

Transforming Language Education: Opportunities and Challenges of AI

Dr. Aslıcan Çopur Bilgi

PhD, Faculty of Education, Department of Foreign Language Education, German Language Education Program,
Pamukkale University, Denizli, Turkey

*Corresponding Author Email: abilgi@pau.edu.tr

Abstract

This study explores the diverse applications of artificial intelligence (AI) in language education and its potential to create more engaging, accessible, and efficient learning environments. A descriptive research methodology is employed in this study to explore the applications and impacts of AI in language education. A comprehensive review of existing literature forms the backbone of the research, allowing for an assessment of various AI-driven technologies and their effectiveness in enhancing learner engagement and language proficiency. Data is collected from a range of sources, including academic journals, case studies, and reports on the implementation of AI in educational settings. With rapid technological advancements, AI has become an integral part of daily life, including the education sector, which has embraced these developments. As AI technologies evolve, their role in education has expanded, introducing innovative approaches to language learning. The integration of AI into language education is transforming traditional teaching and learning methods by offering advanced tools that support and enhance the educational process. This study examines various AI-driven technologies, such as intelligent tutoring systems, language learning applications, and conversational agents, and evaluates their effectiveness in improving learner engagement and language proficiency. In addition to its benefits, the study addresses the challenges and limitations of AI in language instruction. Key issues include accessibility, data privacy concerns, and the irreplaceable value of human interaction in the learning process. While AI provides significant advantages, the findings emphasize that it should be used to complement, rather than replace, traditional teaching methods. Ultimately, AI has the potential to reshape education by enhancing learning experiences, improving accessibility, and increasing efficiency. Neglecting its integration would mean missing significant opportunities for growth and innovation. Therefore, educators and institutions are encouraged to adopt AI responsibly and effectively to maximize its benefits in language education.

Keywords

AI in Education, AI Tools, AI-driven Technologies, Digital Learning, EdTech, Educational Innovation.

INTRODUCTION

Envision a classroom environment where educational experiences are uniquely tailored to each learner's individual pace, preferences, and challenges. Thanks to advances in Artificial Intelligence (AI), this is no longer just a vision. AI's systems based on the adaptive approach have significantly reshaped the field of language education by moving from conceptual possibility to practical application. AI refers to the capacity of computer systems to execute tasks traditionally requiring human intelligence [1] [2]. AI in education represents a transformation that combines technology with pedagogy to create more effective learning environments. The integration of AI into language education is revolutionizing how languages are learned and taught. Recent literature reveals several trends and insights regarding AI technologies and their applications in second and foreign language education. AI applications in education support learners' individual learning processes, enhance their motivation, and promote long-term retention [3].

The importance of AI in language education today lies in its transformative power to enrich teaching and learning through personalized, scalable and efficient tools. AI-supported platforms and applications such as Duolingo and Babbel offer content tailored to the individual needs of learners, while tools such as ELSA Speak provide real-time feedback on pronunciation. AI-powered applications can

provide both more financially affordable solutions and make language learning accessible to different populations, such as communities in remote locations where there are limited or lack of educators. These innovations make language education more adaptive, interactive and accessible, preparing learners for a globalized world. However, the effective utilization of such tools requires substantial planning and preparation [4]. Beyond its impact, it is crucial to understand how it is implemented and to what purposes it serves, especially in the context of learners' use.

The inclusion of AI in education indeed presents two significant challenges. Firstly, AI is already generating new teaching methods, which are being implemented across various educational levels. Secondly, as noted, we are facing a more radical challenge: the creation of a completely new educational system as a consequence of AI implementation [5]. This transformation requires careful consideration of both the opportunities and the potential disruptions that AI brings to the educational landscape.

Consequently, educators have a lot of responsibility for the integration of AI into education. It is up to educators to develop innovative strategies and integrate technological tools into education, including artificial intelligence, to increase learners' motivation, to support effective learning of the target language. These are not challenges that educators can overcome all by themselves, as they require a great deal of innovation on their part. This study presents a comprehensive literature review to identify key trends and

recurring findings in studies examining applications of AI in language education. It aims to contribute to the literature by addressing developments in understanding and using AI-supported language learning and teaching. By analysing a number of recent studies, the paper highlights the transformative potential of AI in enhancing personalized learning, accessibility and efficiency in language education. It also addresses the challenges and ethical considerations associated with AI implementation, providing a comprehensive overview of the current state and future directions of AI in language education.

