saudi Arabia in order to make the students aware of the correct pronunciation of the target language sounds. The teachers should introduce the English phonemes using the International Phonetic Alphabet IPA to the students. From the IPA chart, the students will know the classification of each sound, whether it is voice or voiceless, manner of articulation and part of articulation. The ESL teachers need to provide examples from every day-words that the students know to describe that certain sound. They should show to the students the parts of the mouth that is involved in pronouncing each sound and have them practice the sounds by engaging concerned articulatory body parts. Additionally, the students need to know the difference between place of articulation and manner of articulation in order to realize how every sound is made and then to reduce the students' challenges in pronouncing the English sounds.

In teaching speaking classrooms in Saudi Arabia, the teachers should implement activities where the students practice speaking or reading aloud a text under supervision. The teacher should correct the students if they mispronounce any word and have them practice many times. They also should have sort of situational dialogues where the students converse with each other. In doing so, the students will learn from each other as they might have different proficiency levels in speaking (Ahmad 2011). Additionally, teachers should use examples of minimal pairs to enable the students differentiate between similar sounds. The students also need to listen to English native speaker pronouncing certain words and try to imitate the sounds. They may need to pay more attention to English native speaker pronunciation in watching TV or movies in order to have idea how the sounds are made. And then, try to imitate the sounds to have better utterances. The students will be more intelligible and comprehensible when they pronounce the target language phonemes correctly, as well as avoid mispronouncing certain words that may affect communication with native English speakers.

Reference

- Ahmad, J. (2011). Pronunciation problems among Saudi learners: A case study at the preparatory year program, Najran University Saudi Arabia. *Language in India*, 11(7), 22-36.
- Altaha, F (1995). Pronunciation errors made by Saudi university students learning English: Analysis and remedy. *International Review of Applied Linguistics*, 109,110-123.
- Buali, I. (2010). The perception and production of /p/ in Saudi Gulf Arabic English: A variationist perspective. Concordia University, Montréal, Québec, Canada.
- Byrd, D. (1993). 54,000 American stops. *University of California, Los Angeles: Working Papers In Phonetics*, 8397-115.
- De Bot, K. (1992) A bilingual processing model: Levelt's 'Speaking' model adapted. *Applied Linguistics*, 13, 1-24.
- Eckman, F. R. (1977). Markedness and the contrastive analysis hypothesis. *Language Learning: A Journal of Research in Language Studies*, 27(2). 315–330.
- Flege, J. (1987). The production of 'new' and 'similar' phones in a foreign language: Evidence for the effect of equivalence classification. *Journal of Phonetics*, 15(1), 47-65
- Gass, S. M., & Selinker, L. (1983). Language Transfer in Language Learning. Issues in Second Language Research. Newbury House Publishers, Inc., Rowley MA 01969. 2014
- JOHNSON, JACQUELINE S. AND ELISSA L. NEWPORT. 1989. Critical period effect in second language learning: The influence of maturational state on the acquisition of English as a second language. *Cognitive Psychology* 21(1),60-99.