# THE ERRORS OF TURKISH EFL LEARNERS IN PRONOUNCING WORD-FINAL VOICED OBSTRUENTS

Yrd. Doç. Dr. Namık ÜLKERSOY
nulkersoy@ksu.edu.tr
Kahramanmaraş Sütçü İmam Üniversitesi
Fen Edebiyat Fakültesi
İngiliz Dili ve Edebiyatı Anabilim Dalı

## ÖZET

*Bu çalışmanın amacı konumsal belirtililik özelliğinin sözcük sonunda bulunan titreşimli duraksamalı ünsüzlerin sesletimindeki hatalara olan etkisinin gösterilmesidir. Çalışmada 26 adet Çukurova Üniversitesi İngiliz Dili Eğitimi Anabilim Dalı 2. Sınıf öğrencisi denek olarak kullanılmıştır. Deneklere İngilizce tümceler içerisinde dört adet titreşimli duraksamalı ünsüzle biten test sözcüğü içeren bir grup tümce verilerek, bunları seslendirmeleri istenmiştir. Kayıtların IPA transkriptleri çıkarılmış ve sonrasında ki kare istatistik analiziyle istenen ses ile üretilen ses arasında anlamlı farklılık olup olmadığına bakılmıştır.*

*Sonuç olarak belirtililik özelliğinin etkili olmadığı gözlenmiş, asıl nedenin konumsal belirtililik özelliği olduğu saptanarak , bu özelliğin etkisiyle anadilden yapılan aktarımın sesletim hatalarına yol açtığı görülmüştür.*

## ABSTRACT

*This study mainly deals with the effect of marked environments on the erroneous pronunciation of the word-final voiced obstruents. The study involved 26 Sophomore students at Cukurova University ELT Department. The participants were given a list of several sentences with four test-words ending in word-final voiced obstruents. The data were recorded and transcribed phonetically in order to describe the errors. Chi-square analysis was conducted in order to see whether there is a significant difference between the correct and incorrect forms produced by the participants.*

*As a result, it has been observed that the difficulty in pronouncing the word-final obstruents is not because the sounds [b d g] are marked, it is rather because the word-final position is environmentally marked and this causes the learners to experience difficulties in pronunciation. The learners apply to L1 transfer and replace the word-final voiced obstruents with the voiceless obstruents most of the time.*

**Introduction**

The analysis of the phonological errors made by ESL and EFL learners has been an area of concern for decades. In order to account for the errors of second language speakers, Lado has proposed the following:

> …in the comparison between native and foreign language lies the key to ease or difficulty in foreign language learning. We assume that the student who comes in contact with a foreign language will find some features of it quite easy and others extremely difficult. Those elements that are similar to his native language will be easy for him and those elements that are different will be difficult (1957, pp 1-2)

The idea to look into the similarities and the differences between L1 and L2 to account for difficulties encountered in learning L2 has been known as Contrastive Analysis Hypothesis (CAH). In a critical review of the CAH, Eckman (1977) claims that the hypothesis does not take the notion of relative degree of difficulty into consideration. He suggests that the CAH merely compares the native and target languages in order to predict the areas of difficulty in second language learning. According to Eckman, on the other hand, universal factors should be the basis of determining the notion of difficulty; that is, the factors such as typological markedness should be taken into account in analyzing the areas of difficulty. Eckman defines markedness as: "a phenomenon A in some language is more marked than B if the presence of A in a language implies the presence of B; but the presence of B does not imply the presence of A" (1977, p. 320).

Eckman (1977) proposes the Markedness Differential Hypothesis (the MDH) in order to provide a better account of the difficulties encountered by second/foreign language learners:

> The areas of difficulty that a language learner will have can be predicted on the basis of a systematic comparison of the grammars of the native language, the target language and the markedness relations stated in universal grammar, such that
>
> a) Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.
>
> b) The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness.
>
> c) Those areas of the target language which are different from the native language, but are not more marked than the native language will not be difficult. (p.321)

One of the areas of interest in L2 phonological acquisition has been the acquisition of word-final voiced obstruents since native speakers of languages with no word-final voiced obstruents experience difficulty in learning the English word-final voiced obstruents. This is also common in L1 acquisition. Stampe in Eckman (1977) points out that the voice contrasts in word-final obstruents is acquired later by English speaking children than initial and medial contrasts.

According to Eckman, the MDH does not suggest abandoning the CAH altogether. It rather proposes the incorporation of the notion of markedness into a theory

of second language acquisition. The errors of the second language learner make may be due to the learner's first language, and specifically these errors will be dependent on the native language to the extent that the areas of difference between the native and target language are marked. For example, Korean has only voiceless obstruents; because English voiced obstruents in final position are more marked than in initial and medial position, Koreans should acquire English voicing contrasts in final position only after the other two positions have been acquired. This prediction was borne out in Major and Faudree's (1996) study of Korean speakers of English, who showed nearly 100% accuracy for voiced obstruents in initial and medial position but only about 50% accuracy in final position.

