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DIGITAL TOOLS FOR IMPROVING PHONETIC SKILLS IN ENGLISH: CRITICAL ANALYSIS AND METHODOLOGY OF USE

Abstract. The article deals with contemporary digital technologies to ascertain their potential benefits and drawbacks for helping English language learners improve their phonetic proficiency. The paper's relevance is determined by the expansion of technological resources and their growing influence on the teaching of foreign languages. The study's objective is to present a thorough evaluation of contemporary digital resources for enhancing English phonetic proficiency. The objectives are also to systematically and critically assess current digital tools for teaching English phonetics, identify methodological guidelines for using digital tools effectively to develop phonetic competence and contrast the features, benefits, and drawbacks of the most popular English language learning platforms and applications. Thus, the study aims to provide a thorough scientific methodology for teaching English phonetics using digital resources. In light of the digital change, this will contribute to raising the standard of language instruction. Contemporary audio-phonetic platforms provide contextualized English learning by using confirmed native speakers. With the help of video content, Youglish provides a novel approach to pronunciation learning that lets people quickly locate particular words in natural speech. Using YouTube videos,

the platform helps people learn how words are used in various settings, from academic lectures to casual conversations, significantly improving pronunciation knowledge.

The authors underline that digital technologies have significantly increased the opportunities for educators and learners as well. There are also aadvantages and disadvantages to using gamification, AI, and self-directed learning. In order to develop more effective and flexible teaching strategies, future research should concentrate on incorporating these technologies into intricate learning platforms. Pronunciation can be improved by digital technology, but only if they are properly included in the learning process.

Keywords: digital tools, gamification, English language, methodology

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ЦИФРОВІ ЗАСОБИ ДЛЯ ВДОСКОНАЛЕННЯ ФОНЕТИЧНИХ НАВИЧОК АНГЛІЙСЬКОЇ МОВИ: КРИТИЧНИЙ АНАЛІЗ ТА МЕТОДИКА ВИКОРИСТАННЯ

Анотація. У статті розглядаються сучасні цифрові технології, щоб визначити їхні потенційні переваги та недоліки для допомоги тим, хто вивчає англійську мову, покращити свій фонетичний рівень. Актуальність статті зумовлена розширенням технологічних ресурсів та зростанням їх впливу на викладання іноземних мов. Метою дослідження є представити ретельну оцінку сучасних цифрових ресурсів для покращення фонетичного володіння англійською мовою. Цілі також полягають у систематичному та критичному оцінюванні сучасних цифрових інструментів для навчання фонетики англійської мови, визначенні методичних вказівок щодо ефективного використання цифрових інструментів для розвитку фонетичної компе-

тентності та порівняння особливостей, переваг і недоліків найпопулярніших платформ і програм для вивчення англійської мови. Таким чином, дослідження має на меті забезпечити ґрунтовну наукову методику викладання фонетики англійської мови з використанням цифрових ресурсів. У світлі цифрових змін це сприятиме підвищенню рівня навчання мови. Сучасні аудіофонетичні платформи забезпечують контекстуальне вивчення англійської мови за допомогою перевірених носіїв мови. За допомогою відеовмісту Youglish пропонує новий підхід до вивчення вимови, який дозволяє людям швидко знаходити певні слова в природній мові. Використовуючи відео YouTube, платформа допомагає людям дізнатися, як слова використовуються в різних ситуаціях, від академічних лекцій до звичайних розмов, значно покращуючи знання вимови.

Автори підкреслюють, що цифрові технології значно розширили можливості для освітян і учнів. Існують також переваги та недоліки використання гейміфікації, ШІ та самостійного навчання. Щоб розробити більш ефективні та гнучкі стратегії навчання, майбутні дослідження мають зосередитися на включенні цих технологій у складні навчальні платформи. Вимова може бути покращена цифровими технологіями, але тільки якщо вони правильно включені в процес навчання.

Ключові слова: цифрові інструменти, гейміфікація, англійська мова, методологія

Problem's Statement. Given that English is an international language of communication, proficiency in a foreign language significantly impacts the quality of phonetic skills. The present educational environment has seen tremendous change due to digital technology, which has created entirely new avenues for studying language components, including phonetics.

Since phonetic skills necessitate continual listening and close interaction with native speakers, they have historically been regarded as the most challenging to learn independently. However, advancements in artificial intelligence, speech recognition, and interactive applications have totally transformed the approach to learning pronunciation.

The study evaluates contemporary digital technologies to ascertain their potential benefits and drawbacks for helping English language learners improve their phonetic proficiency.

