



Pronunciation problems of high school EFL students: An error analysis approach with pedagogical implication

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Abstract

This paper explores the phonological difficulties that native speakers of Persian struggle with while learning Modern Standard English as a foreign language. The qualitative study reported in this article focused on describing both segmental and supra-segmental areas of error in an attempt to track L1 transfer. The participants of this study were 30 male native speakers of Persian. They were students of night school in Iran. A list of discrete lexical items as well as a reading text was used for eliciting data. Findings revealed that the participants' first language (Persian) had a considerable effect on their production of speech sounds of English. In addition, there were some example in which language transfer was clear. However, many examples showed that the participants made some pronunciation error that the contrastive analysis hypothesis (CAH) did not predict. Therefore other accounts should be provided for these errors. These may include overgeneralization, defective teaching, and spelling pronunciation. The findings of this study may allow teachers to obtain an awareness of the phonetic differences between the learners own pronunciation and English. This awareness of student's difficulties may help teachers to detect Persian EFL learners' phonological problems and try to tackle these problems.

Keywords: phonological problem, constructive analysis, L1 transfer, persian EFL learners

1. Introduction

The term phonology refers to the establishment and description of the distinctive sound units of a language (phonemes) by means of distinctive feature As Burgess and Spencer (2000) [2] maintain, the phonology of a target language works, including segmental and suprasegmental feature. In view of the fact that sound have a vital role in communication, foreign language teachers must devote proper weight to teaching pronunciation in their classes because teaching pronunciation in as important element of foreign language. However, this fact is very much neglected by language teachers (Hismanoglu, 2009, p.1697) [7]. Pronunciation as a fundamental element of learning oral skills in a second language and the quantity of time and effort devoted to it seems to be largely dependent on the language instructor (Hismanoglu & Hismanoglu, 2010) [8]. Many researchers have found that there are many English teachers who are not proficient, lack confidence, skill and knowledge in pronunciation teaching (Derwing & Munro, 2005, p.389) [4]. Pronunciation errors may be attributed to many factors, such as defective understanding of semantics, syntax, morphology, phonology, co-articulatory effects and letter – to- sound rules (Mengetal, 2007, p.65). Regarding the role of native language in pronunciation, Celce Murcia (1991) [3] suggests that the learner's L1 is effective in the acquisition of L1 transfer is more prevalent in the area of pronunciation than in grammar and lexicon. She goes on to know something about the sound system of the language(s) that their learners speak in order to anticipate problem and understand the source of error (cited in Nazary, 2008:143) [10].

In this article, we focus on phonology. Our proposed approach is grounded in the theory of language transfer and involves phonological comparisons between L1 and L2 across the phonetic levels.

Difficulties arise from two major sources: (1) actual production of English sounds, such as by means of the correct articulatory processes, and (2) interrelationship between the written forms of words and their equivalents in spoken English learners are introduced to English orthography. There is, of course a general regular phonemic – graphic correspondence with noticeable productivity in English orthography which will soon be picked up by student. But due to misapplied analogical formulations, learners show a strong tendency to extend the use of a pattern beyond the permissible limits (Yarmohammadi, 2005, p.60) [14]. In this way, error in pronunciation may be either error in how a sound is pronounced or errors resulting from misguided interpretation of the pronunciation of written words. However a very important variable to be taken into account with this respect is the learners' first language. Teachers must be able to analyze utterances and break them up into their constituents and they must also be acquainted with the structural similarities and differences between the native language and the foreign language and analyze error in pronunciation. This is a prerequisite for proper error correction. Teachers also need this kind of information to be able to plan their teaching to make it possible for learners to avoid the most obvious mispronunciations.

