PHONETIC VARIATION AND PHONOLOGICAL CONTRAST IN SECOND-LANGUAGE SPEECH

Imonberdiyeva Malikabonu Alisher qizi
Lecturer, Department of Foreign Languages
Uzbekistan University of Journalism and Mass Communications
+998977000361
imonberdievam@gmail.com
https://doi.org/10.5281/zenodo.23255330

Abstract. This article examines the relationship between phonetic variation and phonological contrast in second-language speech, focusing on how learners perceive and produce sound distinctions. It discusses the influence of first-language phonological categories, cross-linguistic differences, and contextual variation on the acquisition of second-language speech sounds. Particular attention is given to distinguishing phonetic differences that preserve phonological contrasts from those that weaken or neutralize them. The discussion considers segmental features, including vowel quality, consonant articulation, and duration, alongside prosodic features such as stress and intonation. It also explores the implications of these phenomena for speech intelligibility and pronunciation teaching.

Keywords: speech perception, speech production, cross-linguistic influence, pronunciation teaching, intelligibility.

Annotatsiya. Ushbu maqolada ikkinchi til nutqidagi fonetik variativlik va fonologik oppozitsiya o'rtasidagi munosabat til o'rganuvchilarning tovush farqlarini idrok etishi va talaffuz qilishi nuqtayi nazaridan yoritiladi. Ona tilining fonologik kategoriyalari, tillararo tafovutlar hamda nutqiy kontekstga bog'liq o'zgarishlarning ikkinchi til tovushlarini o'zlashtirishga ta'siri muhokama qilinadi. Fonologik oppozitsiyalarni saqlab qoluvchi fonetik farqlarni ularni zaiflashtiruvchi yoki neytrallashtiruvchi o'zgarishlardan ajratishga alohida e'tibor qaratiladi. Unlilar sifati, undoshlar artikulyatsiyasi va tovush davomiyligi kabi segmental xususiyatlar bilan birga urg'u va intonatsiya singari prosodik belgilar ko'rib chiqiladi. Shuningdek, mazkur hodisalarning nutq tushunarliligi va talaffuzni o'qitishdagi ahamiyati ochib beriladi.

Kalit so'zlar: nutqni idrok etish, nutq hosil qilish, tillararo ta'sir, talaffuzni o'qitish, nutq tushunarliligi.

Аннотация. В статье рассматривается взаимосвязь фонетической вариативности и фонологических противопоставлений в речи на втором языке с акцентом на восприятие и воспроизведение звуковых различий изучающими язык. Обсуждается влияние фонологических категорий родного языка, межъязыковых различий и контекстуальной вариативности на освоение звуков второго языка. Особое внимание уделяется разграничению фонетических различий, сохраняющих фонологические противопоставления, и изменений, приводящих к их ослаблению или нейтрализации. Рассматриваются сегментные характеристики, включая качество гласных,

© Ushbu material Creative Commons Attribution 4.0 International (CC BY 4.0) litsenziyasi asosida tarqatiladi.

артикуляцию согласных и длительность звуков, а также просодические признаки – ударение и интонация. Раскрывается значение этих явлений для понятности речи и обучения произношению.

Ключевые слова: восприятие речи, порождение речи, межъязыковое влияние, обучение произношению, понятность речи.

Introduction: The acquisition of second-language speech involves learning to perceive and produce sound patterns that may differ substantially from those of the first language. These differences extend beyond the articulation of individual vowels and consonants to the organization of phonological categories and the use of prosodic features. Learners must therefore develop an understanding of which sound differences distinguish meaning and which represent acceptable variation within a category. The relationship between phonetic variation and phonological contrast provides an important basis for explaining this process.

Phonetic variation refers to differences in the realization of speech sounds arising from factors such as phonetic context, speaking rate, communicative situation, and individual articulatory habits. Such variation does not necessarily alter the identity of a phonological category. Phonological contrast, by comparison, concerns distinctions between sound categories that differentiate lexical meanings in a particular language. For example, the English words ship and sheep illustrate a vowel contrast involving differences in vowel quality and, depending on context, duration. Although speakers may produce either vowel in different ways, successful communication requires sufficient differentiation between the two categories. Consequently, variation in pronunciation should be examined in relation to its effect on the preservation of meaningful distinctions.

In second-language speech, this relationship is influenced by learners' existing linguistic experience. When two second-language sounds correspond to a single category in the first language, learners may initially perceive or produce them as similar. Conversely, familiar sounds may encourage learners to transfer established articulatory patterns into the second language. Such transfer can affect vowel quality, consonant voicing, place of articulation, and temporal organization. However, phonetic differences from a target pronunciation do not automatically indicate the loss of a phonological contrast. A learner may retain a recognizable distinction between two categories while realizing both differently from other speakers. This makes it necessary to distinguish accented pronunciation from contrast neutralization.