The paper's relevance is determined by the expansion of technological resources and their growing influence on the teaching of foreign languages. It is important to thoroughly analyze the productiveness of modern digital instruments for improving English phonetic skills in the context of globalization and the digital transformation of learning process. Artificial intelligence, machine

learning, and interactive apps are expanding the possibilities for personalized pronunciation training. However, this also requires critical scientific reflection on the methodological foundations of their application in the educational process.

The study's objective is to present a thorough evaluation of contemporary digital resources for enhancing English phonetic proficiency. The objectives are also to systematically and critically assess current digital tools for teaching English phonetics, identify methodological guidelines for using digital tools effectively to develop phonetic competence and contrast the features, benefits, and drawbacks of the most popular English language learning platforms and applications. Thus, the study aims to provide a thorough scientific methodology for teaching English phonetics using digital resources. In light of the digital change, this will contribute to raising the standard of language instruction.

The review of the scientific background. "Language learning strategies are specific actions, behaviors, steps, or techniques students use to improve their progress in developing L2 skills. These strategies can facilitate the internalization, storage, retrieval, or use of the new language" according to Rebecca Oxford, one of the top scholars on autonomous learning [12]. These techniques can support the internalization, storage, retrieval, or use of a new language According to R. Oxford "Autonomous learning involves learners taking greater control over their own learning process, setting goals, implementing strategies, and assessing outcomes – all of which can be significantly enhanced through thoughtfully applied technology" [13]. She also highlights the significance of using learning strategies to develop phonetic skills.

Furthermore, R. Oxford holds that the teacher should be supported by technology in phonics instruction rather than replaced. She thinks that technology in phonetics education should serve "as a scaffold, not a crutch". And the main aim is to develop learners who can independently recognize, analyze, and correct their own patterns of pronunciation. This suggests that integrating technology into the classroom could aid pupils in developing self-monitoring abilities.

Another prominent researcher in this area is Martha C. Pennington [9, 10]. She has significantly advanced her research using contemporary technologies to teach English phonology and pronunciation. Her areas of interest include phonology and phonetics, applied linguistics, sociolinguistics, and computer-assisted language learning (CALL). Among the numerous books Pennington has authored are "The Computer in Applied Linguistics and Phonology in English Language Teaching". She studies intercultural communication and pronunciation learning using technology.

Martha Pennington's works have significantly influenced modern technology-based approaches to teaching English phonetics. She developed a theoretical framework that describes how students can choose and practice

phonological knowledge in second languages. By applying this concept, educational technology developers could produce tools considering the cognitive processes involved in learning pronunciation. M. Pennington also emphasized the significance of acquiring phonetics in a communicative setting. This has impacted the development of contemporary apps that teach users how to communicate in authentic settings. Her work has, therefore, served as a significant theoretical foundation for innovative technological methods of teaching English phonetics that integrate linguistic theory with hands-on learning exercises.

Robert Godwin-Jones emphasizes that technology should not be the primary goal of the learning process but only an auxiliary tool because “the technology for language learning should be like a good teacher: present when needed, invisible when not, and always focused on facilitating the learning process rather than showcasing technological wizardry” [5]. He also draws attention to the need to improve mobile applications: “Mobile apps for pronunciation training offer unprecedented opportunities for contextualised practice, but their design often prioritises entertainment over pedagogical soundness. We need a better balance” [5].

Rebecca Hincks also studies computer-assisted training of intonation and prosody. “Computer Support for Learners of Spoken English” [6], “Pronunciation Assessment Using Speech Technology” [7], and “Speech technologies for pronunciation feedback and evaluation” [8] are some of the projects she has worked on that measure and evaluate prosodic aspects, particularly intonation. She has investigated how automatic speech recognition software might assist students in improving their pronunciation, particularly with regard to supra-segmental components, which are frequently more challenging to comprehend than individual sounds.

Ron Thomson studies learning second languages. His primary areas of interest in the study are how people learn a new language's phonetic system and the most effective ways to teach it: “current technology has the potential to offer more than classroom- based instruction on a monitor” [14]. In 2009, Ron Thomasson developed English Accent Coach (www.englishaccentcoach.com), an online resource. This free tool helps learners better understand and generate English sounds by using Highly Variable Phonetic Training (HVPT) techniques. According to his studies, training in sound perception can significantly increase pronunciation accuracy. Thomson contends that training should incorporate a range of voices and settings in order to create trustworthy phonetic categories. He abandons the conventional “listen and repeat” learning method, favoring a perceptual training technique.

