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Factors Influencing The Development Of Phonetic Competence In Students During English Language Teaching

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Abstract: Phonetic competence is a key component of communicative competence and plays a crucial role in learners' ability to produce comprehensible, intelligible, and contextually appropriate spoken English. The development of phonetic competence depends on multiple linguistic, psychological, technological, and pedagogical factors. This article presents a comprehensive analysis of these factors based on theoretical research and a small-scale methodological study. A detailed literature review highlights the contributions of foreign and Russian scholars in the field. The methodological section describes the design, participants, instruments, and instructional procedures in detail, while a structured table outlines the major influencing factors. Each factor is further explored in text form with scholarly interpretation.

Keywords: Phonetic competence, pronunciation, English phonetics, influencing factors, phonological awareness, EFL teaching, authentic input.

Introduction: Phonetic competence forms the foundation upon which successful oral communication in English is built. It includes the ability to recognize, interpret, and reproduce phonemes, stress patterns, rhythm, and intonation—core elements of English prosody. Without phonetic competence, even advanced learners experience misunderstandings in communication, inaccurate comprehension of spoken input, and reduced confidence in oral interactions. As Celce-Murcia, Brinton, and Goodwin (2010) emphasize, pronunciation is not an isolated skill but a vital component of communicative ability that supports fluency and intelligibility in real-life discourse.

In many EFL contexts, including post-Soviet educational settings, the development of phonetic competence is hindered by several challenges: limited exposure to natural spoken English, differences between English and native phonological systems, inadequate instructional materials, and insufficient classroom time devoted to phonetics. Furthermore, traditional teaching approaches often prioritize grammar and vocabulary over pronunciation, leaving learners without systematic training in articulation and auditory discrimination.

Given the increasing global reliance on English as an international lingua franca, the need for students with strong phonetic competence has become more pronounced. This article seeks to identify and analyze the main factors that influence the formation of phonetic competence in university students learning English. The findings may support teachers, curriculum designers, and researchers seeking to improve pronunciation instruction in higher education.

LITERATURE REVIEW

Chomsky [1]'s (1965) concept of linguistic competence includes phonological knowledge as one of the foundational components of language. Hymes [2] (1972) later introduced communicative competence, emphasizing that phonetics must support the ability to communicate meaning in culturally appropriate ways. Canale and Swain [3] (1980) integrated phonology into their communicative competence framework, highlighting pronunciation as essential for achieving discourse coherence and comprehensibility.

The development of phonetic competence has been extensively discussed in both foreign and Russian linguistic pedagogy, where scholars emphasize its central role in successful foreign language acquisition. According to Jones [4] (2011), phonetic competence forms the foundation of oral communication because the accurate perception and production of sounds determine the intelligibility and fluency of speech.

Researchers in applied linguistics frequently argue that learners with insufficient phonetic skills face persistent difficulties in listening comprehension and spoken interaction, which hinder the development of higher communicative competences. In a similar vein, Gilbert [5] (2018) underlines that phonetics is not simply a set of mechanical articulatory habits but a cognitive system that helps learners differentiate meaning, process prosodic signals, and adapt speech production to communicative contexts. Russian phoneticians, such as Bondarko [6] (2015) and Rubinshteyn [7] (2013), also highlight the integrative nature of phonetic competence, arguing that pronunciation, rhythm, intonation, and stress form a unified system that supports semantic interpretation. Their view reinforces the idea that phonetic competence should be developed holistically rather than through isolated drilling of sounds.

Recent studies in English language teaching further stress the importance of exposing learners to authentic auditory input. Celce-Murcia et al. [8] (2017) state that systematic work with natural speech patterns enables students to develop phonological awareness more effectively than traditional repetition-based techniques. Their research demonstrates that authentic listening materials train learners to recognize reduced forms, linking, elision, assimilation, and other natural processes of connected speech, which are crucial for real-life communication. Likewise, Pourhosein Gilakjani [9] (2020) argues that EFL students often experience a psychological barrier when facing native-like speed, rhythm, and intonation in spoken texts, and that explicit instruction in prosodic features significantly improves both comprehension and confidence. Similar conclusions are found in the works of Russian and CIS scholars, such as I.A. Zimnyaya [10] (2014) and Solovovo [11] (2016), who emphasize that phonetic competence plays a regulatory role in communication—helping students manage turn-taking, highlight key information, express emotions, and maintain the logical structure of discourse.

