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DEVELOPMENT OF STUDENTS' PHONETIC COMPETENCE IN HIGHER EDUCATION

Abstract. The article examines the conceptual and methodological foundations of developing phonetic competence in higher education. The transformation of contemporary language education and the increasing demands for effective intercultural communication require the modernization of pronunciation teaching and the integration of theoretical, practical, and psychological components of learning. In this context, phonetic competence is considered as an integrative system that combines phonological awareness, articulatory mastery, perceptual training, and reflective self-monitoring.

The study analyzes modern linguistic models explaining pronunciation acquisition, in particular the Contrastive Analysis Hypothesis and the Speech Learning Model, which clarify the role of native language interference in second language learning. Special attention is paid to the difficulties experienced by Ukrainian learners in mastering segmental and suprasegmental features of English pronunciation.

It has been proven that effective phonetic training in higher education should move beyond traditional imitative methods toward humanistic, competence-based, and technology-enhanced approaches. The integration of articulatory awareness, perception-oriented instruction, gamification, cooperative learning, and real-life professional contexts significantly increases functional intelligibility and learner autonomy.

The article emphasizes the importance of explicit phonetic instruction for future language teachers, philologists, and interpreters, whose professional activity requires a high level of theoretical knowledge and practical pronunciation skills.

It is concluded that the development of phonetic competence in higher education requires a balanced integration of theoretical understanding, practical training, and psychological awareness, supported by both traditional linguistic foundations and modern technological tools.

Keywords: phonetic competence, phonological awareness, pronunciation teaching, gamification, higher education.

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РОЗВИТОК ФОНЕТИЧНОЇ КОМПЕТЕНТНОСТІ СТУДЕНТІВ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ

Анотація. У статті розглядаються методологічні основи розвитку фонетичної компетентності у вищій освіті. Трансформація сучасної мовної освіти та високі вимоги до ефективної міжкультурної комунікації вимагають модернізації викладання фонетики та інтеграції теоретичних, практичних та психологічних компонентів навчання. У цьому контексті фонетична компетентність розглядається як цілісна система, що поєднує фонологічну усвідомленість, артикуляційне майстерність, слухове сприйняття (перцепція) та рефлексивний самоконтроль.

У дослідженні здійснено аналіз сучасних лінгвістичних моделей, що пояснюють засвоєння вимови, зокрема гіпотеза контрастивного аналізу та модель навчання мовлення, які враховують вплив рідної мови при вивченні іноземної мови.

Особлива увага приділяється труднощам, з якими стикаються українські студенти в опануванні сегментних та надсегментних особливостей англійської вимови.

Доведено, що ефективне навчання фонетики іноземної мови у вищій освіті повинно виходити за межі традиційних імітаційних методів. Інтеграція артикуляційної усвідомленості, орієнтованого на сприйняття навчання, гейміфікації та кооперативного навчання значно підвищує функціональну зрозумілість та автономію студентів.

У статті наголошується на важливості навчання фонетики для майбутніх викладачів мов, філологів та перекладачів, чия професійна діяльність вимагає високого рівня теоретичних знань та практичних навичок вимови.

Таким чином, розвиток фонетичної компетентності у вищій освіті вимагає збалансованого поєднання теоретичних знань, практичної підготовки та психологічної обізнаності.

Ключові слова: фонетична компетентність, фонологічна усвідомленість, навчання вимові, гейміфікація, вища освіта.

Introduction. The development of phonetic competence in higher education plays an important role in modern philological and pedagogical training, particularly within the context of globalized communication and the increasing demand for high-level linguistic proficiency. Phonetic competence is not merely the ability to produce individual sounds in isolation, rather, it encompasses a complex set of skills including the mastery of segmental and suprasegmental features, the ability to perceive and discriminate between various phonological patterns, and the capacity to apply this knowledge dynamically in real-time speech production. In the Ukrainian educational landscape, as well as in international academic settings, the focus has shifted from a purely mechanical "listen-and-repeat" methodology to a more integrated, competence-based approach that emphasizes the functional and communicative aspects of pronunciation. This shift is driven by the recognition that intelligible and accurate pronunciation is fundamental to effective cross-cultural dialogue, professional success in fields such as interpreting and teaching, and the overall confidence of the language learner.

In higher education, the acquisition of phonetic skills is often complicated by the influence of the native language (L1), cognitive factors such as aptitude and memory, and the psychological barriers associated with identity and self-consciousness.

