English Pronunciation Problems for Pahari Learners: An Acoustic Study

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Abstract

The present study explores the pronunciation problems faced by Pahari speakers while learning English consonants. The study particularly focuses on the pronunciation of English consonants, which are not found in Pahari phonemic inventory. It further looks into the role of L1 in the pronunciation of the target English consonants. The study identifies four English consonants /θ, ð, w, /, which are problematic for Pahari speakers. It further shows that these consonants are pronounced with native Pahari consonants: English dental fricatives /θ, ð/ are replaced by dental stops /t̪, d̪/, while palatal voiced fricative // and bilabial approximant /w/ are replaced by voiced palatal approximant /_/ and labio-dental fricative /v/ respectively. It is suggested that English language learners with Pahari background should be properly trained in order to acquire correct pronunciation.

1. Introduction

English is one of the most dominating languages in the world. It is spoken by more than one billion people as a native or a second language (Baugh, 2002). The role of English in Pakistan is quite important as it is the official language of the country. New technology and the adoption of the Internet have resulted in a major transition in terms of business, education, science, and technological progress, all of which demand high proficiency in English.

As pronunciation is very important in communication, many Pahari learners of English want to develop their English pronunciation. To develop English pronunciation, however, it is important to find out what sounds are problematic for Pahari learners. The present research is to investigate the pronunciation of English consonants that are not found in Pahari and posit pronunciation problems for Pahari speakers. It further explores the role of native language in the production of the mispronounced English phonemes.

The researcher hopes that this study is useful for English teachers, who are interested in the English pronunciation problem of Pahari learners and to make some suggestions to improve students’ ability.

Research Question

- Do the Pahari Learners of English mispronounce the English consonants that do not exist in Pahari?
- Can mother tongue help to anticipate a Pahari learner’s pronunciation problem?

Hypothesis

The English consonant phonemes which do not exist in Pahari are mispronounced and replaced by the nearest native equivalents by Pahari learners of English.
2. Literature Review

Languages have different accents: they are pronounced differently, people from different geographical place, from different social classes, of different ages and different educational backgrounds (Roach, 2000. p. 2).

Ur (2000) explained the following pronunciation errors:

- A particular sound may not exist in the mother tongue, so that the learner is not used to forming it and therefore tends to substitute the nearest equivalent he or she knows.

- A sound does exist in the mother tongue, but not as a separate phoneme: that is to say, the learner does not perceive it as a distinct sound that makes a difference to meaning.

- The learners have the actual sounds right, but have not learnt the stress patterns of the word or group of words, or they are using an intonation from their mother tongue which is inappropriate to the target language. The result is a foreign-sounding accent, and possibly misunderstanding.

Moreover, lacking of opportunity to practice English pronunciation is the main problem to advancing in English pronunciation. Haymes (2000) suggested that the success in learning and teaching English depend on students’ ability and exposure.

Biyaem (1997) discussed the following factors in pronunciation errors:

- Interference from the mother tongue particularly in pronunciation, syntax, and idiomatic usage.
- Lack of opportunity to use English in their daily lives.
- Unchallenging English lessons.
- Being passive learners
- Being too shy to speak English with classmates.
- Lack of responsibility for their own learning.

Some research work on the basis of CA was found related to NL phonetics and Phonology influence on the TL pronunciation. Moulton (1962) made a contrastive study of English and German and classified the 12 segmental errors into four categories: Phonemic errors, phonetic errors, allophonic errors and distributional errors. Moulton errors taxonomy based on CA helped German teachers to understand not only how these pronunciation errors are made, but also why they were made.

Swan and Smith (2001) gave a practical reference guide to teachers who have to deal with specific phonological problems of students from twenty three different language backgrounds. They expected that the comparison between English and the relevant features of the students own languages would help teachers to predict and understand the problems their students have. Nilsen and Nilsen (2002) provided phonetic descriptions and list of predicted problems based on first languages in order to help to minimize difficulties to students from different backgrounds.

Differences between English and Pahari Consonants

English has 24 consonants while Pahari has 30 consonants. The following tables 1 and 2 show the differences in the consonants of two languages.
English Pronunciation Problems for Pahari Learners: An Acoustic Study

**English Consonant Phonemes**

<table>
<thead>
<tr>
<th>Table 1: English Consonant Phonemes</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
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</thead>
<tbody>
<tr>
<td>Plosives</td>
<td>P b</td>
<td>t d</td>
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<td>Fricatives</td>
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<td>Affricates</td>
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<tr>
<td>Glides</td>
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<td>tf dʒ</td>
<td>j</td>
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</table>

**Pahari Consonant Phonemes**

<table>
<thead>
<tr>
<th>Table 2: Pahari Consonant Phonemes</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Dental</th>
<th>Alveolar</th>
<th>Retroflex</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>Glottal</th>
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</thead>
<tbody>
<tr>
<td>Plosives</td>
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<td>t d</td>
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<td>(q)</td>
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</table>

A comparison of tables 1 and 2 show that four English consonants /θ, δ, w, / are not found in Pahari. This paper focuses only on consonant sounds that exist in English sound system but do not exist in Pahari phonemic inventory.

