

**ENGLISH BILABIAL PLOSIVES AND THE ARAB EFL LEARNER: EXAMINING BALOCH'S
EXPOSITION AND ARRIVING AT NEW VISTAS**

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Abstract. English spelling is a major challenge for the Arab EFL learner. The stumbling blocks are two, at the least: One, difference in the writing systems; and Two, difference of the language family. Even so, errors of interference are a foregone conclusion in any foreign language learning context. According to Baloch (2013), the most common error of spelling amongst the undergraduate students at Saudi Arabian universities is the frequent mixing of the bilabial stops, /p/, /b/ where the former is voiceless and latter voiced. Among other factors, L1 interference in the form of the absence of /p/ in Arabic is cited as the causative factor. However, our pilot study reveals that such learners have already acquired /p/ but are yet in the process of learning the phonological conditioned variants of /p/, voicing nuances and other phonological phenomena. Thus, we conclude that the Arab EFL learners' p/b confusion is either phonologically driven, or an outcome of auditory factors. This paper verifies this hypothesis.

Keywords: SLA, L1, L2, Bilabial stops, Negative transfer, assimilation

1. INTRODUCTION

In all, language acquisition models have been stacked into four categories by Cruttenden (1979), viz., Innatist; Behaviorist; Cognitive; and Sociological.

Chomsky is the propounder of the theory of the innateness of language, an idea that gave birth to the revolutionary field of generative linguistics. This theory is based on the assumption of the presence of a Universal Grammar and its study is actually a study of the nature of human intellectual capacities. This is what facilitates in young children the acquisition of natural language with all its complex rules of syntax and morphology. None of these need be taught to them.

The Behaviorists like Skinner (1957) proposed the stimulus-response theory which projects that people learn through reward & punishments (or, operant conditioning) to explain language acquisition as a sub field of psychology but were not favoured by the linguists. To him, language acquisition is viewed as learnt behaviours.

The Cognitive model proposed by Piaget (1926) is again an area of language study that springs from psychology. To some extent, the cognitive model (that language is a factor of cognition but not the other way round) proved useful in unearthing the mystery of language acquisition as Piaget's empirical studies gave deep insights into child psychology. The mechanism of language acquisition, however, still remained unspecified.

Finally, the Sociological model proposes that the child acquires language because it needs to communicate, that language is not an independent system present in him but is dependent on his social development.

All these theories venture to explain L1 acquisition. The acquisition of second language is different as it is basically a derivative of L1 acquisition.

According to Saville-Troike (2012), language learning progresses in three stages: Initial, Intermediate, and Final. She further suggests that SLA can be approached from three different perspectives at least: linguistic, psychological or social. The factors involved in L2 acquisition, however, are more varied than those at play in case of L1.

A list of identifiable phenomena in L2 acquisition has been proposed by Towell and Ellis (2011) who sums up the key areas of SLA as the following:

- Learner errors
- Order and sequence of acquisition and 'interlanguage'
- Variability
- Input and interaction
- Language transfer
- Cognitive aspects of L2 learning
- Linguistic aspects of L2 learning
- Individual differences
- Learning strategies
- Instructed SLA

Hawkins (1994) talks of the following features as characteristic of L2 learning:

- L1 Transfer
- Development in stages
- An observable system of growth across learners
- Variability in learner language
- Native like proficiency rarely achieved

Thus, language learning is definitely developmental. L1 acquisition is strategy-free and may depend, among other things, on cognitive maturation of the child. One major language benchmark arrives at the age of six (some linguists put this at eight) by which age the child supposedly fully acquires the grammatical system of the target language. Lenneberg (1967) puts this critical age at before puberty.

For L2 acquisition, maturation is no longer an issue. Rather, Transfer is the basic process of language acquisition (Saville Troike, 2012). The logic behind this seems straightforward: as opposed to a child that has no particular grammatical system (Chomsky's FL being all there is), an L2 learner begins learning a language having internalized L1 system. Another given fact is that all L2 learners will exhibit errors, some of these will be errors of transference (from L1) and others will be universal irrespective of the rules of L1, an L2 learner 'transfers', so to say, the structures/constructs, rules, of their L1 to learn L2. This process of transfer can be either positive or negative. Positive transfer occurs when a transferred structure turns out to be 'correct' in L2. If, however, the transferred construct is unacceptable in L2, it is a negative transfer. This transfer exhibits itself at different levels of linguistic analysis such as vocabulary, pronunciation, grammar, etc.