For students in Ukraine, the phonetic systems of Slavic languages often present specific interference patterns when learning English or other Germanic languages, demanding specialized pedagogical strategies that address these contrastive differences. Internationally, the discourse on phonetic pedagogy has expanded to include humanistic orientations, neuro-linguistic programming, and the integration of sophisticated technological tools like speech recognition software and mobile learning platforms [1].

The aim of the study. This article aims to synthesize current research regarding the theoretical foundations, methodological strategies, and technological innovations that characterize phonetic instruction in higher education.

By comparing Ukrainian practices with global trends, this analysis seeks to identify effective techniques for developing students' phonetic competence in higher education.

Theoretical framework. Various aspects of developing phonetic competence have become the focus of both Ukrainian and international research in recent years. Ukrainian scholars have examined methods of forming phonetic competence in language students (I. Andrushchenko [2], I. Moliaka [7]), as well as the use of embodied learning technology in developing phonetic skills (O. Dubrova, I. Shkola, V. Panchenko [5]). International studies address effective techniques for developing phonetic competence (S. Afshari, S. Ketabi [1];

F. Azzahra [3]) and innovative approaches to teaching English phonetics for non-language majors (H. Yang [12]).

The theoretical foundations of phonetic competence development are grounded in contemporary research on pronunciation pedagogy and phonetic instruction. An overview of key trends in phonetics teaching and learning is presented by J. A. Mompeán, M. Ashby, and H. Fraser [8], while S. Afshari and S. Ketabi [1] analyze current tendencies and future directions in teaching English pronunciation. The role of phonetics and phonology in improving pronunciation instruction is further emphasized in the works of D. Counselman [4]. These studies highlight the shift from purely imitative models toward approaches that integrate perception training, communicative practice, and learner autonomy.

Recent research also underscores the importance of individual differences in pronunciation development. K. Saito, Y. Suzukida, and H. Sun [10] explore the role of aptitude and learning experience in second language pronunciation proficiency, demonstrating that systematic instruction combined with sufficient exposure significantly enhances phonetic outcomes. Moreover, G. Scivoletto [11] introduces the concept of phonetic education as embodied language learning, stressing the importance of raising learners' self-consciousness and articulatory awareness.

Overall, the analysis of Ukrainian and international sources demonstrates a consistent shift toward comprehensive, integrative models of phonetic competence development. These models combine cognitive, articulatory, technological, and affective components, ensuring that pronunciation training responds to modern educational demands.

Results and discussion. The conceptual framework of phonetic competence is rooted in the dual concepts of phonological awareness and articulatory phonetics. Phonological awareness (PA) is defined as the ability to recognize and manipulate the sound structures of spoken language, a skill that is traditionally associated with early literacy but remains vital for adult learners in higher education. In the context of university-level language acquisition, PA involves a deep understanding of how sounds function within a system to convey meaning, including the recognition of phonemes, syllables, and prosodic features such as stress and intonation. This awareness allows students to move beyond mere imitation toward a conscious understanding of the linguistic rules of the speech. Furthermore, the development of PA is closely linked to other cognitive domains, including vocabulary development, working memory, and word consciousness, which collectively support the learner's ability to process and produce complex phonetic patterns in a second language (L2) [10].

Articulatory phonetics, on the other hand, provides the physical and physiological basis for sound production. In higher education, particularly for

future language specialists, the explicit study of articulatory phonetics is essential for developing self-consciousness regarding the bodily reality of speech. This "embodied" approach to language learning encourages students to perceive the movements of the speech organs (the tongue, lips, and vocal cords) as they produce specific sounds [11]. By fostering this level of self-awareness, educators can help students overcome the limitations of traditional "listen-and-repeat" methods, which often fail to address the underlying physical causes of mispronunciation. This formative value of phonetic education is increasingly framed within the perspective of body pedagogy, promoting an inclusive and democratic approach where students are empowered to master their own vocal apparatus through perception and conscious control [11].

The integration of these two components — the cognitive awareness of sound systems and the physical mastery of articulation — forms the basis of phonetic competence. In Ukrainian higher education, this integration is often achieved through a structured progression from theoretical knowledge to practical application. Students are first introduced to the phonetic system of the target language, learning the International Phonetic Alphabet (IPA) and the rules of phonotactics, before engaging in intensive articulatory drills and communicative exercises [2; 7]. This systematic approach ensures that the quality of phonetic competence is built upon a solid foundation of phonetic skills and assimilated knowledge, allowing for a dynamic interaction between theory and practice. As students progress, their ability to monitor their own speech and make necessary modifications becomes a criterion of their developing proficiency [10].