Mischler (2008) [8] believes that phonology has been studied less than other areas of language. although some aspects of the contrastive phonology and phonetics of English and Persian have already been considered in a number of publications (e.g. in Yarmohammadi, 1995 [13]; Fotovatnia, 2006), there are few studies investigating both segmental and supra segmental problems of Iranian EFL learners together. Most of English and Persian focus on linguistic aspects rather than pedagogical ones. Another shortcoming of these studies is that mostly they predict some problems for native speakers of Persian while they do not put their claims into investigation. In addition, most of the

studies have not considered the level of student, Whereas Hayati (1997) ^[6] maintains that in attempting to remove student phonological problems whatever the procedure is, the student level is to be taken into account

2. Review of related literature

Many studies compared English with other languages and derived some of the mismatches between English and those language in terms of phonological disparities.

Yarmohammadi, (1969) ^[12] investigated consonantal differences between English and Persian speakers and to classifies the Persian learners errors in pronunciation of English into four groups of phonemic errors and distributional errors.

Broadly speaking, errors in pronunciation can be either allophonic or phonological errors in which the misspelled word does not sound like the target word because the whole word, a consonant, a vowel, a syllable, a prefix, a suffix, a grapheme or a grapheme cluster was added, or reversed with another (AL jarf, 2008:3) ^[1].When, for instance, the word pit is perceived as bit by the listener, the error is phonological ;when the word fool is pronounced with the clear /I/ instead of the dark, the work can be perceived correctly and the error is allophonic.

In another study, Hayati (1997) ^[6] compared the stress pattern in English with Persian. He found that Persian words pronounced in isolation have the strongest stress on one syllable; the rest remain lees stressed or unstressed. Additionally, he maintains that in Persian, stress is mainly on the final syllable of simple word. As far as the nominal compound are concerned, the stress rule is different in both languages. In Persian, it occurs finally but in English it falls on the first member of the compound.

Fotovatina (2006) investigated the process of speech segmentation of native speakers of Farsi. One hundred students located the target phonemes of English through a phoneme localization task.

The reaction times and localization of phonemes were studied. She found that position (initial/medial) affected the speech segmentation. In other words, the results obtained show that contrary to the dependence of English speakers on primary stress, Farsi speakers rely on primary stress, Farsi speakers rely on position. That is, Farsi speakers use initial phonemes to break down the speech into meaningful units in English. Unlike position, stress did not seem to have a significant effect on speech segmentation by native speakers of Farsi.

3. Research questions

1. What are high school students' pronunciation problems in production consonants and vowels?
2. What problems do Iranian high school students face in dealing with stress patterns and intonation?

3. What is the role of students L1 in these problematic areas?

4. Method

4.1 Participants

The participants of this study were 30 high school boys aged between 18and 19 years old who were selected randomly from among 87 participants.

They were all Persian native speakers and had learned English chiefly in formal EFL classroom context all participants had a common English courses for at least six years in school. As for their language proficiency all participants were intermediate based on the results of Nelson proficiency test. The participants were informed about the purpose of the study at the beginning

4.2 Instrument

A list of 70 discrete lexical items and a reading passage were used in this study.

The words in the lexical list and reading passage were selected in a way to ensure that they cover the areas most probable for errors to occur based on the literature. Also, one of the criteria for selection was that all main sounds and stress and intonation patterns be included in the instruments. Furthermore, care was taken to include the words which students had studied in high school and junior high school. The reading passage was an intermediate text selected for participants to read it loud. The instruments were approved by two experts in Linguistics and TEFL. In addition two raters coded and analyzed the data. Inter and intra rater reliability proved to be 0.94 and 0.96 respectively.

4.3 Procedure

All participants were required to read the passage and list of vocabulary while their voices were recorded. Their recorded punctuation was transcribed. Then, these transcripts were analyzed and the pronunciation problems found in the performance of participants were diagnosed. Interpreting and utterance calls for the familiarity of the listener with these units of sound. The analysis was conducted in the light of previous research on constructive phonological analysis of Persian and English. We classified the errors based on Yarmohammadi (1969) ^[12] and Yarmohammadi (2005) ^[13] framework.

