Article

AI Tools as Supplementary Support in Language Acquisition

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Abstract: AI tools provide individualized learning experiences tailored to specific language learners' requirements. Artificial intelligence-driven programs can customize lessons, exercises, and feedback by evaluating a learner's progress and determining strengths and shortcomings. This individualized method aids students in concentrating on their areas of weakness, thus improving their total language competency. This narrative literature review aims to gather relevant literature discussing AI tools as supplementary support in aiding a learner's language acquisition. Relevant studies stated that there are a lot of chances to improve learning outcomes when AI tools are used in language acquisition. Teachers who want to give their students more resources and help should consider including these tools in their lessons. To preserve the interpersonal and cultural components of language learning, it is imperative to strike a balance between the application of AI and conventional teaching techniques. AI tools are always accessible, providing assistance to learners whenever needed. This is especially helpful for individuals with unpredictable schedules or restricted access to conventional language learning materials.

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Introduction

Artificial intelligence (AI) systems can customize learning experiences to each learner's specific needs and progress. Chen and Zhang (2021) claim that algorithms are used by AI-driven language-learning platforms to determine learners' strengths and shortcomings in order to provide customized activities and feedback. This degree of customisation guarantees that the material is neither very difficult nor overly simple, which helps to sustain student motivation and engagement. By accommodating different learning styles and speeds, these adaptive learning environments have been demonstrated to increase the effectiveness of language acquisition (Li & He, 2020).

Receiving prompt feedback and correction is a crucial component of language learning. Natural language processing (NLP)-capable AI systems can offer immediate feedback on word usage, syntax, and pronunciation. Research by Wang et al. (2022) show how NLP is used by AI-powered programs like Duolingo and Grammarly to recognize and fix mistakes in real time, helping to reinforce proper language use and lower the likelihood of fossilizing errors. This immediate feedback loop is essential for students to quickly fix their mistakes and gradually improve their language skills.

AI technologies reduce geographical and temporal obstacles to language acquisition, increasing accessibility and convenience. Online resources and mobile applications enable language learners to practice and advance their proficiency at any time and from any location, as shown by Johnson and Vu (2019). Because of their jobs or other obligations, adult learners especially benefit from this flexibility. Additionally, user-friendly interfaces and captivating material are common features of AI-driven platforms, which enhance the interactive and pleasurable nature of learning and improve language retention and application.

The narrative literature review by Genelza from 2024, "Unlocking the Opportunities and Challenges of Using ChatGPT Tools for Educational Services," explores the benefits and drawbacks of using ChatGPT in educational environments. Numerous potentials are highlighted in the review, including the capacity to offer prompt feedback and assistance, more dynamic dialogues that foster student involvement, and individualized learning experiences. It also identifies important obstacles,

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such as questions over the dependability and correctness of AI-generated content, the requirement for strong ethical standards to prevent abuse, and the need for teachers to modify their pedagogical approaches to successfully integrate these technologies. Overall, the research emphasizes how crucial it is to take a balanced approach to maximizing educational outcomes by utilizing ChatGPT's strengths while addressing its limitations (Genelza, 2024).

Virtual reality (VR) environments and interactive exercises are only two examples of the many learning materials that AI systems offer. Lee and Kim (2020) claim that AI-powered platforms can improve learning by incorporating multimedia components like audio samples, films, and interactive simulations. These varied materials offer a more all-encompassing approach to language acquisition by accommodating a range of learning styles, including auditory, visual, and kinesthetic. Furthermore, virtual reality (VR) and augmented reality (AR) technologies offer learners immersive settings in which they can practice language in scenarios rich in context, enhancing their ability to use language in everyday situations.

Insights into the learning process can be gained from the use of AI tools to gather and analyze data on learner performance. Smith and Johnson's (2021) research show that AI-driven analytics can monitor learners' progress, spot patterns in their learning behavior, and forecast future performance. These insights allow educators to modify their instructional strategies and offer targeted support when needed. Additionally, learners can gain from understanding their progress through comprehensive reports and dashboards, which can increase motivation and assist in setting realistic learning goals. The data-driven approach guarantees that both educators and learners are informed and can make evidence-based decisions to improve the learning experience. With this, the study aims to gather relevant literature discussing AI tools as supplementary support in aiding a learner's language acquisition.

