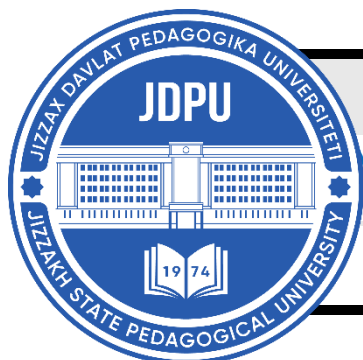


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JOURNAL<http://mentaljournal-jspu.uz/index.php/mesmj/index>PHONOLOGICAL INTERFERENCE IN THE ESP CONTEXT: AN
ANALYSIS OF UZBEK MEDICAL STUDENTS' PRONUNCIATION CHALLENGES**Shosura Khusenova***Master's student at Karshi State University*shosurakhusenova@gmail.com*Karshi, Uzbekistan*

ABOUT ARTICLE

Key words: phonology, pronunciation, stress, medical English, medical students, mispronunciation, silent letters, intonation.**Received:** 10.08.25**Accepted:** 12.08.25**Published:** 14.08.25**Abstract:** This article investigates the phonological challenges faced by Uzbek medical students in learning English, with a focus on pronunciation, stress, and intonation. Taking classroom observations, the study identifies common errors, such as mispronunciations of medical terminology and common general words, confusion over vowel and diphthong sounds, incorrect stress placement, and difficulty with intonation and connected speech. These issues often come from L1 (Uzbek) interference and a lack of systematic phonological training. The study highlights the importance of integrating explicit pronunciation instruction into English for Specific Purposes (ESP), particularly in medical contexts, where clear and accurate communication is critical. The research also reviews prior studies and teaching strategies to propose effective approaches for improving medical students' phonological competence. The findings emphasize the need for targeted, context-sensitive phonological training to foster more confident and accurate English use among medical professionals.

Introduction

This observational research was designed to investigate the phonological challenges that Uzbek medical students face in learning English, with a particular focus on pronunciation, word stress, and intonation. The study emerged from the growing recognition that accurate pronunciation in medical English is essential—not only for academic success but also for ensuring effective communication in clinical settings. To explore this issue in depth, the research was guided by the following key questions:

- What is the overall performance of students in learning English?
- What common phonological challenges do students face while learning English?
- What are the differences between medical students and general EFL students regarding pronunciation?
- How can the pronunciation skills of medical students be improved effectively?

These questions were examined through real-time classroom observations of second-year students in a medical college in Uzbekistan. The observations provided direct insights into learners' performance and helped identify recurring patterns of phonological interference, particularly those influenced by the students' native language (Uzbek). The study's aim is to propose practical, research-informed solutions to address the phonological needs of future healthcare professionals.

Literature review

One of the important aspects that should be investigated to facilitate the learning process is teaching medical foreign words and pronouncing them correctly. However, mastering correct pronunciation is often considered less significant. At times, the process can seem both boring and difficult.

To ensure effective communication, the accurate and appropriate pronunciation of each word is essential. Mispronunciation of sounds can lead to misinterpretation of messages. Therefore, it is crucial that pronunciation instruction be integrated into the classroom alongside other language components and skills to facilitate successful language learning [1]. In the past few decades, substantial research has been conducted on teaching pronunciation, particularly in relation to textbook content, teachers' pedagogical cognition, and classroom practices, such as Derwing et al., 2012; Foote et al., 2016; Couper, 2017; and Nguyen and Newton, 2020. Instructor-researchers, such as Jabbour-Lagocki, J., who focus on improving medical English learning processes and teaching methods, note that some stress rules in

