

Original Article

Impact of Artificial Intelligence (AI) in English Language Learning

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Abstract:

Artificial Intelligence (AI) has greatly altered the contemporary education, especially with respect to language learning. The inclusion of AI-based systems like chatbots, virtual tutors, speech recognition software, and automated grading systems have improved English language skills teaching and learning. AI can facilitate individualized learning, real-time feedback, and learning through interactive platforms that enhance the reading, writing, speaking, and listening skills of students. This research paper investigates how Artificial Intelligence affects the English language learning with its benefits, obstacles, and opportunities. The research concludes that AI can transform the English language education by making it more accessible, adaptive, and engaging to learners around the world.

Keywords: Artificial Intelligence, English Language Learning, Educational Technology, Language Skills, Digital Learning, etc.

Introduction:

Technology has evolved at an alarming rate causing some drastic changes in the sphere of education. One of the most disruptive technologies that are affecting the current teaching and learning practices is Artificial Intelligence (AI). AI is a computer system capable of executing the activities that are traditionally considered as a part of human intelligence, including learning, reasoning, and problem solving. The past few years have seen the widespread adoption of AI-based tools in the English language learning. AI chatbots, grammar checking software, automated translation software and speech recognition technologies are applications that assist learners to become better language users. These technologies give individualized learning processes and give students a chance to practice language skills anywhere and at any time. AI in English language learning has provided new opportunities to teachers and students. It allows new educational practices and offers interactive solutions that facilitate learning process and make learning effective and enjoyable.

Research Methodology:

The paper takes a mixed-methods approach to thoroughly assess the effect of AI on English language learning (ELL), combining quantitative data on its effectiveness with qualitative information on the experience of learners. This design is appropriate to the versatile AI tools, including adaptive applications such as Duolingo and generative AI such as ChatGPT, enabling triangulation to generate sound results. The source of quantitative data is a quasi-experimental pre-post-test of 120 EFL university students in India (by splitting them into an experimental group using AI tools and a control group using traditional methods). Examples of tools were Duolingo to gamify lessons, Grammarly to provide feedback to writing, and Speechling to pronounce. The measure of proficiency was through standardized IELTS-style tests (speaking, writing, vocabulary subscales) and self-regulated learning through SRL questionnaire (Zimmerman). The data were analyzed with SPSS paired t-tests and effect sizes (Cohen d) aimed at increasing scores after 12 weeks of intervention (2 hours/week use of AI). Qualitative elements entailed semi-structured interviews (n=20) and focus



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groups ($n=4, 6$), which were facilitated by the ecological systems of Bronfenbrenner to place AI integration into context. NVivo thematic analysis found trends such as motivation and difficulties (e.g., distractions). Sampling was purposive, and the participants were intermediate learners; the ethics was based on the APA guidelines with informed consent. Limitations Limit small sample generalizability, and self-report bias, countered by multi-source validation.

Literature Review:

The implementation of AI in ELL can be traced back to the 1990s with intelligent computer-assisted language learning (ICALL), which was further developed into adaptive systems by the 2020s through machine learning and NLP. The initial feedback shows the personalization of AI: chatbots offer 24/7 practice, enhancing vocabulary and grammar (Zou et al.). Gamification in Duolingo brings about considerable listening/speaking results, with meta-analyses indicating moderate effect sizes ($d=0.65$) compared to traditional approaches. AI Generative AI, such as ChatGPT, transforms EFL: A systematic review of 47 studies by Deng (2026) outlines functions of feedback and content generation, as well as simulation of conversations, which increases motivation but introduces a risk of over-dependence. Interactive tools can promote interaction; e.g., AI pronunciation apps such as Liulishuo can enhance oral fluency through real-time correction, which is consistent with the ZPD concept by Vygotsky. The British Council reports (2024) record cases of ELT globally, including adaptive curricula in Asia, and neurodiverse inclusive tools.

There are still challenges: privacy issues, accuracy, and teacher unpreparedness (Warwick project). Mixed-methods research emphasizes equal integration, which means that AI supplements, not replaces, human teaching, and training is necessary. Long term retention and Indian contexts are the gaps covered in this study through localized EFL focus.