The Power of AI Tools

Artificial intelligence (AI) tools have improved decision-making, automated procedures, and solved difficult issues in novel ways, revolutionizing a number of industries. AI is being applied in the healthcare industry to diagnose illnesses, customize treatment regimens, and forecast patient outcomes, to name a few notable examples. A study by Esteva et al. (2017) highlights the potential of AI in medical diagnostics by showing that algorithms have shown accuracy in skin cancer diagnosis comparable to dermatologists. Furthermore, according to Rajkomar et al. (2018), AI-driven predictive analytics has the ability to predict patient deterioration, facilitating prompt interventions and better patient care.

By automating repetitive work and streamlining operations, artificial intelligence (AI) solutions have dramatically increased productivity and efficiency in the business sector. According to Brynjolfsson and McAfee (2014), AI and machine learning can process massive amounts of data at previously unheard-of rates, allowing businesses to act quickly on data-driven choices. Artificial intelligence (AI)-driven chatbots and virtual assistants, like those created by Google and IBM, take care of client inquiries, schedules, and administrative work, freeing up human workers to concentrate on more strategic endeavors. This change improves customer happiness by offering prompt, precise responses and increasing operational efficiency.

The study conducted in 2023 by Genelza titled "Quipper Utilization and Its Effectiveness as a Learning Management System and Academic Performance among BSED English Students in the New Normal" focuses on the role that Quipper, an AI-driven LMS, plays as additional language acquisition support. According to the report, Quipper's AI solutions help BSED English students learn languages more effectively by enabling dynamic material delivery, adaptive evaluations, and tailored learning pathways. Quipper's AI tool integration makes it possible to provide customized learning plans and rapid feedback, which boosts student engagement and academic achievement. The study finds that, despite certain obstacles, such as the requirement for technological know-how and dependable internet access, Quipper's AI tools greatly aid language acquisition by offering adaptable, customized, and successful learning solutions within the framework of the new normal (Genelza, 2023).

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AI tools have shown to be very beneficial for the education industry as well, especially when it comes to providing students with individualized learning experiences. Machine learning algorithms are used by AI-driven platforms like Coursera and Khan Academy to customize educational content to fit the unique learning styles and speeds of each student. These AI systems are able to recognize students' strengths and shortcomings in order to provide exercises and resources that are specifically designed to meet individual learning demands (Luckin et al., 2016). By creating a more effective and interesting learning environment, this individualized strategy raises student retention rates and improves educational outcomes.

The creation of autonomous automobiles is a noteworthy use of AI technologies. AI algorithms are being used by businesses like Tesla, Waymo, and Uber to develop self-driving technology, which has the potential to completely transform the transportation industry. In Goodall's (2014) paper, he explores how artificial intelligence (AI) empowers cars to sense their surroundings, make choices, and drive safely without human assistance. With the use of this technology, there should be fewer traffic accidents, improved fuel economy, and mobility alternatives for people who aren't able to drive. Even though there are still safety and regulatory issues, AI developments are opening the door to a future with safer and more effective transportation systems.

The development of AI technologies has many advantages, but there are also problems and ethical issues that need to be addressed. Careful thought must be given to matters like algorithmic bias, data privacy, and the effect on employment. In order to guarantee that moral principles are respected, Binns (2018) highlights the significance of creating AI systems that are fair and transparent. Furthermore, frameworks and rules that strike a balance between innovation and societal values are necessary for the integration of AI in diverse sectors. The responsible and efficient use of AI will depend heavily on continued research and discussion among developers, legislators, and ethicists as the technology develops.

"Deepfake Digital Face Manipulation," Genelza's 2024 rapid literature study, delves into the potential uses of deepfake technology in education, particularly with regard to language acquisition. In order to provide a truly immersive and dynamic learning environment, the paper looks at how AI-driven deepfake technology can construct realistic, customizable avatars that mimic conversational practice with native speakers. By engaging students in realistic discussions, modeling proper pronunciation, and providing tailored feedback, these avatars can be developed to improve students' speaking and listening abilities. Nonetheless, the analysis also draws attention to important security and ethical issues, such as the possibility of abuse and the requirement for strict measures to stop deceit. All things considered, the study emphasizes how deepfake technology is both a tremendous tool for language acquisition and a possible source of moral quandaries (Genelza, 2024).