The perception and production of phonological contrasts also depend on the acoustic cues available to listeners and the ways speakers employ them. A contrast may be conveyed through several cues, including duration, spectral characteristics, and the timing of articulatory events. Learners may attend to cues that are prominent in their first language while giving less attention to those that carry greater significance in the second language. Examining individual sounds without considering their phonetic environment may therefore provide an incomplete account of learners' abilities. Connected speech is particularly relevant because contextual changes can reduce the acoustic differences between categories and increase the demands placed on both perception and production.

Main part: Phonetic variation and phonological contrast operate at related but distinct levels of speech organization. Phonetic variation concerns the realization of sounds, whereas phonological contrast concerns their function in differentiating meaning. A phoneme can have several realizations without losing its identity. In English, for example, /p/ is typically aspirated in a stressed syllable-initial position,

© Ushbu material Creative Commons Attribution 4.0 International (CC BY 4.0) litsenziyasi asosida tarqatiladi.

as in pin, but unaspirated after /s/, as in spin. These realizations are contextually conditioned variants of the same phoneme rather than separate categories that distinguish words.

For second-language learners, acquiring pronunciation therefore involves more than reproducing a fixed articulatory model. It requires recognizing the boundaries of phonological categories and understanding the variation permitted within them. A pronunciation difference becomes particularly significant when it reduces the distinction between categories. If a learner produces ship and sheep with insufficient differentiation, listeners may experience difficulty identifying the intended word. However, a pronunciation that differs from a familiar accent can still preserve the contrast. The central analytical question is consequently whether phonetic variation maintains the information needed to distinguish lexical items.

This distinction also prevents the inappropriate classification of every pronunciation difference as an error. Variation may reflect an individual accent, adaptation to connected speech, or an alternative realization that remains intelligible. Phonological analysis should establish the functional consequences of a difference before evaluating its pedagogical significance.

The first language provides learners with an established system for organizing speech sounds. This system influences how unfamiliar second-language sounds are perceived and how articulatory movements are coordinated. When the second language contains a distinction absent from the first language, learners may interpret two sounds as members of one familiar category. This can make both auditory discrimination and consistent production more demanding.

For example, English distinguishes /w/ and /v/ in words such as west and vest. Maintaining this contrast requires differentiation between a voiced approximant involving lip rounding and a voiced labiodental fricative involving contact between the lower lip and upper teeth. Learners whose first-language categories do not organize these sounds in the same way may substitute one realization for the other or produce intermediate forms. Nevertheless, the extent of difficulty must be established through actual speech evidence rather than inferred solely from a comparison of language systems.

First-language influence can also affect familiar-looking categories. Two languages may contain sounds conventionally represented by the same phonetic symbol while differing in their typical acoustic realization or contextual distribution. Learners may therefore transfer a first-language pronunciation that approximates a second-language category but does not fully reproduce its distinctive properties. Such cases demonstrate why category similarity and category equivalence should be treated separately.

Phonological distinctions are realized through acoustic cues that listeners use to identify speech sounds. These cues include vowel formant patterns, duration, frication characteristics, and the timing of voicing. A single contrast may depend on several interacting properties rather than one isolated feature.

For vowels, the first and second formants, commonly identified as F1 and F2, provide information about vowel quality. F1 is generally associated with vowel height, while F2 reflects aspects of tongue advancement and is also influenced by lip rounding. Duration contributes additional information, although its role varies according to the language, accent, and phonetic environment. In the English /ɪ/–/iː/ contrast, vowel quality and duration can both support category identification. Treating this distinction exclusively as a difference between "short" and "long" vowels may therefore provide learners with an incomplete pronunciation target.

Consonantal contrasts likewise involve multiple cues. Voice onset time describes the interval between the release of a stop consonant and the onset of vocal-fold vibration. It contributes to the realization of stop contrasts, but it does not operate independently of other properties, such as aspiration

© Ushbu material Creative Commons Attribution 4.0 International (CC BY 4.0) litsenziyasi asosida tarqatiladi.

and the surrounding phonetic context. Learners may produce a measurable timing difference between categories while using values that differ from those typical of the target variety. This represents a different learning situation from producing both categories with substantially overlapping timing patterns.

A useful analysis consequently considers both category differentiation and the distribution of realizations within each category. Differences between average acoustic values alone are insufficient to establish that a contrast is consistently maintained. The degree of overlap, contextual stability, and listener identification should also be considered.

Perceptual development involves learning which acoustic differences are relevant to category identification. Learners may initially attend to cues that are significant in their first language rather than those most useful in the second language. Pronunciation development involves establishing articulatory patterns that express the distinction consistently. Both processes require exposure to variation because sound categories are encountered across different voices, speaking rates, and communicative contexts.

Combining perception and production activities can help address these complementary demands. Learners can first identify a contrast in recorded words, then practice its articulation, and subsequently use the relevant words in meaningful sentences. Feedback should connect the perceptual distinction with its articulatory basis. For example, instruction on /w/ and /v/ can combine listening discrimination with attention to lip position and the presence or absence of frication.

The realization of a phonological category changes according to its environment. Neighboring sounds influence articulation through coarticulation, while speaking rate and stress affect duration and prominence. These processes create variation that learners must understand when interpreting and producing connected speech.

