



The Significance Of Artificial Intelligence In The System Of Teaching Phonetics

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ABSTRACT

This article examines the teaching of phonetic learning materials using artificial intelligence (AI) within a digital education environment. The author analyzes the potential of AI technologies for developing pronunciation, intonation, and stress skills. Key areas include automatic pronunciation recognition and analysis, interactive phonetic exercises, personalized learning, visual representation of intonation and stress, the use of digital dictionaries and chatbots, and performance monitoring. The objectives, types, and methodological significance of interactive phonetic exercises are also described. It is emphasized that auditory discrimination, the “Find and Say” activity, role-playing, tongue twisters, digital and multimedia exercises, and group competitions contribute to the development of phonemic hearing, articulatory skills, correct stress placement, and speech fluency. AI can analyze a learner’s individual errors, recommend appropriate exercises, and provide teachers with opportunities for objective assessment. Interactive exercises are effective in teaching pronunciation in primary and secondary grades, transforming the learner from a passive listener into an active participant. They develop phonemic hearing, articulation, stress skills, and speech fluency. The article concludes that combining AI technologies with traditional methods can raise the quality of phonetic instruction to a new level, improve pronunciation accuracy, and develop speech competence.

KEYWORDS: Artificial intelligence, phonetics teaching, pronunciation, intonation, stress, interactive phonetic exercises, automatic pronunciation recognition, speech recognition systems, personalized learning, visualization of intonation and stress, digital dictionaries, chatbots, performance monitoring, phonemic hearing, articulatory skills, tongue twisters, role-playing and dialogue, speech competence.

INTRODUCTION

When globalization is accelerating worldwide, language teaching remains one of the pressing educational tasks. In a digital learning environment, teaching phonetic materials with the support of artificial intelligence (AI) is a modern and innovative way to increase lesson effectiveness. Today, AI technologies make it possible to provide an individualized approach, particularly in developing phonetic skills such as pronunciation, intonation, and stress.

AI-based speech recognition systems record a learner’s pronunciation and compare it with a standard pronunciation model. The system detects errors in sounds and immediately provides recommendations. For example, when sounds specific to Uzbek such as “q”, “g”, “o”, and “x”

are pronounced incorrectly, the program may give guidance on mouth position or stress placement. This method allows learners to practice independently.

Interactive platforms developed on the basis of artificial intelligence automatically monitor exercises for sound discrimination, auditory differentiation, and repetition. For example, a learner listens to a given word and pronounces it again. The program evaluates the response and indicates whether it is correct or incorrect. When this process is enriched with game elements, learners' motivation increases.

Artificial intelligence analyzes a learner's individual errors and recommends exercises suited to those errors. For example, if a learner makes more mistakes with consonant sounds, the system provides additional exercises in that area. Such a differentiated approach helps phonetic skills develop more quickly and effectively.

Modern programs can display a graphic representation of speech, including an intonation contour and pitch. Learners can compare their own speech with a model and visually identify differences in intonation and stress. This is particularly important when teaching the intonation patterns of interrogative, exclamatory, and declarative sentences.

AI-based digital explanatory dictionaries present a word's pronunciation, meaning, and usage in audio and visual formats. Chatbots can interact with learners and organize phonetic practice in a question-and-answer format. This process contributes to the development of learners' oral speech.

Artificial intelligence can store and track the dynamics of a learner's progress. Teachers can review each learner's achievements and difficulties in pronunciation. This helps ensure greater objectivity in assessment.

Interactive phonetic exercises are a system of activities aimed at developing learners' pronunciation, intonation, stress, and listening skills through active and participatory methods. Unlike traditional repetition, they encourage learners to act actively, think independently, and respond quickly. Interactive work is especially effective in primary grades, where it can significantly increase lesson effectiveness.

The main purpose of interactive phonetic exercises is to form correct pronunciation skills, develop the ability to distinguish phonemes, and ensure the naturalness of speech.

1. Auditory Discrimination Exercises

In this type of exercise, learners listen to sounds presented by the teacher or through audio and distinguish between them. For example, they may be asked to differentiate words containing [s] and [sh], [x] and [h], or [q] and [k]. Learners identify the word they heard by showing a card or marking it on the board. These exercises develop phonemic hearing.

2. "Find and Say" Game

The teacher shows pictures whose names contain a particular sound. The learner must pronounce the name of the picture correctly. For example, learners find and say words containing the sound "x". This method expands vocabulary and improves pronunciation accuracy.