Methods

A narrative literature review is a thorough summary and critical critique of previous studies conducted on a certain subject, offering a broad perspective. Narrative reviews are more flexible and interpretive than systematic reviews, which adhere to a set process and seek to reduce bias. This allows the author to draw attention to trends, gaps, and discrepancies in the literature. Baumeister and Leary (1997) state that narrative reviews are especially helpful in cases when studies are too varied to allow for a meta-analytic method, or in which research is still in its early stages. These reviews provide a narrative that connects different studies into a cohesive whole, contextualizing research findings within the larger field.

There are various crucial steps involved in carrying out a narrative literature review. These phases are outlined by Green, Johnson, and Adams (2006) and include locating pertinent literature, evaluating research critically, and synthesizing data into a coherent story. The quality and applicability of each study must be taken into account when the author carefully chooses and assesses materials. Narrative reviews are useful for detecting overarching themes and theoretical frameworks since they frequently cover a large research subject. They can also identify regions that require more investigation, which will direct subsequent study. Because they provide a deep and comprehensive

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grasp of complicated subjects, narrative literature reviews are therefore a vital resource for both practitioners and academics.

Findings and Discussion

Artificial intelligence (AI) tools hold great potential for improving language acquisition. Artificial intelligence (AI) is used by programs like Duolingo and Rosetta Stone to tailor learning experiences to users' skill levels and learning styles. A study by Loewen et al. (2019) found that these programs use adaptive learning algorithms that offer customized activities and real-time feedback to enhance vocabulary retention and grammatical understanding.

Pronunciation instruction is a particularly good application for AI systems. Speech recognition technology is used by programs like ELSA Speak to deliver real-time feedback on pronunciation correctness. Learners can instantly modify their speech patterns with the assistance of this correction. Students that employed AI-driven pronunciation tools demonstrated considerably superior pronunciation abilities than those who used traditional approaches, according to a 2017 study by Liakin, Cardoso, and Liakina.

Grammarly and ProWritingAid are examples of AI applications that help language learners write better by pointing out grammatical mistakes, suggesting vocabulary expansions, and providing style guidance. Chen et al. (2018) found that these tools support learners in comprehending the underlying grammatical principles in addition to helping with error correction, which enhances their overall writing skill.

The Genelza case study from 2022 on Justin Herald's language development examines the use of AI tools as additional assistance in language acquisition. The study demonstrates how artificial intelligence (AI) technology, like intelligent tutoring systems and language learning applications, may offer tailored and flexible learning opportunities. By adapting content to different learning styles and speeds, these tools help the development of language abilities, improve learner engagement through interactive activities, and provide instant feedback. The case study highlights that although artificial intelligence (AI) technologies cannot completely replace conventional language training, they can greatly enhance learning by addressing particular language difficulties and offering various practice opportunities (Genelza, 2022).

The potential of AI to provide individualized learning experiences is one of its main benefits for language learners. AI systems evaluate how well a learner performs and modify the content and degree of difficulty accordingly. Personalized learning routes generated by AI have the potential to greatly improve student effectiveness and engagement, which will improve language retention and application (Xu and Warschauer, 2019).

To boost learners' motivation and engagement, AI applications frequently include gamification components. To keep users engaged, Duolingo, for instance, offers a reward system, streak counts, and competitive leaderboards. Such gamified methods greatly improve user retention and time spent on language learning exercises, which improves overall learning results, according to research by Vesselinov and Grego (2012).

In order to communicate effectively, it is essential to acquire contextual and cultural information, which AI tools may help with. AI is used by programs like Babbel to deliver cultural remarks and words that are appropriate for the environment. According to a Jalali et al. (2020) study, learners can improve their fluency and appropriateness in real-world communication by grasping cultural nuances through AI-enhanced training.

Peer interactions and social learning—two crucial aspects of language acquisition—are facilitated by certain AI systems. Learners can practice conversations with native speakers using platforms such as Tandem. According to Sykes' (2018) research, learners who engage in AI-facilitated conversations are exposed to authentic language use and cross-cultural communication, which improves their speaking and listening skills.