A growing body of literature also explores the role of digital technologies in phonetic development. Researchers such as Derwing and Munro [12] (2015) observe that computer-assisted pronunciation training (CAPT) tools accelerate phonetic acquisition by providing learners with visual models of articulation and real-time feedback on their performance. They argue that technological tools such as Praat, SpeechAce, and mobile pronunciation apps create conditions for autonomous learning by enabling students to compare their pronunciation with native speaker standards at any moment. Russian scholars complement this perspective by focusing on the socio-cultural dimension of phonetic learning. According to Makhmutov [13] (2018) and Kamisheva [14] (2020), phonetic competence is shaped not only by articulatory and perceptual mechanisms but also by learners' motivation, exposure to speech communities, and engagement in communication-rich environments. They maintain that students in non-English-speaking contexts often suffer from limited auditory immersion, making deliberate phonetic instruction a necessary pedagogical strategy.

Furthermore, recent global studies have shown that phonetic competence is closely linked with overall communicative competence. Levis [15] (2019) argues that intelligible pronunciation plays a more decisive role in communication than native-like accent, and that teaching priorities should shift towards comprehensibility rather than perfection. This shift aligns with the communicative approach adopted in many contemporary curricula, which integrates phonetic skills into all language components—speaking, listening, reading aloud, and even writing. Russian researchers also support this idea: for example, Khrusheva [16] (2017) notes that articulatory accuracy develops more effectively when phonetic tasks are embedded into communicative activities such as role-plays, debates, storytelling, and project-based learning. Overall, the literature presents a consistent view: phonetic competence is multifaceted, influenced by cognitive, linguistic, psychological, and social factors, and must therefore be developed through integrated, systematic, and learner-centered instruction.

METHOD

The methodological foundation of this study was built upon principles of communicative phonetics, learner-centered pedagogy, and empirical observation, allowing for a systematic exploration of the factors influencing the development of phonetic competence among university students learning English. The research employed a mixed-methods design, combining qualitative interpretation with quantitative observation to gain a comprehensive understanding of how various pedagogical, psychological, linguistic, and technological factors shape students' phonetic development. This approach ensured that the study not only measured the outcomes of instructional processes but also examined the internal mechanisms through which learners acquire, internalize, and apply phonetic skills in real communication.

The research was conducted over one academic semester with first- and second-year students majoring in English Language Teaching. A total of 68 participants were involved, representing mixed proficiency levels ranging from A2 to B2 according to the CEFR. Prior to

the intervention, a diagnostic pronunciation test was administered, measuring students' accuracy in vowel and consonant production, the control of stress and rhythm, and the ability to recognize and reproduce intonation patterns. This diagnostic phase served two purposes: to establish baseline phonetic competence and to identify common problematic areas such as vowel length distinction, consonant clusters, stress placement in multisyllabic words, and the handling of connected speech phenomena. The diagnostic data allowed the researcher to tailor instructional procedures to the learners' needs while also forming a reference point for later comparative analysis.

Instructional procedures were carried out within a structured learning environment combining classroom sessions, digital phonetic tools, self-directed activities, and peer collaboration. A communicative phonetics model was adopted, in which phonetic tasks were integrated into speaking and listening activities rather than presented in isolation. This model aligns with the recommendations of both foreign and Russian scholars who argue that phonetic training becomes more effective when embedded in meaningful communication. Each classroom session included targeted pronunciation work, but the tasks varied weekly to maintain engagement and address different aspects of phonetic competence. For instance, explicit articulatory practice was followed by contextualized speaking tasks, while intonation exercises were linked with dialogue performance and role-plays.

Technological integration formed an essential part of the methodological strategy. Students used digital pronunciation platforms such as Praat, Elsa Speak, and SpeechAce to receive visual and auditory feedback on articulation accuracy. These tools enabled learners to analyze the contour of their intonation, compare waveform patterns with native speaker models, and correct errors autonomously. Classroom instruction was complemented by weekly online tasks, where students recorded short monologues or dialogues and uploaded them to digital learning platforms for instructor and peer feedback. This blended-learning design increased the frequency of phonetic exposure and practice, supporting the idea that repeated, guided practice is crucial for the automatization of pronunciation skills.

The methodological framework also incorporated reflective components to deepen learners' metacognitive awareness. Students maintained brief phonetic learning journals in which they described difficulties they encountered with specific sounds or intonation patterns, strategies that helped them improve, and observations about their own progress. Although reflection was not the primary research focus, it helped consolidate phonetic learning and provided qualitative data for the study. Peer-assessment sessions were conducted biweekly, allowing students to evaluate each other's pronunciation using simple rubrics focused on intelligibility, fluency, and prosodic control. These sessions encouraged learners to listen critically, articulate constructive feedback, and learn from one another—a process supported by several linguistic studies emphasizing the social nature of phonetic development.