5. Results and discussion

The recorded material were transcribed and analyzed carefully in order to determine major pronunciation errors committed by students. Table 1 lists major phonological problems on students in pronunciation. The interpretation of results and possible reasons underlying errors are also discussed.

Table 1

Target Word or Sentence	Incorrect rendering	Problem area
"watch"	[va:ch]	Consonant
"When"	[ven]	Consonant
"Was"	[va:z]	Consonant
"Were"	[ver]	Consonant
"Waste"	[veist]	Consonant
"bring"	[bring]	Consonant
"Shooting"	[shu:ting]	Consonant
"Doing"	[du:ing]	Consonant
"full"	[fu:l]	Consonant

"Several"	[severa:l]	Consonant
"really"	[riəli]	Consonant
"Several"	[severa:l]	Consonant
"Later"	[Leɪtr]	Consonant
"Trying"	[teraiɪŋ]	Consonant cluster
"train"	[tereɪn]	Consonant cluster
"quite"	[Kuwait]	Consonant cluster
"Interesting"	[in'teresting]	Consonant/ consonant cluster/ word stress
"heavens"	[hev'enz]	Consonant/ word stress
"Officer"	[a:fɪstər]	Consonant/ vowel
"He did quite well in everything except shooting"	"He 'did 'quite well in everything 'except shooting"	Intonation
"A good soldier"	"A 'good soldier"	Phrasal Stress/ Intonation
"Young soldiers"	"'Young soldiers"	Phrasal Stress/ Intonation
"Silly man"	"'Silly man"	Phrasal Stress/ Intonation
"Quite well"	"'Quite well"	Phrasal Stress/ Intonation
"Quite hopeless"	"'Quite hopeless"	Phrasal Stress/ Intonation
"look up"	"'Look up"	Phrasal Stress/ Intonation
"Six days"	"'s'ix days"	Phrasal Stress/ Intonation
"I don't like it"	"I 'don't like it"	Sentence Stress/ Intonation
"Mehdi is clever, isn't he?"	"Mehdi is clever, isn't 'he?"	Sentence Stress/ Intonation
"Said"	[seɪd]	vowel
"juice"	[joɪs]	Vowel
"done"	[da:n]	Vowel
"mechanism"	[mekə:nɪzəm]	Vowel
"enough"	[ɪnəf]	Vowel
"taught"	[tɔ:t]	Vowel
"heard"	[hɪəd]	Vowel
"theirs"	[ðeɪrz]	Vowel
"bird"	[bɜ:d]	Vowel/consonant
"kitchen"	[kɪt ^ɪ en]	Vowel/consonant
"soldier"	[sɒldʒər]	Vowel/consonant
"Wall"	[vɑ:l]	Vowel/consonant
"well"	[vel]	Vowel/consonant
"atomic"	[ˈatomɪk]	Vowel/consonant
"except"	[ˈɛksɛpt]	Word Stress
"behind"	[ˈbihaɪnd]	Word Stress
"indirect"	[ɪndaɪ'rekt]	Word Stress

Problems with consonants

English /w/ is substituted by /v/ syllable initially. For example: "When" is rendered as [ven] instead of [wen]. This is considered to be a distributional error and is attributed to the fact that English /w/ occurs in all sentence positions whereas Persian /w/ does not occur word initially.

English /ŋ/ is substituted by Persian /ŋg/ in word final positions. In the list of discrete lexical items, this problem is seen where "bring" is rendered as [brɪŋg]. The error also occurred in reading the text where: "shooting" was rendered as [ʃu:tɪŋg] instead of [ʃu:tɪŋ]. This is obviously a kind of phoneme error and the participants transferred the Persian phonemic habit into English thereby using the wrong phoneme /ŋg/ for the English consonant /ŋ/. This error may also have something to do with the English orthography. The written form of the consonant /ŋ/ always includes the two letters "n" and "g", therefore the participants are somehow inclined to try to pronounce both of them.