In this paper I reconsider the idea of negative transfer (though this is not how she defines it) in case of Arabic learners of English. The problem is approached from a different perspective though starting off with Baloch's data, with an

examination of the role of L1 in a new light. Finally, some recommendations follow.

2. LITERATURE REVIEW

As opposed to twenty vowel and twenty four consonant phonemes in English, Modern Arabic has six vowels, and twenty eight consonant sounds. Further, consonant clusters in word initial and final places are not to be found in Arabic, and to compensate for this while learning English, the Arab EFL learner tends to insert a short vowel sound in between the consonant phonemes. This justifies some learners' mispronunciation of the words thanks, text, tests. Clearly, Arabic is a different sound system and hence, the challenge for the Arab EFL learner, especially when it comes to spelling and vocalizing words is all the more confounding.

In various studies across age groups and exposure to EFL, the findings have concurred that Arab learners of English had problems producing certain phonemes. Typically, these are /p/, /d/, /v/, /t/, /f/, /z/.

The role of the teacher in a non-native language learning scenario is well researched in a Philippine study. English is an official language in the Philippines. Even so, some startling facts were reported by Mbaleka (2014) so far as the English teachers are concerned. The study found that teachers' language weaknesses have devastating effects on the learners: they are not well trained for their job while some other have 'their own fossilized English errors' that tend to get transferred to the learners. This is also observed in the Saudi EFL scenario as most teachers lack any training in Linguistics and hence are unable to address the pronunciation problem as desired. Later in this study, we do mention the finding (through informal talks) that even the English teachers were ignorant of the process of 'voicing' of phonemes.

In a study of Sudanese English learners, Hassan (2014) found that among other phonemes, Sudanese learners of English too frequently replaced /p/ with /b/ but rarely the other way. He proposes that EFL teachers be trained in phonetics and phonology to identify the physical reasons for wrong pronunciation of the learners; p/b being mirror images, it is not surprising that in certain cultures, the learners tend to mix up the two. One saving grace is that writing practice can tackle this issue successfully over time.

Dich and Cohn (2013) approach spelling acquisition from a psychological perspective. Specifically, they consider how spelling knowledge and phonological representation

develop together. As we have proposed later in this study, memorizing certain problem spelling can go a long way in tackling this particular obstacle.

Baloch (2013) approaches acquisition of spelling from a linguistic perspective. She considers acquisition of the English letters 'b' and 'p' by Arabic -speaking students at the undergraduate level.

According to Eide (2012), English sound system is characterized by consonant voicing, point of articulation and manner of articulation. Perhaps, introducing the articulation diagram early can assist the learners in eventually remembering where to produce the problem phonemes.

Na'ama (2011) found that Yemeni college students had problems vocalizing consonant clusters with three or four segments. This is clearly a case of L1 interference as consonant clusters of more than two phonemes rarely exist in Arabic. By Arabic, here, we mean the Quranic version as the Holy Book is the only symbol of literacy among a majority of the Yemenis who are otherwise illiterate.

Arabic vowel length has been studied by Alotaibi and Hussain (2010) who used formant-based analysis and automatic speech recognition systems to compare the Arabic vowel sounds. These are limited in Arabic as opposed to English that has a wider variation. Moreover, diphthongs do not exist in Arabic.

3. THE SOUNDS OF ENGLISH LANGUAGE: VOICED VS. VOICELESS

In this paper, we are dealing specifically with the issue of the production of the English bilabial pair /p/, /b/. /m/ is the other English bilabial. Bilabials are sounds produced using both the lips (upper and lower), hence the name. For the Arab learner of English, the sound system is introduced at the upper primary level with EFL coming into the syllabus. What is notable here is that by this time, the learner's language flora is already well-entrenched in the mother tongue, Arabic, which does not have some of the sounds found in English. This is typical for any foreign language learning situation. The real challenge is when we as teachers try to train these learners in those very sounds that are absent in the MT. /p/ and /b/ are not the only such sounds, though we will be dealing with these in greater detail shortly. /v/ is yet another "missing" vowel.

What makes the /p/, /b/ pair rather typical is the challenge of 'voicing'. The fundamental principle of voicing rests on the passage of air used to produce the sound, i.e., the manner of articulation

as opposed to the place of articulation, such as dental, palatal etc.