Data collection occurred throughout the intervention. Audio recordings of learners' speech were saved at the beginning, middle, and end of the semester. These recordings were analyzed for segmental accuracy, prosodic control, and overall comprehensibility. A rubric based on the criteria proposed by Derwing and Munro was used to assess pronunciation improvement. Additionally, classroom observations and instructor field notes were analyzed to identify patterns in student engagement, response to instruction, and challenges commonly encountered during phonetic tasks. Students also completed a post-intervention questionnaire evaluating which factors they perceived as most influential in improving their pronunciation.

The analysis combined descriptive statistics with thematic analysis. Quantitative data provided evidence of improvement trends in accuracy and intelligibility, while qualitative data helped explain why certain factors—such as increased authentic listening input, individualized digital feedback, or reduced anxiety—played a significant role in phonetic development. This comprehensive methodological framework ensured that the study addressed both measurable and experiential dimensions of phonetic competence, providing a well-rounded view of how instructional design and contextual factors influence learners' ability to perceive and produce English sounds effectively.

Table 1.

Factors influencing the development of students' phonetic competence in english language learning

Factor Group	Description

Linguistic Factors	The phonetic complexity of English, differences between L1 and L2 sound systems, segmental and suprasegmental features, exposure to authentic speech.
Psychological Factors	Learner motivation, confidence level, anxiety during pronunciation tasks, willingness to communicate, attitude toward accent and intelligibility.
Pedagogical Factors	Teacher's phonetic competence, instructional methods, quality of modeling, feedback practices, and integration of pronunciation into communicative tasks.
Technological Factors	Access to CAPT tools (Praat, Elsa Speak, SpeechAce), audio-visual materials, digital dictionaries, pronunciation apps, and online platforms.
Sociocultural Factors	Interaction with native or proficient speakers, immersion opportunities, cultural familiarity with English communication norms, exposure outside the classroom.

The factors influencing the development of phonetic competence among university students learning English encompass a broad set of linguistic, psychological, pedagogical, technological, and sociocultural dimensions. Linguistic factors play a primary role because the structural differences between the learners' native language and English determine the level of phonetic difficulty they encounter. As many scholars note, including Jones (2011) and Gilbert (2018), English contains specific segmental features—such as interdental consonants, vowel length distinctions, and reduced forms—that often do not exist in the learners' first language. Russian researchers such as Бондарко (2015) also emphasize that suprasegmental features, particularly stress, rhythm, and intonation, require systematic teaching because they strongly influence intelligibility and meaning.

Psychological factors are equally important. According to Derwing and Munro (2015), students' confidence levels, emotional readiness, and anxiety directly influence their phonetic performance. Learners who fear negative evaluation tend to avoid speaking tasks, limiting the practice necessary to internalize correct articulation. Researchers such as Pourhosein Gilakjani (2020) argue that motivation acts as a driving force that determines how consistently students engage in pronunciation training. Russian psychologists (Зимняя, 2014) highlight that positive emotions support better auditory perception, while anxiety inhibits the ability to distinguish subtle phonetic contrasts.

Pedagogical factors concern the professional competence of teachers and the instructional approach adopted in the classroom. Scholars worldwide agree that teacher modeling has a significant impact on learners' phonetic acquisition. Celce-Murcia et al. (2017) note that pronunciation instruction is most effective when integrated into communicative tasks rather than taught as isolated drills. Russian methodologists such as Соловова (2016) stress that systematic, explicit, and feedback-rich phonetic instruction helps learners overcome persistent pronunciation barriers. The quality and frequency of corrective feedback also play a decisive role in shaping accurate phonetic habits.

Technological factors have become increasingly influential with the rise of digital learning environments. Modern computer-assisted pronunciation training (CAPT) systems provide immediate, individualized feedback based on acoustic analysis, helping learners monitor and adjust their articulation. Scholars such as Levis (2019) assert that technological tools enable autonomous learning by giving students the opportunity to practice pronunciation outside the classroom environment. Russian specialists (Камышева, 2020) add that audio-visual resources and mobile apps increase learner engagement and contribute to better retention of phonetic patterns.

Finally, sociocultural factors significantly shape learners' phonetic competence. Exposure to authentic speech through interaction with native or proficient speakers enhances learners' ability to perceive and reproduce natural pronunciation patterns. Immersion experiences, even virtual ones, help students grasp the pragmatics, rhythm, and melody of the language. Researchers such as Махмутов (2018) argue that sociocultural engagement strengthens students' motivation, while international scholars maintain that meaningful communication contexts enable the development of more natural, comprehensible speech.

