

# The use of artificial intelligence technologies in developing the English-speaking skills of 9th–11th grade students

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**Abstract:** The integration of Artificial Intelligence (AI) in education has transformed traditional language learning approaches, offering innovative methods to develop English-speaking skills. This article explores how AI technologies can enhance the speaking abilities of students in grades 9–11, emphasizing their adaptability, efficiency, and personalized learning experiences. Additionally, this paper discusses ethical considerations, emerging trends in AI-based language learning, and future implications for educators and policymakers. AI not only offers interactive and engaging tools but also significantly contributes to fostering an inclusive learning environment, helping students of various proficiency levels and linguistic backgrounds improve their speaking skills. The widespread adoption of AI in education has the potential to reshape traditional teaching methodologies, making learning more accessible, effective, and tailored to individual needs.

**Keywords:** Artificial Intelligence, AI in Education, English-Speaking Skills, Language Learning, Speech Recognition, Conversational AI, Chatbots, Virtual Reality, Augmented Reality, Personalized Learning.

**Introduction:** In the 21st century, English is not only a global lingua franca but also an essential skill for academic and professional success. However, many students face challenges in developing their speaking skills due to limited resources, lack of interaction opportunities, or fear of making mistakes. AI-powered tools have emerged as a promising solution, providing a platform for engaging, interactive, and personalized language learning experiences.

The rapid advancement of AI in education presents an opportunity to bridge the gap between traditional learning limitations and modern technological solutions. AI-based tools are not just supplementary learning aids but are becoming an integral part of digital pedagogy. As technology evolves, AI-driven solutions are expected to enhance not only language proficiency but also cognitive and social learning aspects, making the learning experience more holistic. The implementation of AI in language learning fosters an adaptive educational approach where students receive customized learning plans based on their progress, strengths, and weaknesses, thus ensuring a more effective and personalized learning experience.

## Emerging Trends in AI-Based Language Learning

Beyond current AI applications, several emerging trends indicate how AI may further develop language learning methodologies:

### 1. Emotion Recognition AI

Some advanced AI models are now integrating emotion recognition to gauge student confidence levels during speech exercises. AI-driven tools like Affectiva analyze facial expressions and tone variations to offer customized feedback that improves fluency and emotional intelligence in speech delivery. This type of feedback enables students to develop a more natural and confident speaking style, reducing anxiety and enhancing overall communication skills.

### 2. AI-Powered Language Tutors

Virtual AI tutors, such as Google's LaMDA and IBM Watson, are being programmed to simulate deeper, more meaningful interactions. These AI models can provide more dynamic and context-aware feedback, improving conversational skills in real-world scenarios. Unlike traditional learning resources, AI tutors can adapt their teaching methods to accommodate the unique learning pace of each student, ensuring a more personalized and effective learning experience.

### 3. Multilingual AI Assistants

AI-powered assistants like Google Assistant and Alexa are incorporating multilingual capabilities, allowing students to practice code-switching between their native language and English. This enhances bilingual or multilingual learning experiences, aiding cognitive flexibility in language acquisition.

The ability to switch seamlessly between multiple languages allows students to develop a deeper understanding of linguistic structures, ultimately improving their fluency and confidence in communication.

#### **4. Personalized AI Feedback for Pronunciation & Accent Neutralization**

Advances in AI-driven phonetic analysis, as seen in Speechling and Elsa Speak, are refining pronunciation correction to cater to regional accents, making English learning more accessible for non-native speakers. These tools analyze speech patterns and provide instant feedback, allowing learners to practice and refine their pronunciation in real-time. By offering tailored feedback, AI enables students to develop clearer and more precise pronunciation, enhancing their overall communication skills.