Voiced consonants are those to produce which the vocal cords are pulled close together, creating a narrow passage for the air through the lungs to pass. As the air is pushed, it rushes through the cords, causing them to vibrate.

Voiceless consonants are those sounds which are produced by allowing the air stream to pass through the vocal cords from the lungs. For this, the cords are spread apart creating a clear passage. Thus, there is no vibration of the vocal cords.

To teach the learners the difference, teachers of English often ask them to feel the vibration by placing the palm lightly on the throat or their fingers softly in their ears while producing these sounds. The distinction can be felt physically.

4. ANALYSIS OF DATA AND DISCUSSION

Since the present paper considers the acquisition of bilabial stops, it is imperative to compare Arabic (L1) and English (L2). In English, bilabial plosives are two distinct phonemes generally represented in writing by two different letters 'b' and 'p'. These two plosive sounds show almost all distinctive features, e.g., sonority, place, manner. The only distinctive feature that takes them apart is voicing: /b/ is voiced whereas /p/ is voiceless, as the following minimal pairs show.

- (1) a. pull vs. bull
b. robe vs. rope

In Arabic, on the other hand, there is only one phoneme – the voiced bilabial stop.

- (2) a. badr /badr/ vs. * /padr/

This much is in agreement with Baloch's findings. However, the voiceless counterpart (or devoiced, to be more accurate) does appear as an allophone in certain contexts. In fact, cross-linguistically, the phonological context involves interaction among segments. For instance, it is well-known that the vowel phoneme /i:/ in (3a) is not as long as the same segment in (3b)

- (3) a. seek /si:k/
b. seed /siid

Another instance of phonological interaction among segments, known as assimilation in phonological literature, is the voicing of a voiceless sound. Consider the following example

¹(4b) and (4c) raise an interesting issue regarding coda consonant clusters. In a Yemeni dialect, the author's dialect, the last consonant is deleted. In some other dialects, as in Iraqi Arabic, a vowel is epenthesized. So 'qalb' becomes /qalib'.

from Egyptian Arabic where /s/ becomes /z/, affected by the following voiced /b/:

- (4) a. /jasbaH/ → /yazbaH/ he swims

Another phonological phenomenon is that of devoicing when a voiced sound occurs in the context of voiceless sounds, or word finally. Consider the following words:

- (5) a. ban /bæn/ appeared
b. sabb /sabb/ saturday
c. qalb /qalb/ heart

When we articulate these words, we realize that /b/ is voiced most in (5a), to a lesser degree in (5b), but devoiced the least in (5c). This is because in (5a) /b/ is enclosed by voiced sounds; in (5b) it is followed by a voiceless sound; and it is word finally in (5c). We wish to point out that phonetically,

- i. There is a variation in the quality of voicing; and
ii. the variation here seems to be related to the **release period** of the plosive after the closure: It is longer in (5a) than in (5b); in (5c) on the other hand, the plosive is not released.¹

Acoustic phonetics seems to support this view: In a spectrogram reproduced using the sound analysis PRAAT² programme, we get a blank, i.e., there appear no wave forms corresponding to the production of stops points in this direction.

In her study, Baloch looks at 44 misspelt words 13 of which are given to project the students' confusion between /p/ & /b/, collected from student's exam papers. She observes that students mix 'b' and 'p' in spelling; they replace 'b' with 'p' and vice versa and based on the students' mistakes (reproduced as Appendix 01), Baloch (pp. 229-230) reports the following observations (except (e)):

- a. In polysyllabic words, if a word starts with 'p', followed by a consonant, mostly 'r', it is replaced by 'b', as in problem.
b. If a polysyllabic word begins with 'p', followed by a vowel, 'p' is also replaced by 'b', as in punishing.
c. If 'p' occurs after 'm', it is substituted with 'b' in words like impediment, companion.
d. If 'b' occurs after 'm' in polysyllabic words, it is substituted by 'p', as in ambitious and remember.

²PRAAT means 'talk' in Dutch and is a free computer software for speech analysis developed by Paul Boersma and David Weenink of the University of Amsterdam.

e. Monosyllabic words beginning with 'p' are (mis)spelled with 'b', as in play.