medical terminology are similar to those in polysyllabic general English words. Specifically, stress often falls on either the penultimate (next-to-last) syllable or the antepenultimate (third-from-last) syllable. She classified English medical terms into five groups based on stress positions and syllable patterns to facilitate stress placement [2]. Other researchers in Spain, Cerezo, R., Calderón, V., & Romero, C., suggested integrating mobile applications to help students acquire the correct pronunciation of medical terms. Arturito (mobile application) was selected in their studies and offers four main functions: not only assisting with pronunciation but also helping to revise vocabulary [3]. The study by Baeyens (2018) investigated the impact of phonological instruction and the application of 'noticing' techniques on the pronunciation of Spanish students learning English for medical purposes. In this empirical research, intermediate-level Spanish students were recorded pronouncing a text both before and after receiving a pronunciation practice session. Initially, the students read the text aloud without interruption, followed by a session in which they were provided explanations and engaged in targeted pronunciation exercises. The analysis of the recordings revealed notable differences between the initial and subsequent readings, with the study demonstrating significant progress in the participants' pronunciation [4]. Studies on speech perception training conducted have shown that adult second language learners can learn to perceive non-native consonant contrasts through laboratory training. However, research on perception training for non-native vowels is still scarce, and none of the previous vowel studies trained more than 5 vowels. In a study conducted in Japan, the influence of training set sizes was investigated by training native Japanese listeners to identify American English (AE) vowels. 12 Japanese learners of English were trained for 9 days either on 9 AE monophthongs (full set in a training group) or on the 3 more difficult vowels (in a subset training group). Five listeners served as controls and received no training. Performance of listeners was assessed before and after training as well as 3 months after training was completed. Results indicated that (a) full set training using 9 vowels in the stimulus set improved average identification by 25%; (b) listeners in both training groups generalized improvement to untrained words and tokens spoken by novel speakers; and (c) both groups maintained improvement after 3 months. However, the subset group never improved on untrained vowels. We can conclude that training protocols for learning non-native vowels should present a full set of vowels and should not focus only on the more difficult vowels [5].

Research methodology

The limited research on pronunciation instruction in the context of local Medical English has prompted the author to explore effective approaches and practices by reviewing previous studies and examining relevant materials. This section outlines the research design and methodology employed in this study.

The study is based on a qualitative analysis of classroom observations conducted over the course of one week. During this period, seven English lessons were observed across five groups of second-year medical college students. The college, named after Abu Ali Ibn Sina, is located in the Kashkadarya region. The observed students were mostly at beginner to intermediate proficiency levels. Throughout the lessons, students' pronunciation performance was carefully monitored, and common phonological errors were systematically recorded for analysis.

Result

This section presents the key findings from classroom observations focused on phonological performance among second-year medical college students learning English. The analysis concentrated on identifying recurring pronunciation errors and common patterns of phonological interference. Several categories of difficulties emerged, particularly influenced by learners' first language (Uzbek) and the absence of structured pronunciation instruction. The most frequent and frequent pronunciation issues are outlined below.

1. Mispronunciation of Medical Terms: one of the recurring speech issues is inappropriate pronunciation of medical terms, in particular.

/hɪpər.../ or /haɪpər.../ ?

For example, the majority of students repeatedly pronounced the term "hypertension" as /,hɪpə'tenʃən/ instead of the correct /,haɪpər'tenʃən/, "hypertony" as /'hɪpər,tɒni/ instead of /'haɪpər,tɒni/, and "hypotony" as /'hɪpətəni/ not /'haɪ.pə.tə.ni/. The mispronunciation of these words comes from L1 sound interference, as these words are pronounced exactly the same in Uzbek, like gipentoniya and gipotoniya. This mistake during the initial stages of learning a foreign language may appear to be not so serious, but it can quickly lead to fossilization if ignored, meaning it will be much more difficult to correct as time goes on. Mispronunciation of terms in clinical communication, where accurate pronunciation is important, can cause confusion and misunderstandings.

Double oo as always /u/?

Another common mispronunciation involved words containing the double "oo" which learners often articulate inaccurately due to fossilized errors formed during their early schooling. To clarify further, this is primarily because, in most public schools, students were taught to always pronounce the double "oo" /u/ sound like in words like "good," "afternoon," and "goodbye" without considering exceptions.