3. Research Methodology

**Sample**

Ten students from MA English semester I, University of Azad Jammu and Kashmir Muzaffarabad, participated in this study. These students are presently attending English Phonology course and are acquainted with English consonants. These twenty students are native speakers of Pahari and are from district Bagh and Rawalakot.

**Research Tools/Stimuli**

A list of words containing the problematic sounds (/θ, δ, w, /) at word initial, medial and final positions was prepared as shown below:

**Data Collection**

The participants were given a list of words containing the target consonants randomly. The participants pronounced these words thrice. They were recorded by using microphone on laptop.
**Data Analysis**

The result based on the number of occurrence of each consonant sound was produced. The results of consonant sounds were analyzed by percentage. There are 30 occurrences of each word, that is, 2 words x 30 occurrences = 60 occurrences. All the recorded words were analyzed by using speech analyzer, Praat.

4. **Results**

The results show the occurrence of consonant sounds that Pahari learners pronounce at initial, medial and final position as follows:

**The Pronunciation of /θ/**

Table 3: Pronunciation of English consonant /θ/ at different positions of the word

<table>
<thead>
<tr>
<th>Pronunciation of /θ/</th>
<th>Number of occurrences by different speakers at different positions of the word.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/θ/</td>
<td>Word initial position</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

Table 3 above shows the pronunciation of the dental voiceless fricative /θ/ as a voiceless dental plosive /t̪/ at word initial, medial and final positions. All the participants pronounced it in the same way as /t/, that of Pahari not of English. It was pronounced not like the alveolar voiceless English plosive, but like the voiceless dental plosive of Pahari. The following spectrograms of the pronunciation of this sound at different word positions further verify this observation.

**The pronunciation of /θ/ at word initial position**

![Figure 1: Pronunciation of English consonant /θ/ in ‘think’ as /t/](image)

The above spectrogram of the dental voiceless fricative /θ/ shows the pronunciation of sound as dental voiceless plosive /t̪/ at the initial position of the word. At word initial position the sound /θ/ was pronounced as /t̪/ in the word ‘thief’. The spectrogram shows it to be a stop rather than a fricative. The complete silence interval during the occlusion of the stop and the release burst for the voiceless stop is noticed from the spectrogram. There are no noticeable frequencies in higher region to shows that it is a
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fricative. Pahari has dental plosives, but no dental fricative, so English dental fricatives are replaced by dental plosive.

**The pronunciation of /θ/ at medial position**

![Spectrogram of English consonant /θ/ in 'method' as /t/](image)

At word medial position the sound /θ/ was pronounced as /t/ in the word ‘method’ by Pahari speakers. The spectrogram at this position of the word also verifies it to be the pronunciation of a dental plosive. But again this sound is influenced by the sound preceding and following. There are no noticeable frequencies in region for fricatives.

**The pronunciation of /θ/ at word final position**

![Spectrogram of English consonant /θ/ in 'death' as /t/](image)

At word final position the sound /θ/ was pronounced as /t/ in the word ‘death’ by Pahari speakers. The above spectrogram of the dental voiceless fricative /θ/ shows the pronunciation of sound as dental
voiceless plosive /t/ at the final position of the word. There is the same interval of silence and then the release burst of the plosives, which are noticed from the frequencies of the spectrogram.

**The pronunciation of /ð/**

<table>
<thead>
<tr>
<th>Pronunciation of /ð/</th>
<th>Number of occurrences by different speakers at different positions of the word.</th>
</tr>
</thead>
<tbody>
<tr>
<td>/d̪/</td>
<td>Word initial position</td>
</tr>
<tr>
<td>/l̪/</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4 above shows that the participants pronounced the dental voiced fricative as /d̪/ at all the three positions.

**The pronunciation of /ð/ at word initial position**

The above spectrogram shows the pronunciation of the dental voiced fricative /ð/ as dental voiced plosive /d̪/ in the word ‘there’ by Pahari speakers. The silence interval during the occlusion and the release of the plosive can be observed in the spectrogram. The only difference with the sound of voiced dental fricative is the difference of voiced and voiceless sound. Here the release burst of the occlusion is not like that of the voiceless dental plosive. Pahari has dental voiced and voiceless plosives, but no dental fricatives, so the English fricatives are mostly replaced by Pahari plosives.

**The pronunciation of /ð/ at word medial position**
The spectrogram above shows the same results for dental voiced fricative as dental voiced plosive by Pahari speakers at medial position of the word. For testing the word ‘leather’ was given. There is a complete interval just after the vowel sound and there is complete stoppage of air and sudden burst that results the sound /d̪/.  