We analyse each of these cases later in this paper. But first, talking of Baloch (2013), the main proposal offered by Baloch is that "the students do not find 'p' in their mother tongue and [so] they try to substitute it with the nearest letter in pronunciation in their mother tongue" (Baloch 2013, 230). That is, it is a problem of negative transfer or L1 interference. She also draws on other non-linguistic factors that may be involved in the process, such as 'the use of technology', and 'absence of essay-writing questions in exams'. We propose that Baloch is only partially right in her premise. The approach we adopt is linguistic which reiterates that language is underlies a set of rules/principles. Further, the focus in SLA is on linguistic competence rather than performance.

At the outset, we propose two assumptions.

One, that L2 acquisition and L1 acquisition progress along the same path (with a few differences). Thus, both are developmental. Assuming this, learning English bilabial stops should pass through three phases:

Phase 1: Acquiring the voiced stop /b/, represented by 'b'. Since L1 (Arabic) has the phoneme /b/ as a segment in its inventory, students learning English need not acquire the sound from a new: A case of positive transfer. Therefore, /b/ is part of the initial state of students' acquisition of English.

Phase 2: This is an intermediate acquisition state when students learn the voiceless sound /p/, represented by the letter 'p'. /p/ must be acquired because it does not exist as a phoneme in L1. However, we must remind ourselves that acquisition is itself a **process** and hence, may take time.

Phase 3: This is the final stage when the learner acquires the allophones of /p/.

Second assumption is, given that L2 is developmental, we should talk about different states of learner language or interlanguage³. Now this implies that in our explanation we do not talk about 'mistakes' in the language of L2 learners; rather, we talk about explainable facts, driven by principles of the Faculty of Language FL (Chomsky 2005).

Now let us look at the different observations above. Case 1 relates to substituting /b/⁴ for /p/ in

polysyllabic words, particularly if the bilabial stop is followed by /r/, as in 'problem' which is spelled 'brobblem', a common error pattern for Arabic-speaking learners of English (at least in their initial stages of learning the language).

The explanation that readily presents itself (going by Baloch's theory) is that learners are still in their first intermediate state of learning the language, and therefore have not acquired /p/. With Arabic as L1, the learner will have only /b/ in their initial state. If we explain this by saying that aspiration of the voiceless stop plays a role here as learners may confuse aspiration for voicing, then how do we justify occurrence of the same phenomenon in polysyllabic words where the /p/ is not aspirated? The examples that crop up are 'example' and 'protect', where again, /p/ is replaced by /b/.

The only way we can answer this is by bringing in the concept of voicing since this is the only feature that distinguishes the two stops. Remember that phonological context causes interaction among sounds. In 'problem', /p/ which is unvoiced is followed by /r/ which is voiced. So, a straightforward analysis for this fact is that in their interlanguage, students generalized the following rule of assimilation in terms of voicing.

/p/ → [+voice] / - [+voice]

Occurrence of this type of assimilation is frequently seen cross-linguistically.

The same analysis extends smoothly to Case (b). That is, when /p/ which is voiceless is followed by a vowel (which is voiced), it gets devoiced.

Fact (c) above also does not seem odd. In fact, the same analysis holds. What is different here is that the context of voicing is maximized, so to say. Here /p/ occurs in between two voiced sounds, namely /m/ and /e/ (assuming that these L2 learners have not acquired syllabification).

Now let us consider the observations regarding monosyllabic words. There are two cases here, one observed by Baloch and one ignored. Let us begin with the fact ignored, namely, substituting /b/ for /p/ word initially, e.g., 'blay' and 'boor' in place of 'play' and 'poor' respectively. What is really puzzling here is that a word like 'play' is very common; that is, its frequency in the linguistic input is quite high. In fact, we could conjecture that 'play' is at least one of the most common words containing /p/ that a learner is exposed to.

³Interlanguage' in L2 acquisition correlates to child grammar in L1 acquisition.

⁴We use the sound symbols here rather than spelling notations because we believe that acquisition of letters is phonologically driven. This scenario is especially true for Arabic as almost all

letters are pronounced. An exception in this connection is the letter standing for the sound /l/ in a specific phonological context. Thus, statements about acquisition of stops apply to acquisition of their corresponding letters.

These students must be in their first intermediate state. Anyhow, it seems that aspiration plays a role here. We think students misunderstand the process of aspiration, and mistake it for voicing⁵. After all, aspiration does not exist in their L1 and must take time to be acquired. At the same time, it may also indicate that students have started acquiring aspiration. Baloch (2013) notes that in monosyllabic words students invariably replace /b/ with /p/. This is puzzling. Why should students use /p/ when they already have /b/ in their competence. A conjecture here is that these learners might have developed a rule of devoicing /b/ word initially and word finally. Again, we think that these students are in their first intermediate state (Baloch is silent about their specific undergraduate level). Further investigation is required.