3. Role-Playing and Dialogue Exercises

Learners create short dialogues and perform them while paying attention to intonation. The intonation patterns of interrogative, exclamatory, and declarative sentences are applied in practice. This exercise helps develop natural speech.

4. Tongue-Twister (Rapid Pronunciation) Exercises



Complex sound combinations are practiced through tongue twisters and rapidly pronounced phrases. These exercises train the speech apparatus and improve articulation.

5. Digital and Multimedia Exercises

Using an interactive whiteboard, mobile applications, or audio platforms, learners can record their pronunciation and compare it with a model. Graphic indicators can also be used to monitor intonation and stress. This method is particularly effective for individual practice.

In teaching phonetics, the following technologies, methods, and techniques were mainly used:

Topics	Methods and Techniques	Technology
Teaching theoretical information, e.g., "Classification of Vowels and Consonants"	Venn diagram T-chart Cluster method Comparative method	Technology for developing several essential speech skills while completing a single task.
Pronunciation of sounds	"Find its place" technique	1. First, learners were asked to explain the meaning of a given aphorism. The teacher used the "Brainstorming" method. Within four minutes, seven learners expressed their opinions about the aphorism. During this time, the teacher pointed out to two learners which sounds they were pronouncing incorrectly and reminded them of the correct pronunciation. Work was carried out on standard literary pronunciation. 2. The remaining two stages of the task were written, and all learners participated actively. They were divided into small groups and the groups were named. When learners were asked to determine the place of articulation of the consonants occurring in the aphorism on the basis of pronunciation, they correctly identified the place of articulation of most consonants, even though information about consonant classification had not been provided. Some errors were explained by the teacher, and conditions for collaborative work were created. 3. As a second task, teams were asked to find and write synonyms for each word. For the word "men" they wrote "kamina", and for "istamoq" they wrote "xohlamoq"; some learners spelled "xohlamoq" incorrectly as "xoxlamoq", "hoxlamoq", or "hohlamoq".
Voiced-voiceless distinction	"Chain" technique; "Find the pair"	
The topic of syllables	"Domino" technique; "Who can find more words?" based on pictures; creative approach	
The significance of the apostrophe	"Do you know its pair?"	
The topic of stress	"Who is an orator?" technique (new)	
Pronunciation of the vowel "o"	T-chart method; Comparative method	
Work on spelling errors	"Who is a calligrapher?" technique	
The topic of syllables	Cluster method	
Stress and the glottal consonant	Comparative method	

		The teacher emphasized that the correct spelling is “xohlamog”. Thus, literacy skills were also addressed. 4. As a third task, learners were asked to explain unfamiliar words. They did not know the meaning of “arjumand” and discussed it. The teacher explained that the word can mean “aziz” (dear), “qadrli” (valuable), “munosib” (worthy), and “loyiq” (deserving), and again allowed the learners to determine which meaning best fit the context. In this lesson, the learners’ vocabulary was enriched by one more word. Moreover, after repeated analysis, the aphorism itself also becomes part of their active vocabulary. Thus, vocabulary development was achieved. 5. With regard to the educational and moral dimension of the lesson, the aphorism was also explained by the teacher. In this way, by helping learners understand wisdom that may be useful in their future lives, the lesson also contributed to their moral education.
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These technologies, methods, and techniques also help make lessons interesting and lively. The learner changes from a passive listener into an active participant.

Type	Description	Practical Example	Skills Developed
Technology	Tools and systems used to organize the learning process effectively	Audio-video materials, interactive programs, phonetic applications	Listening comprehension, pronunciation, intonation, independent work
Method	A scientifically grounded way of conducting a lesson	Analytical, inductive-deductive, and problem-based methods	Grammatical and phonetic analysis, application of theoretical knowledge in practice
Technique	Specific ways of organizing learning activities	“Find the continuation!”, “Networks”, cluster, role-playing, group work	Creative thinking, oral and written speech, speech culture, interactive communication

Interactive phonetic exercises are an effective method for teaching pronunciation in primary and secondary grades. Combining them with traditional explanation and repetition methods



significantly improves the quality of phonetic instruction. Teaching phonetic learning materials through artificial intelligence is an effective means of improving pronunciation accuracy, ensuring an individualized approach, and developing learners' speech competence. Integrating AI technologies with traditional methods raises the quality of phonetic education to a new level.

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