#### **Ethical Considerations in AI-Based Language Learning**

As AI becomes more integrated into education, several ethical concerns must be addressed:

##### **1. Data Privacy and Security**

AI-driven language learning platforms collect vast amounts of student data, including voice recordings and personal learning patterns. It is crucial to ensure these platforms comply with data protection regulations such as GDPR and COPPA to prevent misuse of sensitive student information. Ensuring transparency in data collection and usage is essential for maintaining student trust and confidence in AI-powered learning solutions.

##### **2. Bias in AI Algorithms**

Some AI models exhibit biases in recognizing non-native accents or specific speech patterns. If not addressed, these biases can lead to unfair assessments and hinder learning progress. Developers must strive to create more inclusive AI algorithms that accommodate diverse linguistic backgrounds. AI should be designed to provide equitable learning experiences for all students, regardless of their native language or accent.

##### **3. AI as a Replacement for Human Educators?**

While AI provides significant benefits in automating and personalizing learning, it should complement, not replace, human teachers. The role of educators in mentoring, motivating, and providing emotional intelligence-driven learning remains irreplaceable. AI

should be viewed as a tool that enhances teaching methodologies, rather than a replacement for the human element in education.

#### **Future Implications for Educators and Policymakers**

To maximize AI's potential in language learning, educators and policymakers must:

Invest in AI literacy programs to train teachers on effectively integrating AI into their curricula.

Develop ethical frameworks that regulate AI-based learning to ensure fairness, transparency, and security.

Encourage public-private partnerships to provide affordable AI-driven learning solutions, reducing the digital divide.

Conduct further research on AI's long-term impact on student cognitive and social development in language learning.

#### **Methodical-Pedagogical Implementation**

The successful integration of AI technologies in developing English-speaking skills requires a structured methodical and pedagogical approach. The following key strategies can be employed for effective AI-based language instruction:

##### **1. Designing an AI-Integrated Curriculum**

A well-structured curriculum should incorporate AI-driven language tools that align with students' learning objectives. The curriculum should include:

AI-assisted pronunciation exercises using speech recognition software.

AI-driven role-playing scenarios that simulate real-life conversations.

Personalized learning paths tailored to student proficiency levels.

##### **2. Teacher Training and Professional Development**

Educators need training to effectively integrate AI tools into language instruction. Training programs should focus on:

Understanding the functionality of AI-powered language learning applications.

Developing strategies for balancing AI-based learning with traditional teaching methods.

Assessing and interpreting AI-generated feedback to guide student progress.

##### **3. Blended Learning Approaches**

AI should complement traditional pedagogical methods rather than replace them. A blended learning approach can include:

Using AI chatbots to facilitate speaking practice outside the classroom.

Employing AI-based assessment tools to monitor progress and personalize instruction.

Incorporating AI-driven gamified activities to enhance student engagement.

#### 4. Continuous Student Engagement and Motivation

To ensure consistent student participation, AI-based learning should be engaging and motivational:

Gamification elements such as rewards, leaderboards, and challenges can boost student motivation.

Virtual reality (VR) and augmented reality (AR) tools can create immersive language learning experiences.

AI-generated feedback should be constructive and encourage continuous improvement.

#### 5. Assessing AI-Enhanced Learning Outcomes

Regular assessment methods should be implemented to evaluate the effectiveness of AI integration. Key assessment approaches include:

Analyzing AI-generated reports on student fluency, pronunciation, and vocabulary acquisition.

Conducting pre- and post-tests to measure improvements in speaking skills.

Collecting student and teacher feedback to refine AI-based methodologies.

### CONCLUSION

AI technologies hold immense potential to revolutionize the way 9th–11th grade students develop their English-speaking skills. By providing personalized, engaging, and accessible learning experiences, these tools can address traditional language learning challenges and empower students to communicate confidently in English. However, for AI to be a sustainable and ethical educational tool, concerns such as privacy, bias, and accessibility must be proactively managed. With the right balance of AI and human instruction, the future of English language education can be both innovative and inclusive. As AI technology continues to evolve, it is imperative for educators, policymakers, and technology developers to collaborate in creating responsible and effective AI-driven language learning solutions.

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