It is also worth noting that this topic is also relevant in Ukraine, so many scholars are working on the issue of improving phonetic skills in learning English

using digital tools. The research of Olga Bihych, Oksana Karpiuk, and Sofia Nikolaieva forms the methodological basis for such studies in Ukraine.

Olha Bihych, for example, in her works, including “Modern Approaches to the Formation of Foreign Language Phonetic Competence in a Secondary School,” notes that the usage of Internet resources in teaching foreign languages and the integration of Internet tools into the educational process allow for more effective solution of several didactic tasks: to form and improve reading skills by directly using Internet materials of varying degrees of complexity; to improve listening skills based on authentic audio texts of the Internet as well as texts prepared by the teacher; to improve writing and speaking skills; to replenish the vocabulary, both active and passive, with the vocabulary of the target language; to acquaint students with cultural realities, taking into account language etiquette, peculiarities of linguistic behavior of different peoples in communication, peculiarities of culture, traditions of the target language country [1].

Oksana Karpiuk, in turn, is working on creating digital learning materials that meet modern educational standards and the needs of students.

Sofia Nikolaieva is a Doctor of Pedagogical Sciences, a Professor, and an expert in foreign language teaching methods. She developed the theoretical foundations of individualized learning, lexical competence testing, and intercultural foreign language education. She is the author of numerous textbooks and monographs that have influenced modern approaches to language teaching in Ukraine. In particular, she co-authors the significant monograph “Modern Technologies of Teaching Foreign Languages and Cultures in Secondary and Higher Education Institutions” [4]. This work analyses the latest technologies in teaching foreign languages and cultures.

As a result, the theoretical framework analysis demonstrates how digital technologies have fundamentally altered how English phonetics is taught. Individual pronunciation instruction now has more options because of digital technologies.

Previously thought to be the most challenging, phonetic abilities are now easy to grasp because of artificial intelligence, automatic speech recognition, and interactive programs. Recent studies highlight the significance of critically evaluating digital tools and their benefits and drawbacks.

Modern pronunciation learning apps. Artificial intelligence is used in the various technology ecosystems that make up modern pronunciation learning applications. While Duolingo Pronunciation provides a game-based learning paradigm with a rapid assessment of pronunciation correctness, it is limited in its ability to perform extensive phonetic analysis. Because it considers the unique characteristics of the user's native tongue and provides personalized pronunciation correction guidance, ELSA Speak adopts a more formal approach.

Google Translate can be used as an additional tool that can replicate a word's sound model, but it cannot do in-depth phonetic analysis. Rosetta Stone is still a traditional platform that employs a thorough strategy built on interactive phonetic teaching and immersion in the language environment.

Advanced artificial intelligence methods like machine learning, spectral analysis of sounds, and comparison with reference pronunciation are used by speech recognition algorithms. The technological complicatedness of the systems is absolutely different, from simple sound recognition to intricate context-specific phonetic feature analysis.

The analysis of the systems' accuracy reveals that the top programs can identify sounds, adjust to various accents, consider aspects of pronunciation, and offer helpful comments. The most recent iterations of Google Translate, Rosetta Stone, and ELSA Speak are regarded as the best.

It is critical to realize that a single program cannot entirely replace live speech and interaction with native speakers. Digital resources are helpful tools that greatly enhance conventional phonetic learning methods without taking their place.

Modern audio-phonetic platforms. Contemporary audio-phonetic platforms provide contextualized English learning by using confirmed native speakers. Forvo is a well-known pronunciation tool that lets people worldwide hear every word in a vast collection of audio recordings of words in over 300 languages. The website is unique because it allows learners to hear how native speakers of various dialects and regional variations of English pronounce words.

With the help of video content, Youglish provides a novel approach to pronunciation learning that lets people quickly locate particular words in natural speech. Using YouTube videos, the platform helps people learn how words are used in various settings, from academic lectures to casual conversations, significantly improving pronunciation knowledge.

Professionally created phonics learning resources are available at BBC Learning English. The website, which was created by a qualified group of linguists and methodologists, provides interactive resources, podcasts, and structured video sessions. It is unique because people may study pronunciation in a natural speaking environment by combining the training materials with actual news items.

To learn pronunciation in context is significantly more effective than to learn sounds alone. Sound reduction, intonation patterns, speech rhythm, and the capacity to identify phonetic elements in spoken speech are all crucial for unerstanding. In addition to listening to individual words, contemporary systems let learners watch live conversations and pick up on the nuances of pronunciation in various communication situations.