In a detailed study of the distribution of word-final obstruents, Dinnsen and Eckman (1975) study the distribution of voiced and voiceless obstruents. The authors describe English as a language that maintains a superficial voice contrast in initial, medial and final positions. On the other hand, German is classified as maintaining a superficial voice contrast in initial and medial positions, but not in final position. Thus, the MDH predicts that the German speaker should have great difficulty with English word-final contrasts than should an English speaker with a lack of such contrast in German. In terms voice contrast, Eckman (1977, p.322) proposes the following voice contrast hierarchy from the most marked to the least marked: word-finally> word-medially>word-initially. The implication of such hierarchy is interpreted as follows:

> Maintenance of a superficial voice contrast at any position on this hierarchy necessarily implies the maintenance of that contrast at all higher positions on the hierarchy but does not imply such a contrast at lower positions. Thus… any language which maintains a voice contrast in obstruents word-medially, necessarily maintains this contrast word-initially, but…not…word-finally (Eckman, 1977, p.322).

Eckman (1981) has found that a final stop devoicing rules is needed for the interlanguages of Spanish speakers. Similarly, Flege and Davidian's (1984) study has revealed that Polish native speakers devoiced most of the final voiced stops. In a different study, Edge (1991) has taken an entirely different approach and examined final stop devoicing taking into consideration the environment; that is she took into account the effect of the following sound. Edge's findings have shown that most of the devoicing, occurring from greater to smaller, has been identified as before a pause, before a voiceless consonant, before a voiced consonant, and before a vowel.

Wang (1995) agrees with Eckman's MDH and claims that the less marked voiceless obstruents should be easier to learn than the more marked voiced obstruents. In his study, Wang examined the pronunciation of English codas by 10 Mandarin speakers aged 23-30. Each participant had 6-7 years of EFL instruction in their home country and had been in an English speaking country for less than a year. Wang found that subjects had difficulty in producing the codas that do not occur in Mandarin. The incorrect forms included the epenthesis of a vowel after the coda stop (i.e. target [vˆg] pronounced as [vˆg\]), the deletion of the coda stop (i.e. target [vˆg] pronounced as [vˆ]), and devoicing of a final stop (i.e. [vˆg] pronounced as [vˆk]).

In an overview of final stop devoicing Yavas (1994) suggests that languages like English allow voicing distinction word-finally. Languages like Kikuyu, Twi and

Swahili do not allow final consonants. Some languages such as Japanese and Mandarin allow only sonorants in this position. Finally, languages such as German, Turkish, Polish, Bulgarian and Russian allow only voiceless stops in word-final position. With reference to the MDH, one might expect that speakers of languages that do not allow voiced stops word-finally might experience difficulty in producing these sounds correctly.

In an earlier study Anderson (1987) examined the errors of native Arabic/Egyptian and Chinese speakers of English. Chinese included fewer syllable-final consonants whereas Egyptian Arabic included fewer syllable initial consonants. Anderson's results have demonstrated that Chinese subjects made more final consonant errors than Egyptian Arabic subjects. However, the errors of both groups increased significantly as the complexity of the syllable structure increased. Thus, Anderson's results were in conformity with Eckman's (1977) MDH. They showed that the frequency of errors was affected by the relative difficulty of L1/L2 contrast.

Not all the studies in final consonant errors are in conformity with the MDH. In a slightly different study, Stockman and Pluut (1999) examined native Mandarin speakers of English. Their data include only the cases in which native and target languages had identical or similar segments with different syllable distributions. The authors conclude:

> L2 syllable initial and final consonant errors may not be determined simply by L1/L2 positional contrasts. Expected syllable biases can be nullified by the phonetic characteristics of the particular segments that are produced or identified. Nasal and oral stops appear to yield different performances. To the extent that universal constraints motivate their differences, the expected error predictions based on L1 and L2 syllable position contrasts may not be observed for any group of L2 speakers (Stockman and Pluut, 1999, p. 205)

Turkish language, on the other hand, does not allow word-final voiced obstruents in its native words. Demircan (1996) and Kornfilt (1997) suggest that Turkish allows word-final consonants but there is a restriction on voicing; that is, only voiceless consonants can occur word-finally. Voicing takes place only by assimilation to the voice quality of the vowel in the suffix that follows:

*dolap* [dolɑp] "closet"        *dolab-ı* [dolɑbˆ‹] "closet-accusative"

On the other hand, Demircan (1996) also suggests that there are exceptional cases in which word-final voiceless-voiced consonant distinction can constitute minimal pairs as in at [ɑt] "horse"-ad [ɑd] "name", haç [hɑtß] "crucifix"-hac [hɑdˈ] "haj". It should be noted that the words ending in voiced consonants are borrowed words.

