Chinese speakers' production of russian word stress

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Abstract

From the perspective of phonetic features, the Russian language and Chinese language vary greatly, due to which it is impossible to avoid an accent when the Chinese learn the Russian language. This article is devoted to the study of phonetic features of erroneous realizations of the accentual-rhythmic pattern of a Russian word by native Chinese speakers. The discrepancy between the rules for placing the word stress is the main reason for the emergence of stable interference, which has a negative impact on the communication process in most cases. The study investigated the interaction between two languages: Russian, which is an accent language, and Chinese, which is a non-accent language.

Keywords: Russian language, Chinese language, accent, word stress

Realization and perception of word accent in the speech of Chinese people in the Russian language

Speakers, material and methodology

Today, studies of the Chinese language and Russian-Chinese interference are actively conducted by Russian and Chinese researchers. A phenomenon of the Russian-Chinese interference as a whole, as well as manifestations of interference at the segmental level are investigated in a number of papers. However, studies of stress features are based on theoretical material and supported by little comparative material (D.Wang & S.Lee 2021, Oglezneva 2007, Yaming 1996). Each native speaker of some or other language has a notion of the integral appearance of a word, which implies both phonemic compatibility and accent-rhythmic organization. Accordingly, a person learning a foreign language and who at the same time is not familiar with the phonetic features of this language will try to use the accent-rhythmic models of his native language, which are already familiar to him.

The text "It was a quiet grey evening" created in the phonetics laboratory of the St. Petersburg State University was selected for analysis in the study (Smirnova & Khitrov 2013). The phonetically representative text "It was a quiet grey evening..." comprises 456 words (111 monosyllables, 146 disyllables, 96 trisyllables and 65 polysyllables). Eight second- and third-year Chinese students of the Linguistics Department of the Peter the Great St. Petersburg Polytechnic

University, who are native speakers of Mandarin with a Beijing dialect (four men and four women, the period of language study is 2-3 years, the level of language proficiency is A2- B1) were enrolled in the experiment. Recordings of 64 minutes and 22 seconds duration, comprising 3,648 words, were analysed. The recordings analysis employed auditory and instrumental methods. The analysis of this study has been conducted using PRAAT software, which identified four main characteristics that were considered during the analysis of the recorded speech of respondents: the duration of the stressed vowel, the intensity of the stressed vowel, vowel reduction and the presence or absence of a vowel insertion. The particular cases of incorrect realization of the accent-rhythmic pattern of a Russian word by Chinese students is provided below.

Phonetic characteristics of mistakes

The duration of a stressed vowel is one of the most important features of a stressed syllable in the Russian language (Shcherba 1983). Deviations in the realization of the stressed vowels' duration and intensity are a frequent error in the speech of native Chinese speakers. The last characteristic is the presence or absence of a vowel insertion. The study showed that a vowel insertion most often appears after occlusive-plosive or fricative consonants at the end of a word, and more often after a soft consonant. Vowel insertions occur most often when a word is pronounced slowly, because a certain overtone that resembles a vowel sound appears. Among isolated errors, the loss of a stressed syllable in some words and the placement of two stresses in one word can be emphasized.

The detailed analysis of the recordings produced the statistics giving an impression of some patterns and propensities for certain types of errors in realizing the accentual-rhythmic pattern of a word in the Russian language. First of all, it was identified how many syllables a word should have so that a native Chinese speaker made a mistake. For example, errors were made more often in three-syllable words (26.8% of erroneous realizations), when realizing the accentual-rhythmic pattern of words. For two-syllable words 14.4% , and for one-syllable words 6.3%, were realized incorrectly.