By addressing the drawbacks of traditional approaches, these materials give users the most authentic language experience imaginable. They assist people in transforming their passive understanding of language into an active practice that enables them to hear the proper pronunciation and think about it in various communicative circumstances.

Video resources and interactive platforms. New learning conditions have appeared due to the success of interactive platforms and video materials in teaching English phonetics. Several educational resources, including interactive lessons from native speakers and classroom lectures, are available on YouTube phonics channels. Prominent channels like BBC Mastering English, English with Lucy, and Rachel's English provide expertly produced videos that address various intricate phonetic topics, from mastering intonation patterns and accent variations to articulating particular sounds.

Two online platforms, EdX and Coursera, have transformed remote language learning, which provides courses from top universities worldwide. These platforms include scientifically based phonics courses with interactive assignments, theoretical and practical phonics parts, and more. Students get a rare chance to master the nuances of pronunciation under the direction of qualified linguists, receive expert comments, and work toward international certification.

It is particularly beneficial to learn English with native speakers in order to get live pronunciation. In contrast to learning resources that are artificially modeled, they exhibit realistic speaking tempo, regional accents, emotional intonations, and linguistic nuances. Learning is much more improved when learners can examine nonverbal communication cues and facial expressions and hear the proper pronunciation.

People can practice a language by listening to it with interactive phonetic simulators. With machine learning, artificial intelligence, and voice recognition technologies, modern applications can analyze user speech quickly. These systems offer focused correction exercises, phonetic error detection, comprehensive feedback, and learning paths tailored to people's needs.

The primary benefit of video resources and interactive platforms is their capacity to integrate auditory, visual, and interactive channels of information reception. This produces a multisensory learning environment that significantly boosts the efficacy of learning phonetic skills compared to conventional techniques.

Specialised language applications. The newest technology is incorporated into specialized language programs to teach English phonetics. FluentU is a unique contextual language learning tool that uses actual video content. The app's primary feature is its ability to teach pronunciation through real-world video content, including news articles, music videos, and movie snippets. A

memorization system, interactive subtitles, and phonetic cues are included in every movie.

A team of methodologists and linguists created Babbel, a more structured approach to language acquisition. With unique phonetic blocks, the app's scientifically grounded learning methodology incorporates extensive pronunciation practice. The adaptive learning system in Babble considers each user's unique traits, native language, and proficiency level in English.

Interactive Phonetic chart for English Pronunciation is a high-tech tool for learning the phonetic system of the English language. The Interactive Phonetic Chart allows learners to carefully study the articulation of each sound, showing people where the lips, tongue, and other speech organs are located during pronunciation. Not only can users listen to the sounds, but they can also see an animated model of sound formation. It greatly facilitates the understanding of phonetic mechanisms.

The use of augmented reality (AR) in leraning language is evolving. AR apps can overlay interactive prompts on the user's image, display real-time sound creation processes, and build three-dimensional models of the speech apparatus. Using such technology, learners can rapidly adjust the position of the tongue, lips, and other articulatory organs.

The important benefit of specially designed language apps is their ability to modify the learning process and customize the information to the user's cognitive demands and features. Taking into account the shortcomings of classical approaches, they transform learning phonetics into an engaging, participatory, and accurately grounded experience.

The emergence of a new paradigm in language instruction is supported by a complex set of methodological advantages and disadvantages shown by a critical evaluation of digital instruments for teaching and learning English phonetics. The ability to personalize learning, which allows teachers to adapt the curriculum to each student's needs, is the main advantage of digital technologies. With the help of artificial intelligence such digital tools can quickly identify students’ skill levels, focusing on specific phonetic problems, and design personalized learning courses based on a student's traits, native communication, and prior English language learning experience.

Quick feedback is an innovative pronunciation training method that differs from conventional methods. Unlike classroom training, where an instructor might not instantly catch the intricacies of phonetic problems, digital tools offer fast diagnostics with a complete study of even the slightest variances in pronunciation. Computer programs can identify mistakes, provide targeted remedial guidance, monitor progress, and instantaneously compare a user's pronunciation to reference samples.

In the study of phonetics, content variety, and accessibility are emerging as potent methodological tools. Such platforms provide unequaled access to actual content, which include professional video courses, academic lectures, podcasts, and movie clips. This helps students to get to know and learn regional accents, different intonation patterns, and stylistic peculiarities of speech while exposing themselves to various communication situations.