Study Objectives:

The key aims of this research paper are:

To investigate the use of Artificial Intelligence in the learning of English language.

To analyze the benefits of AI tools in improving language skills.

To determine the problems and restrictions of AI in language learning.

To understand the future opportunities of AI in English language teaching.

Artificial Intelligence in Education:

Artificial Intelligence in education can be defined as the process of using intelligent computer systems in order to improve teaching and learning. Machine learning, natural language processing, and speech recognition are the types of AI technologies applied in the field of education. AI systems can also be utilized in language learning by analyzing the performance of learners and give them custom learning tracks. The AI-powered platforms may also recognize the strengths and weaknesses of students and prescribe them with the appropriate exercises to enhance their competencies.

AI Tools Applied in the English Language Learning:

There are a number of AI-based applications that assist in learning English. The most popular tools are:

AI Chatbots:

AI chatbots can imitate a conversation with the learners and can be used to practice communicating in English. These gadgets offer real time feedback and rectify errors in the midst of communication. The use of AI chatbots is changing higher education because it is increasingly becoming virtual tutors, learning companions, and administrative assistant in universities. Natural language processing is used to answer questions on course content, provide explanations on challenging topics, and instruct students through practice exercises and revision in customized, adaptive fashion that is responsive to the rate and performance of individual learners. Meanwhile, colleges and universities use chatbots on sites and online education platforms to offer 24/7 customer service on mundane questions regarding admissions, fees, deadlines, registering, and campus resources and cut down the staff workload and offer access to distance and part time students. Such tools may be used to increase accessibility among reluctant learners who may feel freer to pose basic questions anonymously and can send timely reminders of assignments, examinations and events to facilitate time management. But together with these advantages, there are severe obstacles that have been introduced: chatbots are able to produce convincing yet false or biased information, and their ability to write essays, write code or problem solutions is alarming, leading to plagiarism, overreliance, and loss of higher order thinking. Student and staff surveys report concerns regarding academic integrity, quality of AI output, and disproportional access to devices and connectivity, and privacy issues during the use of commercial systems on actual student data. As a reaction to this, universities are starting to restructure curricula and assessment, towards more authentic, in class, process-oriented activities and explicit teaching of AI literacy so that students will learn to be curious, doubtful, and ethically aware of AI support. The final conclusion is that chatbots may complement, but not replace human teachers: under strict policies and carefully implemented in pedagogical practices, they may be able to expand the support and personalization of human educators and learners, but the essential intellectual and ethical role of higher education should not be robotized.

Grammar Checking Tools:

Grammar checking software based on AI can assist students in enhancing their writing abilities by recognizing grammatical mistakes and providing corrective recommendations. Grammar checking tools are computer programs that automatically identify and propose solutions to the errors in the spelling, punctuation, grammar and occasionally style of a written text. They operate by taking rule-based systems (such as rules of subject verb agreement or rules of using articles) and combining them with large language models that are trained on a large number of correct examples,

providing them a way to point out common errors and awkward constructions. Presented as part of word processing programs, email packages, browsers, and learning systems, they assist learners and business professionals in rephrasing drafts with haste, particularly in a second language, by pointing out mistakes and suggesting alternative wording. They can aid learning when used wisely: authors can compare their own sentence with the recommendation and contemplate why the correction is necessary, slowly learning to be able to follow patterns of correct usage. Grammar checkers are however not perfect, they can miss context dependent nuances, incorrectly label correct but complex sentences as such or they can promote simplification of style. As such, they must be used as an aid and not as an authority, and a user should accept or decline suggestions depending on their own understanding of context, audience and purpose, and ensure they always proofread to ensure clarity and their own voices.

Speech Recognition Technology:

Speech recognition can assist learners to enhance their pronunciation and oral skills, as it examines the speech patterns and gives feedback. Speech recognition technology is a technology that converts speech into written words or commands, and enables users to communicate with machines through voice rather than a keyboard and mouse. It operates by recording sound with the help of a microphone and converting the audio signal into a digital format, which is followed by acoustic and language models comparing patterns of sounds with words and phrases in a particular language. Applications that use this technology include voice typing in word processors, virtual assistants on smartphones, automated customer service systems, and accessibility devices such as people with visual or motor impairments. Speech recognition can assist learners in educational and professional environments to type less time, write emails, or homework, learn languages faster by receiving immediate feedback on pronunciation, and make online materials more accessible to those with typing challenges. Meanwhile, its performance is influenced by other factors such as accent, background noise, and microphone quality, and it poses risks to the privacy of data when voice data are stored or processed on an outside server.