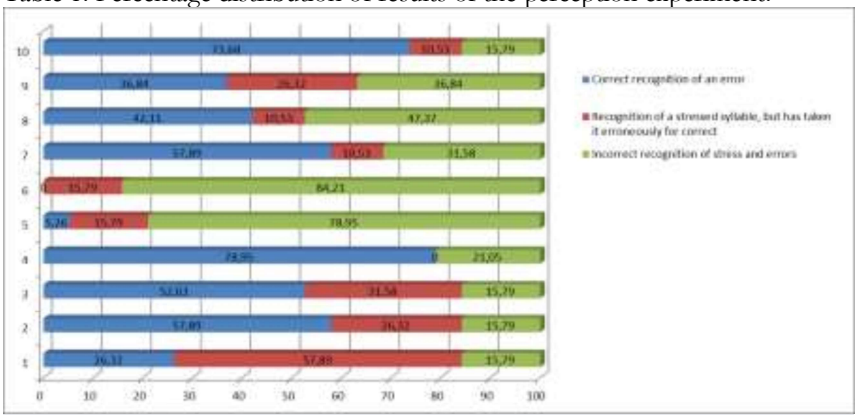
The study showed that a native Chinese speaker is most likely to shift the stress to an overstressed syllable (65.9% of errors are transferred to an overstressed syllable) when making an error in the vowel duration. If the intensity was realized incorrectly, Chinese speakers emphasized the pre-stressed syllable in 51.4% of cases and the over-stressed syllable in 48.6% of cases.

Perception experiment

An issue has arisen from the analysis of this research: whether Chinese speakers would be able to recognize a stressed syllable in a Russian word pronounced by another Chinese speaker and determine whether an error was made. A

perception experiment was conducted, during which the third-year students were asked to listen to 19 words selected from the speakers' speech recordings used in the previous experiment. The researchers selected words in which an error was made in different parameters, for example, in the realization of duration and intensity. Also, they selected words, in which such errors as double stress or the same duration and intensity for stressed and unstressed vowels were made. The results of the survey distributed the results into the categories: "Correct recognition of an error", "Recognition of a stressed syllable, but has taken it erroneously for correct", "Incorrect recognition of stress and errors".

Table 1. Percentage distribution of results of the perception experiment.



The perception experiment showed that the task, in which it was required to phonetically mark the stress in a word spoken by another native Chinese speaker, turned out to be very difficult for some respondents. In addition, when determining stress as correct or incorrect, no dependence on the realization of the duration or intensity of the stressed vowel was found, but the respondents correctly noted most errors in words that are more common in everyday speech and did not notice an error when realizing less common words. According to calculations, 44.2% of realized stimuli were correctly identified as erroneous; in all other stimuli, the stress location was determined incorrectly or the error was not recognized.

Conclusion

Taking all the aforesaid into consideration, it can be stated that the following results were obtained:

1. Native Chinese speakers mostly make errors in realizing the accentual-rhythmic pattern of words in three-syllable words (26.8%);
2. If during the realization of the accentual-rhythmic pattern of a Russian word by a native Chinese speaker an error consisting of the erroneous duration of the stressed vowel, the stress will most likely be shifted to the overstressed syllable (65.9%);
3. If during the realization of the accentual-rhythmic pattern of a Russian word by a native Chinese speaker an error consisting of the erroneous duration of the stressed vowel, the stress can be shifted equally to the pre-stressed (51.4%) and the post-stressed syllable (48.6%);
4. Native Chinese speakers can identify an error in realizing the accentual-rhythmic pattern of a Russian word in 44.2% of cases. Most likely, the listeners did not rely on phonetic correlates of word stress in the Russian language, but were guided by their own knowledge of vocabulary and the familiar phonetic appearance of the word.

Thus, we can conclude that the realization of the accent-rhythmic pattern of a word in the Russian language by native Chinese speakers has certain regularities, but due consideration should be placed on such factors as the period of language learning and the native speaker's involvement in the language environment (as shown by the results of a perception experiment, which turned out to be too simple for some listeners and too complex for others). In addition, the number of incorrect realizations may be due to knowledge of the vocabulary found in the text, or the presence or absence of homographs in the text.

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