"OPPORTUNITIES FOR USING ARTIFICIAL INTELLIGENCE IN FOREIGN LANGUAGE LEARNING FOR PRESCHOOL CHILDREN"

Kimyo International University in Tashkent
Second-year Master's degree student
Ubayeva Munisaxon Baxtiyor qizi
Theory and Methods of preschool education
munisaaliakbarova5@gmail.com

Abstract

This scientific article is dedicated to analyzing the opportunities, effectiveness, and pedagogical significance of using Artificial Intelligence (AI) technologies in teaching foreign languages to preschool children. The paper examines how AI-powered interactive tools, such as educational applications, robotics, and speech recognition systems, can help create a personalized, game-based, and engaging learning environment tailored to children's age characteristics. Furthermore, the positive impact of these technologies on developing pronunciation, vocabulary, and communicative skills, as well as the challenges and limitations that need attention during their implementation, are discussed. The research findings indicate that AI tools can significantly improve children's language acquisition process by complementing traditional teaching methods and reducing the workload of educators.

Keywords

- Artificial Intelligence (AI)
- Preschool Education
- Foreign Language
- Personalized Learning
- Interactive Learning

- Speech Recognition
- Robotics
- Gamification

Introduction: Modern Demands and the Need for AI

The period from **3 to 6 years old** is recognized by neurolinguists as the most **"Critical Period"** for language acquisition. During this age, the brain exhibits high plasticity, enabling children to acquire new phonemes (sounds) with the accuracy characteristic of native speakers. It is crucial not to miss this window of opportunity.

The Problem with Traditional Methods: In a typical kindergarten setting, the number of children in a group is large, and the teacher cannot adapt to the individual pace of every child. Consequently, some children become bored, while others fall behind in comprehension.

The AI Solution: We need a tool that is personalized, adaptable to each child's needs, and most importantly, allows them to **communicate without fear of making mistakes**. Artificial Intelligence precisely fills this gap. AI offers new mechanisms that make the learning process interactive through play, ensure continuous repetition, and free the teacher from administrative burdens.

2. Preschool Children's Psychology and AI Requirements

When working with preschool children, we must consider two fundamental characteristics:

- **Play is the Leading Activity:** If learning is not play, its effectiveness will be low.
- **Short Attention Span:** Activities must be short and dynamic.

Example 1: The Necessity of Gamification.

Suppose a child needs to learn 5 new English words. A simple educational app might just display the words. However, an AI-powered application (like "Lingokids") integrates these words into an engaging, narrative game involving a character. The child wins the game by hearing or repeating these words. Learning becomes a byproduct of the game, not the goal itself.

Example 2: Short, but Frequent Repetition.

The AI system calculates how long it takes for a child to memorize a word. If the child starts forgetting the word after 3 minutes, the system automatically introduces that word again in a different context after another short 2-3 minute game. This implements the scientifically proven method of "Spaced Repetition."

AI tools must satisfy the child's emotional needs, prevent boredom, and provide constant positive reinforcement.

3. Practical Opportunities for Using Artificial Intelligence

We will examine the four most important areas of AI technology in educational practice:

3.1. Personalized (Adaptive) Teaching

AI is not just a simple program; it is a **learning partner**. It creates an individual learning plan for every child.

Practical Example: Vocabulary Acquisition.

Let's say a child, Ali, has an acquisition rate of 50 new words per month, and Vali's rate is 100 words. The AI gives Ali 2-3 words per day and Vali 4-5 words. Crucially:

- If Ali knows the word "apple" well but struggles with "banana," the system automatically offers additional mini-games or songs focused only on the word "banana."
- As a result, both children achieve maximum results at their own potential. AI creates a unique **learning "fingerprint"** for each child.

3.2. Automatic Pronunciation Correction Systems

Correcting pronunciation from an early age is the greatest benefit of early language learning. AI helps fill the gap where human resources are insufficient.

Practical Example: Speech Evaluation.

AI-powered applications (such as Google Read Along or certain children's versions of "Elsa Speak") compare the child's spoken word (e.g., the English word "three") with the pronunciation of a native speaker.

- If the child pronounces the sound as $/\text{s}/$ instead of $/\theta/$ (i.e., "sree"), the AI immediately detects the phonetic error.
- The system encourages the child to try again, and may even display an animation (a virtual mirror) showing the correct tongue position on the screen.
- This process can be repeated a thousand times without the AI getting tired or frustrated, which is extremely important for young children.

3.3. Interactive Communication via AI Robots and Chatbots

Lecture Text:

There is one teacher and a group of 20 children. The teacher cannot communicate with everyone. Robots, however, act as a **personal conversation partner**.

Practical Example: Educational Robot (like Miko or AlphaMini).

A small educational robot brought into the kindergarten plays a separate 5-minute game with each child. The child gives the robot a command in English: "Robot, stand up!" The robot executes the command and responds, "I am standing up!"

- The child doesn't just learn the language, but **immediately sees its result** (the robot stands up).
- If the child gives an incorrect command, the robot responds with "I don't understand, please say it clearly," prompting the child to repeat. This develops **communicative skills** without constant teacher involvement.

3.4. Teacher Support Systems

Lecture Text:

AI does not replace the teacher; instead, it turns them into a **super-teacher**.

Practical Example: Development Monitoring.

Before starting a lesson, the teacher logs into the AI system and receives an automatic report on the development of each child over the past week:

- "Ali: Pronunciation is 95% correct, but there is a 40% struggle with verb acquisition."
- "Vali: High vocabulary, but struggling to form simple question sentences like 'Can I have...'"

  Based on this data, instead of conducting a general lesson, the teacher dedicates the rest of the class time to group activities focused precisely on these identified deficiencies.

4. Conclusion and Recommendations

In conclusion, Artificial Intelligence is a key factor in **enhancing efficiency, personalization, and motivation** in teaching foreign languages to preschool children.

Crucial Conclusion: The strength of AI is that it adapts to the child's cognitive needs, but its weakness is that it cannot satisfy the child's **emotional and social needs**. A foreign language is about culture and communication. Therefore, the **Hybrid Learning Model**, where AI and the teacher work together, is the most optimal solution.

Our Recommendations:

1. **Integrating AI Games into the Curriculum:** Recognizing AI applications not merely as entertainment tools but as official educational elements, and placing them correctly from a pedagogical perspective.
2. **Training Teachers as AI Technologists:** Training educators not just as users of AI tools, but as specialists who can creatively integrate them into the learning process.
3. **Ethical Responsibility:** Due to the collection of children's data (voice recordings, facial expressions), strictly strengthening safety and privacy standards at a legal level.