"blood" /blʌd/ → pronounced as /blu:d/

"door" /dɔ:r/ → pronounced as /du:r/.

Difficulty with vowels

the /æ/ sound:

The English short vowel /æ/ (as in "cat") does not exist in Uzbek, leading students to pronounce it as /e/ or /a/, resulting in mispronunciations like "ket" instead of "cat." Here are some examples in our notes that were mispronounced while observing the lesson.

Observed mispronunciation examples

table 1

Word	Mispronunciation observed	IPA
Hand	hend	/hænd/
Vaccine	veksin	/'væksi:n/
Cancer	kensr	/'kænsər/
Scalp	skelp	/skælp/
Rash	resh	/ræʃ/
Fracture	frekchr	/'fræktʃər/
Transplant	transplant	/'trænsplənt/

Challenges with the /ɪə/ diphthong:

The diphthong /ɪə/ (as in "ear") does not exist in Uzbek, leading to mispronunciations where students use a single vowel sound instead.

phobia/'foubja/, not /'fəubiə/ or /'fəubiə/

media /'mi:dja/, not /'mi:diə/

criteria/kraɪ'tɪrɪə/, not /kraɪ'tɪəriə/

superior/su:'piəriə/, not /su:'piəriə/

posterior /pə'stiəriə/, not /pə'stiəriə/

Influence of L1

These words in our notes were observed to be pronounced in a way that closely resembles their written form and pronunciation in Uzbek.

diagnosis — pronounced as /,diag'nousis/, not /,daɪæg'nousis/.

patient — pronounced as /'patient/, not /'peɪfənt/.

antibiotic — pronounced as /antɪbɪ'otɪk/, not /,æntɪbaɪ'ɒtɪk/.

virus — pronounced as /virus/, not /'vaɪrəs/.

Silent Letters

Many students were recorded pronouncing words like "psychology" as /psikologi/ not /saɪ'kɒlədʒi/ and "pneumonia" as /pneumonia/ not /nju:'mæʊniə/ with a pronounced "p." This mispronunciation also can be attributed to L1 sound interference. Since these words are also existent in Uzbek and are commonly heard and used with the "p" sound, students initially tend to pronounce them according to the Uzbek version, transferring the familiar pattern into their English pronunciation. It was the same case with "psychiatry", being pronounced /sɪ'kiatri/, not /saɪ'kaɪətri/.

"th" sounds

Challenge: The "th" sounds (/θ/ as in "think" and /ð/ as in "this") pose a significant challenge for Uzbek speakers, as these sounds do not exist in the Uzbek language. As a result, students often pronounced these terms starting with a "t." /tɛ'rɒmɪtə/. Additionally, students might think it is pronounced the same in Uzbek: "termometor." Also, students kept saying /trɒm'bəʊsɪs/, substituting /θ/ with /t/. The case was similar to the word "therapy", being pronounced /terapi/, not /'θɛrəpi/.

Schwa

The schwa sound /ə/ posed a challenge for many medical students learning English. Since the schwa is a reduced vowel occurring in unstressed syllables, Uzbek learners with more regular stress patterns, often found it difficult to recognize and produce correctly. Here are some example words which students had challenges with correct pronunciation.

As this sound doesn't exist in Uzbek, learners tend to replace it with other vowel sounds, such as /ɛ/, /ʊ/, /o/, /a/ or /ɪ/, or over-pronounce it.

Mispronunciation of schwa area

table 2

Word	IPA	Mispronunciation of schwa area
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doctor	/ˈdɒktər/	/ˈdɒktor/
symptom	/ˈsɪmptəm/	/ˈsɪmptom/
bacteria	/bækˈtɪəriə/	/bekˈtɪrə/
clinical	/ˈklɪnɪkəl/	/ˈklɪnɪkel/
anatomy	/əˈnætəmi/	/eˈnetomi/
condition	/kənˈdɪʃən/	/kendɪʃɛŋ/
nervous	/ˈnɜːvəs/	/ˈnerːves/
radiology	/ˌreɪdɪˈɒlədʒi/	/ˌreɪdɪˈolɪzi/

Problem with understanding and applying connected speech

Reduction of Function Words

In English, function words (e.g., "and", "to", "for") are often reduced in casual speech. As expected, like Uzbek general English learners, medical students pronounced these words fully, sounding a more formal and less natural speech pattern.