English velarized /l/ is interpreted as non-velarized, i.e., dark /l/ is pronounced as clear /l/. The word "full" was rendered as [fu:l] instead of [fu:ɫ]. This error was prevalent in the reading text too, where: "several" was rendered as [severa:l] instead of [sevɾɫ]. This error may be labeled as an allophonic error due to the negative transfer of the Persian language. The participants

used the incorrect allophone /l/ instead of the English allophone /ɫ/ because /ɫ/ is absent in Persian language sound system.

English retroflex in interpreted as flap /r/ in word initial positions. This error was seen in the reading text where "really" was rendered as [riəli]. This again may be labeled as an allophonic error due to the negative transfer from the Persian language, i.e., the participants used the incorrect allophone /~r/ which is absent in Persian language sound system.

English syllabic /ŋ/ was substituted by Persian /-en/, that is, vowel /e/ was inserted before /ŋ/. In the list of discrete lexical items, this error was spotted where "kitchen" was pronounced

[kɪt^ɪ ŋ]. It goes without saying that this error is an allophonic one due to the influence of Persian phonology due to the nonexistence of syllabic consonant, /ŋ/.

English syllabic /ɾ/ is substituted by Persian /r/ i.e. "bird" is rendered as [bɜ:d] instead of [bɾd]. As it was mentioned is the case of syllabic /ŋ/ in the previous section, this error is an allophonic one due to the influence of Persian phonology where the nonexistence of syllabic consonant, /ɾ/, in Persian sound system leads the participants to replace it with its non-syllabic counterpart and insert a vowel before it. The inserted vowel that is /e/ in these cases like the previous case may be due to the influence of English orthography.

Problems with consonant clusters

The participants inclined to interpret the initial CC-cluster as CVC. The reason for such a tendency becomes clear when one considers the impossibility of such consonantal combination in Persian phonological system where a vowel is inserted between two initial consonants due to this negative transfer. This problem was spotted with regard to the following two cases:

Persian /kuw/ is substituted for English /kw/. In the reading text, for example, the word "quite" is rendered as [Kuwait] instead of the correct form [kwait].

In the list of isolated lexical items, the participants pronounced of the accepted [trein] and "interesting" was rendered as [interesting] instead of [interestin], i.e, the vowel /e/ was inserted between the two consonants in "tr" cluster. In the reading text, too, the participants pronounced the word "trying" wrongly with respect to the initial consonant cluster "tr" and rendered it as [teraiŋ]. It may seem plausible to argue that the substitution of Persian /C-e-C/ for English /CC/ in the case of the word "train" is due to the fact that Persian has borrowed this word from English and modified its pronunciation to [teran] and the participants were overgeneralizing this knowledge to the English word. On the other hand, one may be inclined to say that the participants pronounced the word incorrectly in isolation because they were too much concerned with their pronunciation. But the picture becomes even more complicated when it was spotted that "practicing" in the reading text was rendered correctly as [præktisiŋ].

Problems with vowels

The participants erroneously used the /e/ sound instead of English /ɛ/. For example, "bird" was rendered as [berd] instead of [berd] and "kitchen" was pronounced [kits₁ hen] instead of

[kits₁ hen]. Of course as we mentioned in the part dealing with consonantal problems, these may be conceived as problems with the English syllabic /t/ and /ŋ/ respectively.

In addition, /e/ was substituted with some other vowels. "Said" for example was rendered as [seid]. This is most probably due to the misapplied analogy the participants had formed about the English phonemic-graphemic correspondence. Actually the overgeneralizing the use of a pattern they had observed in many English words such as "raid, explain, train, etc." in which the two letters "ai" stands for the sound /ei/ in these two words.