Notwithstanding their advantages, using AI systems for language learning is not without its difficulties. Notable problems include the expensive price of sophisticated AI programs, the requirement for dependable internet access, and the possibility of less human engagement. Van

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Olphen (2018) contends that in order to provide a well-rounded educational experience, artificial intelligence (AI) tools should be utilized in addition to conventional language learning techniques, not as a substitute for them.

The 2024 study by Genelza, "Integrating TikTok as an Academic Aid in the Student's Educational Journey," looks into how TikTok, with the help of AI techniques, can help with language learning. The study demonstrates how TikTok's algorithm-driven content recommendation system may offer customized language learning experiences tailored to each student's requirements and interests. Learning may become more interactive and accessible with the use of TikTok's AI tools, which facilitate the production and distribution of entertaining, bite-sized instructional content. According to the study, TikTok's format creates a dynamic learning environment by promoting creativity and the use of language in real-world situations through challenges and interactive movies. However, the study also highlights several possible difficulties, such as preserving academic rigor and guaranteeing content correctness. The study's overall findings indicate that when used with AI tools, TikTok can be a useful auxiliary tool for improving language learning and general student engagement (Genelza, 2024).

Artificial Intelligence (AI) in language acquisition appears to have a bright future ahead of it, as developments in machine learning (ML) and natural language processing (NLP) open the door to more advanced instruments. Future artificial intelligence (AI) technologies, according to Huang and Li (2020), will provide even more individualized and immersive learning experiences by combining augmented reality (AR) and virtual reality (VR) to mimic natural language use situations.

There are a lot of chances to improve learning outcomes when AI tools are used in language acquisition. Teachers who want to give their students more resources and help should consider including these tools in their lessons. To preserve the interpersonal and cultural components of language learning, it is imperative to strike a balance between the application of AI and conventional teaching techniques. According to Lai and Zheng (2020), a blended method can result in more comprehensive and successful language education by combining the advantages of human and artificial intelligence (AI) instruction.

Recommendations

AI tools provide individualized learning experiences tailored to specific language learners' requirements. Artificial intelligence-driven programs can customize lessons, exercises, and feedback by evaluating a learner's progress and determining strengths and shortcomings. This individualized method aids students in concentrating on their areas of weakness, thus improving their total language competency. AI can also adjust to different learning speeds, which is important for preserving students' enthusiasm and interest in language learning because it prevents them from becoming overly overwhelmed or bored.

Instantaneous and precise feedback is one of the main benefits of AI systems for language acquisition. The teacher-to-student ratio and time constraints in traditional classroom settings may prevent immediate modifications from being provided. However, AI-driven language learning applications can provide real-time feedback on use, grammar, and pronunciation. This immediate feedback loop assists students in fixing errors as they happen, promoting proper language use and facilitating quicker language learning and skill development.

Virtual reality (VR), augmented reality (AR), and gamified learning experiences are just a few examples of the interactive and captivating content that AI technologies frequently include. The immersiveness and enjoyment of language learning are enhanced by these technology. For instance, virtual reality (VR) can replicate real-world situations so that students can practice speaking and listening in a setting replicating social interactions. These interesting teaching strategies increase student enjoyment and support contextualizing language use, which is essential for language learning in real-world situations.

AI-powered platforms give users access to a vast range of educational tools and content. Artificial intelligence (AI) tools have the ability to collect and organize a tremendous quantity of information that may not be available in traditional learning environments, such as interactive

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textbooks, multimedia content, and language learning communities. With so many materials at their disposal, students can investigate facets of the language that traditional curricula frequently overlook, such as culture and colloquial usage. AI may also suggest resources depending on each person's interests and progress, which broadens and enhances learning.

Language learning requires consistency, which AI technologies help to assure through consistent practice and assistance. AI-powered language apps can monitor learners' progress, establish realistic goals, and remind them to practice daily. Additionally, they can mimic talks with native speakers, offering practice and support that would not be available in other settings. Over time, this constant interaction aids in developing and maintaining linguistic abilities. Additionally, AI tools are always accessible, providing assistance to learners whenever needed. This is especially helpful for individuals with unpredictable schedules or restricted access to conventional language learning materials.

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