Case (d) is interesting. Here students use the voiceless /p/ in place of /b/, e.g., 'ambitious' is spelled 'ampitious', contrary to expectation. If transfer is the basic process, why would an L2 learner avoid using what they have already acquired from their L1 and 'incorrectly' use L2 items. Before seeking an analysis, it should be noted that words like these indicate that students have actually acquired /p/ of L2. So, a statement to the effect that learners' problems amount to L1 interference, as suggested by Baloch is questioned. Now, on close inspection, this datum supports our analysis provided above: interaction among sounds in terms of voicing (i.e., assimilation) is the key factor. Students here have acquired the following rule:

/b/ → [-voice] / -[-voice]

This rule is again natural and observed cross-linguistically.

Up to now, the picture seems to be so neat. However, it is unfortunately not so. There are puzzling cases. Baloch notes that 'remember' is misspelled with a 'p'. This definitely goes against our assimilation-based approach. We conjecture that the reason behind this confusion is auditory rather than phonological. The length of the word here might play a role. Notice that /b/ is in the last syllable of a three-syllable word. Further, the last syllable is not stressed in English as it contains a schwa. These two factors might affect the auditory perception of the voicing of 'b'.

5. CONCLUSION

To conclude, we have looked at acquisition of the English bilabial stops by Arabic-speaking undergraduate students, based on Baloch's (2013) data. We have argued that the linguistic

explanation cannot boil down to a simple case of L1 interference: Because Arabic does not have /p/ in its inventory, learners mix the two sounds/letters. This paper amply shows that /p/ has already been acquired by the students. The alternative explanation offered is that students are in the process of learning voicing nuances and other phonological phenomena. In some cases, the error is basically phonological, but at times it is auditory.

Informal interactions, in fact, revealed that teachers and learners were both ignorant of the role of air passage in the production of the voiced sounds. For instance, the information that /p/ is produced by the lips while /b/ involves the vocal chords came as a new bit to them. However, consistent production drill did succeed in bringing them close to the production of the voiced phoneme. Introducing the Place of Articulation chart to the learners early on in their initiation to the language looks imperative in the given scenario.

6. RECOMMENDATIONS

Here are some suggestions that may help change the dynamics of the Saudi Arabian EFL classroom:

1. Pedagogically, we would recommend that teachers focus more on distinctive features of sounds and allophones of phonemes caused by phonological processes.
2. As soon as the learners are introduced to the sounds of English, daily drills in minimal pairs (especially for the problem phonemes) must be taken up.
3. Teachers of EFL must undergo some training in the phonology of English to better help their learners in acquiring the sounds of the language. Refer to this example: the /t/ sound in **tap**, **sweet**, and **star**, will be represented by the same /t/, but in vocalizing, in each case this /t/ sound will be different.
4. Starting with minimal pairs, spelling lists of the problem pairs, such as, pad vs bad, should be assigned to be memorized as such to initiate the process of voicing difference.
5. Pronunciation of the English language sounds should be initiated at the early years of EFL learning.
6. Teachers should be trained in mastering English segmentals to be better able to impart the same to the learners.

⁵ An interesting story about teachers of English in Yemen, which may also be the case in other Arab countries, is that

they tell students that aspirated /p/ is 'heavy'. No one knows what 'heavy' means or how weight can be measured!

7. English sounds that do not exist in the Arabic sound system should be taught as language drills early to the EFL learners.
8. Consonant cluster problems should be rectified as far as possible by exclusive phonic drills at the elementary learning stage.
9. Contrary to assuming that the intermediate or advanced learner of EFL has mastered the problematic English phonemes, phonetics should be retained as a learning component as long as they are learning English.

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Appendix 01

No.	Words	Spelled by student
1	Protagonist	brotagonist
2	Problem	broblem
3	Punishing	bunishing
4	Beautiful	Peautiful

5	People	Beoble
6	Exam p les	Examb l es
7	Champion	Chambion
8	Ambitious	Ampitious
9	Remember	Rememper
10	Play	Blay
11	Poor	Boor
12	Book	Pook
13	By	Py