2. Challenge with stress placing:

How was the Intonation?

The majority of the beginner-level students had the same monotone intonation, speaking all types of sentences with a flat tone. This may affect the clarity of a speech and the emotion of a patient when communicating. For example, when the teachers told them to have a short role play, a student, in the role of a doctor, sounded very unconfident, "You are going to be fine," indifferent, or robotic, rather than reassuring.

Discussion and suggestions

The phonological difficulties observed among Uzbek medical students highlight the substantial impact of first language (L1) interference and the absence of systematic pronunciation instruction in the ESP curriculum. Most notably, learners demonstrated challenges with English vowel and diphthong distinctions, stress placement in polysyllabic words, and the natural use of intonation and connected speech. These findings are consistent with prior studies (e.g., Jabbour-Lagocki, 1992; Baeyens, 2018), which emphasize the complexity of pronunciation acquisition, particularly in specialized registers such as medical English.

One of the critical interpretations from our classroom data is that students often rely on Uzbek phonological rules to pronounce English words, especially those that are medically

technical but resemble their Uzbek equivalents. This leads to transfer errors, fossilization of inaccurate patterns, and potential miscommunication in professional contexts. To address these issues, we suggest the following pedagogical interventions:

Explicit phonological instruction should be integrated into ESP syllabi, focusing not only on general English sounds but also on medical terminology-specific patterns. This can include targeted practice with medical words that have silent letters, schwa sounds, and stress rules. Furthermore, Contrastive analysis activities can help students become aware of differences between English and Uzbek pronunciation systems. For instance, side-by-side comparison of similar-sounding words in both languages can promote phonological awareness. Moreover, Use of pronunciation technology (e.g., mobile apps like Arturito, pronunciation software, IPA transcription tools) should be encouraged for self-practice, especially for recognizing minimal pairs and stress patterns.

Pronunciation drills and role-playing in simulated clinical interactions can reinforce correct stress, rhythm, and intonation in context. For example, mock doctor-patient dialogues help students practice both medical vocabulary and the pragmatic aspects of speech. Training in connected speech and intonation patterns, such as reductions, linking, and sentence stress, should be provided to enhance students' fluency and listener comprehensibility. From a broader perspective, these findings underscore the need to reconsider how pronunciation is treated within ESP courses. It is often overlooked, yet in fields like medicine, pronunciation is crucial for safety, accuracy, and patient trust. For instance, mispronouncing terms such as "hypertony" or "hypotony" could lead to serious misunderstandings in real clinical situations.

Limitations of the Study:

This study was conducted over a short duration with a limited sample size in one college, and thus, the findings may not fully represent all medical students in Uzbekistan. Moreover, we focused solely on classroom observations without pre/post-test data or student interviews, which could have added richer insights.

Suggestions for Future Research:

Future studies might explore the effectiveness of specific pronunciation teaching interventions in ESP contexts through experimental designs. In addition, longitudinal studies could examine how early pronunciation training impacts medical students' communicative competence over time.

By implementing these recommendations and developing a pronunciation-focused component in ESP curricula, especially for future healthcare professionals, educators can help bridge the gap between linguistic theory and communicative practice—ultimately fostering more confident, intelligible, and patient-oriented medical professionals.

Conclusion

This study highlights the need for explicit phonological instruction in ESP courses for medical students. Common issues—such as mispronunciation, misplaced stress, and flat intonation—often stem from native language interference and insufficient pronunciation training. In medical settings, where clarity is vital, such errors can hinder effective communication. Integrating focused, context-aware phonological practice into ESP curricula can significantly enhance students' confidence, accuracy, and communicative competence in professional environments.

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