However, digital instruments also have many drawbacks. For example, some restrictions of automatic assessment are caused by the inability to thoroughly analyze the communicative environment, emotional coloring, and nuances of intercultural communication. Artificial intelligence cannot replace live conversation's contextual flexibility, empathy, and nuances, even with highly advanced algorithms.

The absence of real-time communication is one of the primary drawbacks of digital technologies. Computer programs cannot mimic natural speech patterns, respond to nonverbal clues, offer comprehensive communication practice, or teach individuals how to communicate. The development of communicative ability still requires live interaction with a native speaker.

The complexity of a language's phonetic system determines the technological limitations of voice recognition. Even the most sophisticated artificial intelligence systems cannot recognize complicated phonetic constructions, emotionally charged speech, and dialectal variances. In addition to being sensitive to outside noise, acoustic systems can also pick up on a person's unique pronunciation and emotional state. Although they can be helpful, digital tools cannot fully replace conventional teaching techniques. A complete language education program that includes live communicative practice should integrate digital tools.

It works well for teaching English phonetics using digital instruments. This method's base is a methodical approach that combines both modern technology's capabilities and each student's unique possibilities. Students must realize that studying pronunciation requires a proper method that goes beyond the simple usage of technology. Various learning strategies, including active speaking, continuous practice, exposure to real-world content, and deliberate study of phonetic theory, are all part of comprehensiveness.

An important detail in the process of using digital resources and conventional teaching techniques is that digital programs cannot be the complete substitutes for group discussions, tutoring, and in-person interactions. At the same time, they are valuable and necessary nowadays tools that help students to find and use learning resources whenever they want, get immediate feedback, and customize learning to their unique needs. So, digital tools should be used to aid language learners, not as a substitute for other teaching methods.

The independent study of English phonetics using digital tools and platforms is crucial methodologically and should always be well-planned and organized. It should include important steps such as analyzing and identifying phonetic problems and requirements, choosing appropriate application practices for 30 to 60 minutes, assessing students' success, and developing modern teaching methods. It is crucial to analyze students' development and be aware of their accomplishments in addition to completing the chores mechanically.

A thorough methodological approach is necessary when integrating digital resources into the educational process for educators. Adding technology applications alone is insufficient. A learning strategy that combines cutting-edge and conventional teaching techniques must be developed. The tutor should assist and help students in critically assessing the potential of digital tools by serving as both an organizer and an authority. Evidence-based learning approach, feedback, personalization, variety of material, ease of use, and technical quality of speech recognition are some of the most important evaluation criteria for apps. Selecting programs that measure the dynamics of phonetic skills and offer comprehensive progress analytics in addition to instruction is crucial.

Consultations, modifying learning routes, and ongoing progress monitoring are all part of supporting and supervising students' independent work. The teacher or tutor must constantly control and comment on students' work in digital applications, evaluate statistical data, identify problem areas, and provide specific recommendations. However, it is crucial to keep the balance so that a technology tool does not become a personal objective.

Effective methods for using digital technologies are based on awareness, methodicality, individualization, and continuous practice. Using technology to teach English phonetics is not viewed as a magic bullet in a complete approach. The research on using digital technologies to enhance English phonetic skills indicates a radically new phase in the language teaching approach. Artificial intelligence and machine learning technologies set apart the contemporary learning environment from conventional teaching techniques.

The work supports the idea that digital instruments should be helpful, and in-person interactions and communication between professional educators cannot be entirely replaced. Their effectiveness is determined by their capacity for adaptation, immediate feedback, and continuous practice. The methodological power of digital tools is a set of combining different instruments, deliberate navigation of instructional materials, and critical evaluation of artificial intelligence capabilities. Fundamentally crucial is the teacher's function as an organizer and expert who can design distinctive learning pathways.

More research is needed to examine how neural networks, augmented reality, and customized learning algorithms affect phonological competence

acquisition. Education is still being transformed by digital technology, which offers fresh chances for enjoyable and successful language learning.

CONCLUSIONS. Digital technologies have significantly increased the opportunities for educators and learners as well. There are also aadvantages and disadvantages to using gamification, AI, and self-directed learning. In order to develop more effective and flexible teaching strategies, future research should concentrate on incorporating these technologies into intricate learning platforms. Pronunciation can be improved by digital technology, but only if they are properly included in the learning process. Prominent scientists' research demonstrates the significance of integrating technology with instructional strategies, customizing learning, and modifying feedback algorithms. Thanks to research in this field, we will be able to teach English even more effectively with digital tools.

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