**The pronunciation of /ð/ at word final position**

The above spectrogram is the pronunciation of the dental voiced fricative at final position of the word. This sound was pronounced as /d̪/ in the word by Pahari speakers. There is a complete short interval just after the vowel sound and after that there is complete stoppage of air and then the burst of air is observed. In Pahari there is dental voiced stops and voiceless but not any voiced fricative so they replace this sound with the Pahari voiced stop /d̪/.  

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Figure 5: Pronunciation of English consonant /ð/ in ‘leather’ as /d̪/.

Figure 6: Pronunciation of English consonant /ð/ in ‘breathe’ as /d̪/.
The Pronunciation of English Consonant /w/

Table 5: Pronunciation of English consonant /w/ at different positions of the word

<table>
<thead>
<tr>
<th>Pronunciation of /w/</th>
<th>Number of occurrences by different speakers at different positions of the word.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Word initial position</td>
</tr>
<tr>
<td>/v/</td>
<td>18</td>
</tr>
<tr>
<td>/w/</td>
<td>02</td>
</tr>
</tbody>
</table>

The above table 5 shows that all the participants except one pronounced the English bilabial glide /w/ as labio-dental voiced fricative /v/ at word initial position. At word medial position it was also pronounced as /v/ by all participants.

The pronunciation of /w/ at word initial position

Figure 7: Pronunciation of English consonant /w/ in ‘walk’ as /v/.

This spectrogram shows the pronunciation of /w/ as /v/ at word initial position in the word ‘van’ by Pahari speakers.
The pronunciation of /w/ as /v/ at medial position

![Spectrogram of English consonant /w/ in 'dewell' as /v/](image)

Figure 8: Pronunciation of English consonant /w/ in ‘dewell’ as /v/.

The above spectrogram shows that the pronunciation of / v / at word medial position as /v / in the word ‘pavement’ by Pahari speakers. In the spectrogram between the pronunciation of bilabial voiceless stop and bilabial nasal phonemes there is a complete sign of vowel sound.

The pronunciation of the English consonant /ʒ/

Table 6 below shows the pronunciation of the English post-alveolar voiced fricative /ʒ/ at word initial, medial and final position. In the following table the first left column shows the different realization of the pronunciation of the consonant. The other columns on the right show the number of occurrences of different realizations of the consonant at different word positions. The pronunciation of both the words by Burushaski speakers are given in the table below.

<table>
<thead>
<tr>
<th>Pronunciation of /ʒ/</th>
<th>Number of occurrences by different speakers at different positions of the word.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Word initial position</td>
</tr>
<tr>
<td>/ʒ/</td>
<td>00</td>
</tr>
<tr>
<td>/j/</td>
<td>20</td>
</tr>
</tbody>
</table>

The above table shows that the consonant was pronounced correctly as / / two times by one participant, twice by a single participant at word final position, but the same participant pronounced it as / j/ in the first and second word. It was pronounced as /j/ twenty times by ten participants at word initial position, ten times by five participants at word medial position and fourteen times by seven participants at word final position.
The pronunciation of /ʒ/ at word initial position

Figure 10: Pronunciation of English consonant /ʒ/ in ‘genre’ as /ʒ/.

The above spectrogram shows that the English phoneme /ʒ/ was pronounced as /j/. Because Pahari does not contain any voiced post-alveolar fricative. So the Pahari speakers go for the nearest sound of /ʒ/ which is palatal approximant /j/. In Pahari the sound /j/ is found that is why they do pronounce it easily. In the above given spectrogram the word “genre” was pronounced by a Pahari speakers. The same participant pronounce the same sound in the word “vision” as /z/ but at word final position he pronounced as /d/.

The pronunciation of /ʒ/ at medial position as /j/

Figure 11: Pronunciation of English consonant /ʒ/ in ‘vision’ as /ʒ/.

As above it was shown that how the sound /ʒ/ was pronounced at word initial position but here the same sound was pronounced as /j/ at word medial position. In this spectrogram just after vowel a palato-alveolar sound was pronounced which is /d/. This speaker pronounced /ʒ/ as /j/ at all positions of words.
5. Conclusion

It is evident from the above discussion that Pahari speakers mispronounce the four English consonants that are not found in Pahari inventory. The study shows that all the four target English consonants were mispronounced by Pahari speakers:

- Dental voiceless fricative /θ/ was replaced by dental voiceless stop /t/.
- Dental voiced fricative /ð/ was replaced by dental voiced fricative /d/.
- Palato-alveolar voiced fricative /j/ was replaced by palatal approximant /j/.
- Bilabial approximant /w/ was replaced labio-dental fricative /v/.

The acoustic analysis of the target sounds shows that English consonants that are not found in Pahari are replaced by the nearest consonants with same place of articulation irrespective of manners. The study overall concludes the English pronunciation of Pahari speakers was affected by the phonological gap between the two systems and they try to adjust target sounds according to their L1. The hypothesis set earlier proved true that Pahari speakers faced problems in the pronunciation of English consonants that are not in Pahari language and replace them with Pahari nearest equivalents. The study suggests that the Pahari speakers of English should be properly trained in this area to acquire correct pronunciation.

References