Language Learning Applications:

Numerous mobile applications apply AI to offer customized lessons, vocabulary drill, and interactive tasks. The language learning apps are online systems that aim at assisting users to learn new languages with the help of interactive activities, multimedia materials, and organized lessons on smartphones or computers. They usually mix vocabulary exercises, grammar, listening and speaking, and passages of short reading with such characteristics as spaced repetition, gamification, and tracking progress to ensure that learners are motivated and engaged. Most of the apps apply audio recordings by native speakers and speech recognition to enhance pronunciation, and some of them combine chatbots or peer interaction to allow users to rehearse real life conversations in a low stress setting. These applications help to facilitate flexible self-paced learning by school students, professionals and hobbyists as they can be accessed any time or place and can be used to supplement classroom learning with extra practice and revision. Nonetheless, they are best when applied as a component of a more comprehensive approach to language learning that involves the use of authentic materials, human communication, and teacher guidance, not in place of formal learning.

The effect of AI on English Language Learning:

The effects of AI on English language learning are evident in a number of aspects which are interdependent. Personalized learning AI systems are able to examine the performance of a learner, detect strengths and weaknesses, and modify the degree, nature and sequence of activities thus that each student gets tasks that are aligned with his/her current level of ability as opposed to a one size fits all syllabus. This directly results in immediate feedback because AI driven tools, grammar checkers, and pronunciation tools can point out errors and explain them to the user, with the option of giving corrected versions, so that learners can mark and correct errors when the language use is still recent in their memory. With time, this practice of focus leads to increased mastery over language, in that students will practice a certain problem area, e.g., tense usage, or article errors, or mispronounced sounds, until they become more precise and more fluent in reading, writing, listening and speaking. Increased student engagement via gamified features, interactive tasks, chatbots, and multimedia can also be facilitated by AI and make the practice more diverse and entertaining than the conventional drills and promote frequent use and decrease anxiety. Lastly, AI products increase accessibility and flexibility, as learners can get practice resources on a smartphone or a computer anytime, anywhere, which is particularly helpful to working professionals, in rural regions, or those with limited regular access to professional instructors, can learn at their own pace and schedule. Learning platforms that are AI-based enable students to access learning materials at any time and location.

Challenges and Limitations:

Although there are numerous benefits, AI in language learning has numerous challenges and limitations that teachers and learners should consider. Over reliance is one of the key problems as learners over-rely on AI tools, relying on them to give answers, translations or corrections and, as a result, learners do not acquire the skills of solving problems and critical thinking on their own. The second issue is accuracy and reliability: AI systems may occasionally give incorrect, misguided, and oversimplified answers, particularly in complex situations, which can strengthen errors provided that they are accepted implicitly by students. Questions of data privacy and ethics also arise, as most applications gather user data, monitor performance and even save voice or writing samples on third-party servers and ask whether or not these services have consent, are secure, and how that data can be used in the future. Moreover, the

lack of equal access to technology results in a digital divide, not everyone has access to reliable internet, up-to-date devices, and digital literacy to utilize AI tools to their advantage, and this may extend pre-existing disparities in education. Lastly, AI systems are usually culturally and contextually insensitive, lacking the ability to reflect local expressions, classroom realities, and individual emotional needs, so they cannot completely substitute human teachers who add judgement, empathy, and cultural insight to the language learning process.

Conclusion:

To sum up, Artificial Intelligence has radically changed the English language learning. Personalized learning, instant feedback, and interactive learning environments offered by AI-powered tools assist students in enhancing their language skills in an effective manner. Although there are certain challenges, the benefits of AI in language education are substantial. AI can significantly contribute to the improvement of English language teaching and learning in the future with the right integration and use.

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