English /ə/ was substituted by different vowels depending on the spelling pattern. For example: "atomic" was rendered as [atomic] instead of [əta:mik] in which /ə/ is substituted by /a/. Also, "mechanism" was rendered as [mekanizəm] for [mekənizəm] which may be accounted for by the fact that the borrowing of the word "مکانیزم" into Persian prompts the learner to follow the modified Persian pronunciation thereby using /a:/ instead of the first /ə/ and dropping the second one.

The participants tended to use the vowel /a:/ instead of /o:/. In reading the text, for example, "wall" was pronounced [va:l] instead of [wɔ:ξ]. Other manifestations of this error were observed in the reading text as "taught" was rendered as [ta:t] instead of [to:t]. This again is a phonemic error and we can say that the Persian phoneme /a:/ was transferred to these two English words to substitute English /o:/.

The participants substituted Persian /a/ which is a low back unrounded vowel with the English /ʌ/ which is low central unrounded. This caused the participants to render "done" as

[da:n] instead of [dʌn] and "enough" as [ina:f] instead of [inʌf]. This may be regarded as a phonetic error due to the transfer of Persian language because the participants use the incorrect phone when producing English /ʌ/.

The participants used the vowel /oi/ instead of /u:/ in pronouncing "juice" as [jois]. However this error was not observed in other cases where the vowel /u:/ was present and might be the result of defective teaching or a false concept formed by the participants about this specific lexical item.

The participants were inclined to replace the English complex vowel /əʊ/ with the simple vowel /o/. in the reading text this error was spotted as "soldier" was pronounced as /soldʒer/ instead of /seuldʒer/. Spelling pronunciation may be held accountable in this case since in the word "soldier", one letter "o" stands for a diphthong /əʊ/ thereby somehow for misleading the participants to use the simple vowel /o/ to represent the letter.

Problems with stress

Word Stress

It does seem consistent with contrastive studies of Persian-English on word stress when the participants rendered "heavens" in the reading text as [hev'enz] thereby placing the primary stress on the final syllable. It may be argued that this error is due to the negative transfer of Persian where the primary stress tends to have its concentration on the final syllables of Words and expressions. However, in a greater number of other words the participants assigned the primary stress to the first syllable. In the reading text for example "except" was pronounced as [eksept] and "behind" as [bihaind]. This error was also spotted in "atomic" which was rendered as [atomik] instead of [ə'ta:mik]. This may be attributed to overgeneralizing or even defective teaching and obviously contrastive phonology predictions fail to explain them.

There are even cases in which the participants misplace the primary stress on the second syllable: e.g. "interesting" was rendered as [in'teresting] instead of ['intrəstiŋ]. This may be a case of defective teaching or the negative result of participants' meticulous attention to pronounce the word as correctly as possible.

Phrasal and Sentence Stress

The participants tended to place the primary stress on adjectives preceding nouns in adjectival phrases. This error was observed in the reading text where the following deviant structure was produced. "A good 'soldier" was rendered as "A 'good soldier". The error may be attributed to the negative transfer of Persian in which primary stress is placed on the adjective element in adjectival phrases.

The participants tended to place the primary stress on the first element in phrases containing numerals e.g. "six 'days" was rendered as "'six days". This error did happen in the reading text too, where the participants rendered "nine times" as " 'nine times" instead of "nine 'times".

Problems with intonation

In the sentence "He 'did 'quite well in everything 'except shooting" which is an affirmative sentence composed of two clauses, the participants violated the intonation contour in that they uttered the verb "did" with a high pitch though the sentence

was correctly uttered with falling intonation. Of course this is the only sentence of this kind in which the intonation contour seems to have been violated and there are a greater number of such sentences in the reading text that the participants rendered with appropriate intonation pattern such as "Peter Judd joined army when he was eighteen" or "All of them were doing quite well except Peter". Here the effect of misplaced stress on the first syllable in "except" and on the wrong element in "quite well" may have affected the pronunciation of the sentence.