Collectively, the factors presented in the table illustrate that phonetic competence is not formed through isolated articulatory practice alone. Rather, it emerges from a complex interplay between linguistic knowledge, emotional conditions, teaching quality, technological support, and cultural exposure. Recognizing this multidimensional nature allows educators to design more effective phonetic instruction that addresses all components influencing learners' pronunciation development.

RESULT

The results of the study demonstrate that the development of phonetic competence among university students is significantly influenced by the interaction of linguistic, psychological, pedagogical, technological, and sociocultural factors identified earlier in the research. Comparative analysis of pre- and post-intervention pronunciation assessments revealed measurable improvements in segmental accuracy, prosodic control, and overall intelligibility. Students showed notable progress in the production of phonologically challenging English sounds such as interdental consonants /θ/ and /ð/, vowel length contrasts, and consonant clusters, which had previously caused consistent errors. This improvement can be attributed to the systematic articulation-focused instruction integrated with communicative speaking activities.

Another important result relates to suprasegmental development. By the end of the semester, students demonstrated more natural rhythm, clearer word and sentence stress placement, and increased control over intonation patterns. Audio analyses indicated that learners became more sensitive to weak forms, linking, assimilation, and other features of connected speech. This development correlates with the inclusion of authentic listening materials and targeted intonation exercises throughout the instructional period. Students also reported that regular exposure to native speaker models improved their ability to perceive subtle prosodic cues, which in turn enhanced their listening comprehension.

Technological tools played a particularly strong role in the results. Students who actively used digital pronunciation platforms showed faster improvement compared to those who relied only on classroom practice. Analysis of learning analytics from CAPT tools demonstrated that increased practice frequency and the availability of immediate feedback significantly contributed to self-correction and the automatization of phonetic patterns. Student reflections confirmed that digital tools increased their confidence, provided a clear understanding of their progress, and helped them overcome long-standing pronunciation difficulties.

The results also highlighted the importance of psychological readiness. Students with higher initial motivation and confidence showed more substantial improvement, while those with stronger anxiety required more sustained support. However, peer feedback sessions helped reduce anxiety and strengthened students' willingness to communicate. The collaborative environment enabled learners to observe each other's phonetic development, discuss difficulties openly, and adopt effective strategies from their peers.

Pedagogical factors were revealed as essential throughout the study. Teacher modeling, systematic feedback, and the integration of pronunciation into communicative tasks were consistently identified as highly effective approaches. Classroom observation notes indicated that students responded most positively to activities where phonetic practice was embedded in meaningful communication—such as dialogues, debates, and role-plays—rather than repetitive drilling. Such findings confirm that phonetic competence develops best when learners perceive pronunciation not as an isolated skill but as an integral component of overall communicative competence.

Overall, the results show that phonetic competence develops through a complex, dynamic interplay of cognitive, emotional, instructional, and contextual conditions. The evidence from this study supports the argument that comprehensive, technology-enhanced, communicative, and psychologically supportive instruction leads to the most meaningful improvements in learners' phonetic performance.

CONCLUSION

The findings of the study allow us to draw several important conclusions regarding the development of phonetic competence in English language learning.

First, the research confirms that phonetic competence is a multidimensional construct shaped by linguistic, psychological, pedagogical, technological, and sociocultural factors. Effective pronunciation instruction must therefore adopt an integrated approach rather than relying solely on articulatory drilling. When learners receive structured, authentic, and varied phonetic input within communicative contexts, they develop not only accuracy but also the flexibility and sensitivity required for natural, intelligible speech.

Second, the study highlights the necessity of combining traditional classroom instruction with digital phonetic technologies. Computer-assisted pronunciation training tools significantly enhance students' ability to self-monitor and self-correct, while immediate visual and auditory feedback accelerates the acquisition of both segmental and suprasegmental features. This technological integration also increases learner motivation, autonomy, and engagement, thereby supporting more sustainable long-term phonetic development.

Third, the research demonstrates that psychological and social conditions play a decisive role in phonetic acquisition. Confidence, motivation, reduced anxiety, and opportunities for peer interaction collectively contribute to students' willingness to practice pronunciation and experiment with new phonetic

patterns. A supportive learning atmosphere—characterized by constructive feedback, collaboration, and meaningful communication—creates the conditions necessary for learners to internalize phonetic knowledge and apply it effectively in real speech.

Taken together, the conclusions emphasize that the development of phonetic competence requires a comprehensive pedagogical strategy grounded in scientific understanding, technological support, and psychologically favorable learning conditions. The study thus offers valuable insights for teachers, curriculum designers, and researchers seeking to enhance phonetic instruction in higher education settings.

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