Unstressed vowels in English, for instance, frequently undergo reduction. The pronunciation of a word in isolation may therefore differ from its realization within a sentence. Learners who expect every syllable to retain its citation-form quality may find natural speech difficult to segment. Similarly, learners who pronounce every syllable with equal prominence may produce speech with unfamiliar rhythmic patterns.

However, contextual reduction should not be equated automatically with contrast loss. The relevant issue is whether sufficient acoustic and contextual information remains available to identify the intended expression. Conversely, a learner's successful production of a contrast in isolated words does not demonstrate that the distinction will be maintained in spontaneous speech. Increased processing demands may affect articulatory consistency.

Although segmental contrasts are central to pronunciation analysis, prosodic features also contribute to meaning and intelligibility. Stress, rhythm, and intonation organize information and guide listeners' interpretation. Their effects should nevertheless be distinguished from those of individual vowel and consonant contrasts.

English word stress can differentiate certain lexical or grammatical forms, as illustrated by the noun record, typically stressed on the first syllable, and the verb record, typically stressed on the second. Sentence prominence can indicate which information a speaker wishes to emphasize. In I ordered the BLUE folder, prominence on blue may signal a correction or contrast concerning colour.

Conclusion: Phonetic variation and phonological contrast provide complementary perspectives on second-language speech development. Phonetic variation reflects differences in the realization of sounds, whereas phonological contrast concerns distinctions that differentiate meaning. Their relationship demonstrates that pronunciation differences should be evaluated according to their communicative

© Ushbu material Creative Commons Attribution 4.0 International (CC BY 4.0) litsenziyasi asosida tarqatiladi.

consequences: variation may preserve a contrast even when its realization differs from that of a reference variety, while insufficient differentiation between categories may create ambiguity.

The discussion highlights the importance of first-language influence, acoustic cue use, and phonetic context in understanding learners' pronunciation. The maintenance of a contrast cannot be assessed adequately through isolated sounds or average acoustic values alone. It also requires attention to consistency across speaking conditions and to listeners' ability to identify the intended words. Segmental features and prosodic patterns should therefore be considered within connected speech, where articulatory variation interacts with communicative demands.

REFERENCES

1. Flege, J. E., & Bohn, O.-S. (2021). The revised Speech Learning Model (SLM-r). In R. Wayland (Ed.), Second language speech learning: Theoretical and empirical progress (pp. 3–83). Cambridge University Press. Second Language Speech Learning
2. Munro, M. J., & Derwing, T. M. (1995). Foreign accent, comprehensibility, and intelligibility in the speech of second language learners. Language Learning, 45(1), 73–97. https://doi.org/10.1111/j.1467-1770.1995.tb00963.x.
3. Kamola Abdujabarova. Developing students' communicative competence in English based on news. (2025). International Journal of Political Sciences and Economics, 8(8), 62-65. https://doi.org/10.71337/inlibrary.uz.ijpse.135104
4. Abdujabarova , K. (2026). O'qish va tinglash orqali jurnalistlar nutqini rivojlantirish (ingliz tili misolida). Бюллетень педагогов Нового Узбекистана, 4(9), 14-16. https://www.in-academy.uz/index.php/YOPA/article/view/57520
5. Kamola Husniddinkizi Abdujabarova. Assessing Students' Reading Comprehension (Journalism as an Example). (2024). Intersections of Faith and Culture: American Journal of Religious and Cultural Studies (2993-2599), 2(12), 8-11. https://grnjournal.us/index.php/AJRCS/article/view/6271
6. Kamola Abdujabarova. ANALYSIS OF ENGLISH LANGUAGE PROFICIENCY REQUIREMENTS AND PRACTICAL NEEDS IN THE FIELD OF MODERN MEDIA. (2025). Академические исследования в современной науке, 4(48), 135-138. https://doi.org/10.71337/inlibrary.uz.arims.134793
7. Abdujabarova, Kamola Khusniddin Kizi THE ROLE OF AUDIO-VIDEO MATERIALS IN DEVELOPING INTERCULTURAL COMMUNICATION // ORIENSS. 2022. № Special Issue 20. URL: https://cyberleninka.ru/article/n/the-role-of-audio-video-materials-in-developing-intercultural-communication
8. Abdujabarova, K. (2023). Analysis of Speaking Methods in Teaching Foreign Languages. Journal of Higher Education and Academic Advancement, 1(1), 219-223. https://doi.org/10.61796/ejheaa.v1i1.183
9. Fundamentals of Experimental Phonetic Research in General Linguistics. (2025). American Journal of Language, Literacy and Learning in STEM Education (2993-2769), 3(5), 304-310. https://grnjournal.us/index.php/STEM/article/view/7779
10. Imonberdiyeva, Malikabonu Alisher qizi. 2026. "Utilizing Key Frameworks for Analyzing Semantic and Pragmatic Equivalence in Political Text Translation". The Lingua Spectrum 2 (1):435-41. https://doi.org/10.5281/zenodo.18889792.

© Ushbu material Creative Commons Attribution 4.0 International (CC BY 4.0) litsenziyasi asosida tarqatiladi.