The participants tended to place the primary sentence stress on negative elements: "I 'don't like it" rather than "I don't 'like it". This error may be attributed to the negative transfer of the Persian language in which primary stress is always placed on the negative element.

The error was seen in the sentence as "Mehdi is clever, isn't 'he?" rather than "Mehdi is clever, 'isn't he?".

5.1. Implications

There is evidence that the students' L1 (Persian) has an effect on their production of speech sounds of the English language. The data show that there are some examples in which language transfer was clear. In addition, the participants transferred some features and sounds from their L1 to their L2. However, many examples showed that the participants made some pronunciation errors that the CAH did not predict for which other accounts should be provided. These may include overgeneralization, defective teaching, spelling pronunciation, etc. The findings of this study have some pedagogical implications. The results can act as a model to help both Persian learners and teachers in English language learning and teaching. The results of this study demonstrated that the Persian EFL learners struggled with different phonological problems resulting from three main sources: (a) the differences between the Persian language and the English language, (b) L1 interference and (c) the problems in teaching of EFL pronunciation. At high schools, pronunciation receives very little attention in EFL instruction and evaluation. As a result, many phonological problems that Iranian EFL students have in pronunciation may be attributed to lack of formal pronunciation instruction. As Robertson (2003) maintains, the teaching of pronunciation must be incorporated in the students' training, yet that teaching must be country specific, and materials and research must now stop focusing on the 'general' and start considering the 'specific'. We have to tackle these problems to alleviate the phonetic and phonological difficulties and to improve teaching of EFL pronunciation to students. Teachers should take into account all of the activities which help the learners overcome the phonological problems and improve their pronunciation ability. In order to develop phonological awareness in EFL students, students should be given formal instruction in phonology. Phonology instruction should include specific information about different phonemes that students have difficulty in pronouncing them. This instruction can be accompanied with listening courses or by its own.

It would be wise to include phonological difficulties of students in the syllabus based on their priority and importance. It is necessary for the English teachers to have a comprehensive awareness of the phonological characteristics of first language and target language of the learners. Furthermore, the teacher should have adequate expertise in teaching the problematic areas related to consonants, vowels, stress position and intonation to the learners. The findings of this study may allow

teachers to obtain an awareness of the probable errors committed by Persian learners due to lack of familiarity with the phonetic differences between the learners' own pronunciation and English. This awareness of students' difficulties may help teachers to detect Persian EFL learners' phonological problems and try to tackle these problems. In addition, teachers need to be trained to obtain a thorough knowledge of the English sound system and encourage them to devote much more time specifically on areas that are identified to have caused problems for Iranian EFL learners.

As Hayati (1997)^[6] maintains, a teacher can make use of many real and simulated tools to help the teaching of suprasegmentals. Audio- and video-tapes, for example, as two handy audio-visual aids along with the teacher's training could motivate the students to benefit from it as a variety in learning. In fact, different word and sentence stress patterns could be practiced via stories, plays, games, etc. performed on video- or audio-tapes. In addition, the course books and materials which are going to be taught to students should be designed catering for students' needs in the mentioned areas.

6. Conclusion

The present paper was an attempt to derive a list of salient pronunciation error made by Persian learners of English. The proposed approach was grounded in the theory of language transfer and involved phonological comparisons between Persian languages identified major differences across the two languages, which are believed to heighten the perceived phonological interference of transfer features and cause mispronunciations.

It must be noted that psychological factors like anxiety or excitement may have influenced the students' pronunciation of sounds in an unfavorable way while their voices were being recorded. In other words, their pronunciation performance might have been affected negatively since they were under the pressure of the likelihood of making errors so the results would surely be better if the recording took place in a natural setting like a class. In addition, the small sample sizes of this study is a clear limitation. Future studies with larger sample size and also conducting similar studies on other levels e.g. elementary or advanced students would shed more light on students' difficulties in pronunciation.

7. References

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