

Extended Abstract

The role of acoustic factors in the grammatical differentiation of identical two-syllable verbs (in Mashhad dialect)

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Introduction

In the present study, two-syllable verbs of the Mashhad dialect were investigated. These verbs are completely identical to each other in terms of phonetics and even the place of reliance, but they are used in different tenses and Mashhad speakers use special sound factors to distinguish these verbs. The distinguishing factor of these verbs is neither phonology nor reliance. Therefore, in current research, these verbs were investigated with the help of acoustic phonetics. The phonetic characteristics of suprasegmental are traditionally based on the three characteristics of the base frequency $F(0)$, intensity and duration, which are heard as pitch, loudness, and length, respectively (Cratdenden, 1986: 2). These characteristics do not work at the phonetic and chain level but are spread over the sounds of part of speech and, in addition to giving quality to speech, they play a role in conveying meaning. For this reason, the above characteristics are called suprasegmental characteristics (Heusinger, 1999: 13). The information that is transmitted through the way a sentence or phrase is produced is far more than the information that is hidden in the lexical meaning of that sentence or phrase (Heusinger, 1999: 13). In this research, the acoustic correlates of reliance in two-syllable verbs of the Mashhad dialect were investigated in order to see the difference between these verbs in comparison.

Method

The present descriptive-analytical research was conducted on 10 male speakers of Mashhad in the age range of 40 to 60 years. The role of acoustic correlates of reliance and its effect on the grammatical differentiation of two-syllable verbs were investigated by means of the important acoustic parameters of speech pitch, i.e. base frequency, intensity and delay on verbs. In this study, 24 production verbs were analyzed by Pratt speech analysis software. These two-syllable verbs are used in 8 grammatical tenses: present continuous and future, simple past and past transitive, past continuous and past continuous transitive, improbable past and past tense. A computer, microphone and Pratt software (version 5132) were used to record and measure research data. Interrogative sentences were read to the speakers with appropriate spacing, and they repeated the correct answer twice. In total, 48 verbs (24×2) were obtained from each speaker and 480 verbs from all speakers. In order to collect linguistic data and question the speakers, 8 categories of verbs were asked in the form of interrogative sentences. These questions

were designed in such a way that the speaker would express the desired verb in the appropriate grammatical tense in a one-word answer.

Discussion

In the present study, arithmetic mean was used first. This method is the simplest method of averaging in statistics because the current research aims to have a general average of the available data to represent phonetic differences. Then the standard deviation of delay, zero pitch and intensity of two syllables and vowels of the investigated verbs were analyzed. After that, the analysis of variance based on the significance of the model was done and the data was analyzed by LSD post hoc method. It was observed that the p-value is less than 0.05 in the two groups of basic and late frequency. These groups have a significant difference with the intensity group. The mean and standard deviation of the delay, intensity and sub-peak of the dependent syllable in all the investigated verbs were shown separately on a graph, and a box diagram of the difference in base frequency, delay and intensity was also presented. The results showed that the farther the grammatical tense of the identical verbs is from the speaking tense of the speaker, or the more distant the tense is in mind when comparing two verbs, the tenser and zero pitch is expressed than the nearer tense. For this reason, the verbs in this research were divided into two categories: closer tense and more distant tense.

Conclusion

Finally, it was observed that verbs of nearer tense have a lower pitch and pitch than verbs of more distant tense. In the comparison of present continuous verbs, simple past, past continuous and improbable past were placed in the closer group, and future verbs, transitive past, continuous transitive past and past tense were placed in the remote group. In the discussed two-syllable verbs, identical dependent syllables were examined, and the average dependent syllables were described on a graph. In other words, the Mashhad dialect needs the duration and pitch agents to induce the concept of distant time in two identical verbs. Vowels in both the first and second vowel position and even the accented position are more in the verbs of the more distant grammatical tense than the verbs of the closer grammatical tense. In other words, in the investigated verbs, we see the frequency of the base and its delay more in verbs of remote tense in all vowels, especially the dependent vowel. Finally, these results show that the effect of intensity emphasis on syllables causes the intensity of the energy level, and the emphasis has no effect on the intensity of the energy level of syllables. In addition, no more intensity of energy was observed in the two grammar tenses, far and near.

Keywords: Duration, Pitch, Intensity, Mashhad dialect

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