Understanding the development of phonetic competence requires not only practical training but also a strong theoretical foundation. Modern linguistic models help explain why second language learners experience specific pronunciation difficulties and how these challenges can be addressed effectively. In this context, theories such as the Contrastive Analysis Hypothesis and the Speech Learning Model provide important insights into the role of native language influence in L2 acquisition [7; 10].

Linguistic models such as the Contrastive Analysis Hypothesis (CAH) and the Speech Learning Model (SLM) provide critical insights into the challenges faced by L2 learners, particularly regarding native language (L1) interference. The CAH suggests that the primary source of difficulty in acquiring a second language is the difference between the L1 and the L2; where the systems overlap, learning is facilitated, but where they diverge, interference occurs [8]. For Ukrainian students, this often manifests in the transfer of Slavic phonological rules to English, such as the devoicing of final consonants or the lack of distinction between long and short vowels. Understanding these specific points of interference allows educators to design targeted interventions, such as minimal

pair exercises, that focus on the most problematic areas for a given linguistic group [7].

The Speech Learning Model further refines this understanding by suggesting that the ability to perceive and produce L2 sounds is influenced by the perceived distance between L1 and L2 categories [10]. If a learner perceives an L2 sound as being "similar" to an L1 sound, they may fail to create a new phonetic category, leading to persistent "foreign accent" features. On contrary, if a sound is perceived as "new" or "different", the learner may be more successful in establishing a distinct category [8]. In higher education settings, this theoretical approach is considered in forming the curriculum, ensuring that students are not only practicing sounds but are also being trained to perceive the subtle acoustic differences that distinguish the target language from their native tongue. This focus on perception is a key trend in modern phonetic pedagogy, as research suggests that accurate perception is a prerequisite for accurate production [8; 9].

Moreover, the role of L1 interference is not limited to segmental features; it also profoundly affects suprasegmental elements such as rhythm, stress, and intonation.

Many Ukrainian learners struggle with the stress-timed rhythm of English, as their native language exhibits different rhythmic properties. Linguistic models emphasize that mastering these prosodic features is often more important for overall intelligibility than the perfect production of individual phonemes [1]. Therefore, higher education curricula in Ukraine and abroad are increasingly incorporating prosody into their phonetic curricula, using contrastive analysis to highlight the differences in intonation patterns and sentence stress between the L1 and L2. This comprehensive linguistic approach ensures that students develop a holistic phonetic competence that encompasses all levels of the sound system [8; 10].

These linguistic findings show that learning pronunciation is not just about repeating sounds, but also about understanding, perceiving, and consciously controlling them. This has caused a gradual shift in phonetic teaching in higher education from traditional methods to more humanistic and reflective approaches that encourage active student participation. Traditional methods, characterized by the "listen-and-repeat" drill, focused primarily on the imitation of a teacher or a recording. While these methods provided necessary repetition, they often lacked the depth required for students to internalize the phonetic rules and apply them independently. In contrast, modern humanistic approaches emphasize the development of speech monitoring and modification strategies. These strategies empower students to become active participants in their own learning by teaching them how to listen to their own speech, identify deviations from the target norm, and make real-time adjustments [1].

Humanistic approach in phonetic teaching also involves the integration of affective variables, such as the student's emotional state and interpersonal relationships, into the instructional design. Techniques derived from neuro-linguistic programming (NLP) are used to help students visualize successful communication and manage the stress associated with speaking a foreign language. By focusing on "functional intelligibility" and "communicability" rather than native-like perfection, these approaches reduce the pressure on students and foster a more positive attitude toward phonetic practice [1]. In Ukrainian universities, this humanistic approach is increasingly evident in the use of conversation groups and motivating strategies designed to raise student interest in language acquisition. These activities provide an environment where students can practice their phonetic skills in a meaningful, communicative context, thereby bridging the gap between theoretical knowledge and practical application [2; 5].