In an earlier study of voicing contrast in Turkish, Kopkalli (1993) found that native speakers of Turkish were unable to discriminate the underlying voicing contrast. Thus, Kopkalli suggested that final stop devoicing in Turkish is neutralizing due to the lack of acoustic or perceptual distinction between devoiced and voiceless stops.

In the light of the theories we have examined, we propose the following hypothesis: The difficulty that Turkish EFL learners experience in producing word-final voiced obstruents in English is because voiced obstruents are environmentally marked in word-final position for the native speakers of Turkish.

**Methodology**

In our study, we collected data from 26 Sophomore Year students at Cukurova University English Language Teaching Department. The participants were given a list of sentences with eight English words ending in word-final voiced obstruents. The participants were interviewed in a quiet room one by one and they were asked to pronounce each word. Each participant was recorded by Music Pen Digital Voice Recorder. The data were transcribed phonetically so that we could determine the incorrectly pronounced phonemes. After the data were transcribed, Chi-square analysis was applied in order to see whether there is a significant difference between the desired and the undesired forms produced by the participants.

**Results and discussion**

The percentages and frequencies of the desired and the undesired forms produced by the participants of our study is displayed in the table  below:

Table. Pronunciation of the English Word-final Obstruents

|  | Desired | | Undesired | | Total | | $X^2$ | p |
|---|---|---|---|---|---|---|---|---|
|  | N | % | N | % | N | % |  |  |
| Cab | 3 | 11.5 | 23 | 88.5 | 26 | 100 | 15.38 | 0.00 |
| Bag | 1 | 3.8 | 25 | 96.2 | 26 | 100 | 22.15 | 0.00 |
| Head | 3 | 11.5 | 23 | 88.5 | 26 | 100 | 15.38 | 0.00 |
| Found | 1 | 3.8 | 25 | 96.2 | 26 | 100 | 22.15 | 0.00 |

According to the table, a great number of participants preferred the undesired value; that is, the voiceless obstruents [p t k] were used the replace the desired voiced obstruents [b d g]. The results show that, a great number of participants preferred the undesired value; that is, the voiceless obstruents [p t k] were used the replace the desired voiced obstruents [b d g]. For the words *bag* and *found* 3.8% of the participants produced the desired voiced obstruent, and 96.2% of the participants produced the undesired voiceless obstruent. For the words *cab* and *head*, 11.5% of the participants produced the voiced obstruent and 88.5% of the participants produced the voiceless obstruent. Chi-square analysis shows that the difference between the desired voiced obstruent and the undesired voiceless obstruent production is statistically significant (p=0.00).

The results also show that the effect of the L1 final obstruent devoicing rule is a very strong one. The errors of the participants can be accounted for in terms of environmental markedness because the word-final position is environmentally marked for Turkish native speakers. This means that even though Turkish has [b d g] sounds, the word-final position requires devoicing of them. Thus, producing the English words with word-final voiced obstruents will be rather difficult for Turkish native speakers.

These results are not in conformity with Eckman's Markedness Differential Hypothesis since the hypothesis holds that the marked sounds that exist in L2 but not in L1 will be difficult to learn. Turkish has the marked obstruents [b d g]. Therefore, one should not expect to encounter any pronunciation difficulties when learners come across these sounds. However, it should also be noted that Eckman also suggested that word-

final position is the most marked environment in terms of the voice contrast. Our findings provide evidence for this because voiced obstruents in word-final position are marked for Turkish native speakers. Therefore, the participants in our study have great difficulty in producing the desired voiced obstruent occurring in the word-final position.

Another interesting finding is that when the voiced stop /d/ is preceded by the nasal /n/, it is still pronounced voiceless. On the contrary, Tobin et al (1975) have found that the distinction between word-final /t/ and /d/ depends on the duration of the preceding nasal. Our study simply shows that regardless of the preceding nasal, the strong effect of the L1 remains intact, where the unmarked voiceless stop is preferred. However, in order to come up with a stronger result in terms of the effect of nasal on the following stop sounds, an analysis of nasal duration should be conducted.

## Conclusion

Our study has shown that the effect of L1 is a strong one in learners' pronunciation of the word-final voiced obstruents. Markedness by itself is not the determining factor. In addition, the role of the environment is realized; that is, environmental markedness of the phonemes should be taken into consideration in explaining the difficulties in pronunciation. Turkish EFL learners have no difficulty in pronouncing the voiced obstruents correctly, except when they occur in the word-final position which is a highly marked environment for them. Thus, Turkish EFL learners will have difficulty in producing the words with word-final obstruents in English.

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