For students preparing for careers as foreign language teachers, philologists or interpreters, the explicit teaching of phonetics is not just beneficial, it is essential. These future professionals require a level of phonetic competence that goes beyond basic intelligibility; they must possess a deep, theoretical understanding of the phonetic system and the ability to model accurate pronunciation for others. In Ukrainian higher education, the training of student philologists involves a rigorous curriculum that includes the study of phonology, articulatory phonetics, and the methodology of teaching pronunciation [2; 7]. This explicit instruction ensures that students can not only produce the sounds correctly themselves but can also explain the mechanics of sound production to their future pupils or navigate the complex phonetic nuances required in high-level interpreting.

One of the key strategies used in the training of these specialists is the use of cognitive, pragmatic, and reflective criteria to assess the formation of phonetic competence. Students are evaluated on their knowledge of phonetic rules (cognitive), their ability to apply these rules in communicative situations (pragmatic), and their capacity to evaluate and improve their own performance (reflective) [10]. This multidimensional assessment framework encourages a comprehensive approach to learning.

Moreover, the explicit teaching of phonetics for these groups often involves a focus on phonemic coding and associative memory, which are critical components of language aptitude. By strengthening these cognitive skills through targeted exercises, educators can help future specialists achieve a more refined and stable phonetic system. The use of the International Phonetic Alphabet (IPA) is a cornerstone of this explicit instruction, providing a universal tool for the description and analysis of sounds across different languages [5]. This theoretical grounding allows future teachers to diagnose the pronunciation errors of their

students more accurately and to provide clear, actionable feedback. In the context of interpreting, a strong phonetic foundation is vital for the accurate perception of source language input and the clear production of target language output, particularly in high-pressure environments where clarity is paramount [6].

Teaching phonetics presents a unique set of challenges, including limited instructional time, lower levels of initial motivation, and a primary focus on professional rather than linguistic goals. To address these issues, innovative teaching strategies are being developed to make phonetic learning more engaging and relevant to students' needs. One such strategy is the use of "real situations", where students practice pronunciation in contexts that mirror their future professional lives [12]. Thus, educators can increase student motivation and demonstrate the practical value of good pronunciation. This approach moves away from abstract drills and toward "functional" phonetic competence that serves the student's broader professional objectives.

Another innovative technique is the "gamification" of phonetic learning. By incorporating game-like elements, such as competition, rewards, and interactive challenges, into the curriculum, instructors can make the repetitive nature of phonetic practice more enjoyable. Gamified activities can include pronunciation apps that track progress, classroom competitions for the clearest speech, or digital simulations where students must use correct pronunciation [6; 12]. Additionally, "cooperative learning" strategies, where students work in pairs or small groups to provide feedback to one another, help to build a supportive community of learners and reduce the anxiety often associated with individual performance [12].

These tools allow students to practice independently and focus on the specific sounds or prosodic patterns that are critical for their professional success. By integrating these innovative techniques, higher education institutions in Ukraine and abroad are ensuring that all students, regardless of their major, have the opportunity to develop the phonetic skills necessary for the modern global workforce.

Conclusions. The development of phonetic competence in higher education is a multifaceted process that requires the integration of theoretical knowledge, practical skills, and psychological readiness. This literature review has explored the various dimensions of phonetic instruction, from the foundational concepts of phonological awareness and articulatory phonetics to the innovative use of technology and humanistic pedagogical strategies. The comparative analysis of Ukrainian and international approaches reveals a shared commitment to moving beyond traditional "listen-and-repeat" methods toward a more holistic, competence-based model. In Ukraine, the focus on rigorous theoretical training for future specialists is being increasingly complemented by

the use of mobile learning and multimedia tools, ensuring that students are well-prepared for the demands of their professional careers. Internationally, the trend toward "functional intelligibility" and the incorporation of psychological insights into the classroom is helping to create more supportive and effective learning environments for all students [1], [10].

One of the key findings is the critical role of self-consciousness and speech monitoring in the acquisition of phonetic skills. By treating phonetic learning as an "embodied" experience and providing students with the tools to monitor and modify their own speech, educators can foster a level of autonomy that is essential for long-term success. The integration of speech recognition software and real-time feedback systems has further enhanced this process, providing students with the objective, individual feedback they need to refine their pronunciation [6; 12]. Additionally, the use of innovative strategies such as gamification and professional-context practice has proven effective in engaging non-language majors and increasing their motivation to master the phonetic aspects of a second language [12]. These advancements demonstrate that while phonetic competence is a challenging goal, it is achievable through a combination of targeted instruction, technological support, and a focus on the learner's psychological well-being.

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