AI IN LANGUAGE EDUCATION: BRIDGING TECHNOLOGY AND PEDAGOGY

The Birth and Evaluation of Educational AI

The use of artificial intelligence in language education dates to the 1960s when researchers and educators explored the potential impact of computers on education. The first computer-based instruction systems (CBI) paved the way for interactive learning experiences with programmed instructions [6]. In the 1970s and 1980s, the focus shifted to intelligent tutoring systems (ITS) and improvements were recorded in this field [7]. The focus here was to imitate human instructors by giving personalized feedback and guidance to learners. The real advances were made in the 1990s with the introduction of natural language processing (NLP) and machine learning. Early applications of NLP in education led to the development of educational systems that could understand and respond to learner queries in natural language [8]. In the 2000s, adaptive learning and e-learning have made great progress. The widespread availability and accessibility of the internet has led to the rise of online learning platforms that use artificial intelligence to personalize learning experiences. With Adaptive Learning Technologies, some systems have used AI to personalize the content and pace of instruction to the needs of individual learners. Thus, the 2000s was a time of great growth of E-Learning Platforms and Adaptive Learning [8]. In the 2010s, AI-supported tools such as learning analytics, virtual assistants and gamification came into play in the field of education [9]. These new innovations have given a basis for more sophisticated language learning applications, such as automatic essay scoring and speech recognition systems [10]. As a result of these developments and knowledge accumulation over the years, artificial intelligence has become quite popular in language education in recent years. The integration of AI into language education has evolved from simple computational components to sophisticated, adaptive systems that offer learners personalized and interactive experiences.

Finally, the point that AI reached in the field of education in the 2020s has gained a completely different dimension with the introduction of Chat-GPT in 2022. Towards the mid-2020s, there has indeed been a significant shift in AI. As advanced AI applications become more integrated into various aspects of our lives, the ethical issues that currently

occupy our minds have also moved to the forefront. However, the successful integration of AI into language education demands a nuanced consideration of ethical issues such as data privacy, equity and fairness, and ensuring that these advanced tools are complementary to, rather than substituting for, the human components of education. As for the disadvantages of productive AI, we can say that concerns have been raised on many issues, as we will try to explain in more detail in the challenges and limitations section.

Shaping the Future of Language Education through AI

Consider a scenario in which learning a new language is as effortless and personalized as having a random conversation with a friend. The integration of AI into education is turning this into a reality. AI-powered tools such as adaptive learning platforms, intelligent tutoring systems and conversational AI are transforming language education by providing dynamic, interactive and personalized learning experiences. They provide real-time feedback, adjust to individual learning speeds and make education accessible to learners in remote areas. As AI continues to progress, it is not only enriching traditional teaching methods but also offering innovative approaches that deeply engage learners and significantly reduce the workload of educators.

In essence, AI builds a transformative bridge between pedagogy and technology in language education. As noted by OpenAI, “Open AI builds its text-generating models by using machine-learning algorithms to process vast amounts of text data, including books, news articles” [11]. Such technological tools provide real-time feedback and create an enriching learning environment by analysing a learner’s individual characteristics such as learning speed and knowledge level. Moreover, AI increases the effectiveness of language learning instruction and makes it more accessible to different population groups in remote areas that would otherwise be difficult to address.

While the generative AI module working in the text field prepares content based on the learner’s interests and learning speed, other modules active in the video and audio fields can personalize the teaching [12]. In today’s educational landscape, as traditional approaches to learning and teaching have lost their effectiveness, new approaches to language teaching have begun to take their place within the possibilities offered by artificial intelligence. Along with the potential to lead to new approaches in language teaching, AI applications also provide language simulation with human conversation in an interactive way that brings the learner more into the learning process [13]. For instance, interacting with an AI tool tailored for a specific purpose that provides instant feedback, can distinguish between correct and incorrect answers, allows foreign language learners to have the possibility of meaningful interactions. Furthermore, as Kohnke also emphasized, such tools can significantly reduce the teacher’s workload, such as in answering routine teacher questions, enabling learners to complete tasks without delay and reduce feelings of isolation [14].

The integration of AI into language education has opened a new era of individualized and interactive learning. AI-powered tools have not only increased the efficiency of language education but also made it more accessible to diverse populations. By providing real-time feedback and adjusting content to individual learner needs, AI creates an enriching and engaging educational experience. As AI continues to progress, it offers innovative approaches that benefit both learners and educators, with the promise to further revolutionize education and fundamentally shape the future of learning and teaching. The number of technologies and applications that will reshape language education and link language teaching and AI with new approaches and methodologies is quite large. Even as this study continues, many AI-powered technologies and applications are being added to this list. For this reason, we have limited the AI technologies and applications related to language teaching to ten categories. These can be used interrelatedly or in combinations across categories. This categorization will provide insights into the specific functions and benefits of AI technologies and applications in language education. Before addressing these applications and platforms, however, it would be useful to discuss programs that use adaptive technologies and traditional methods to clarify some points: Adaptive Language Learning Technologies and Traditional Learning Technologies.

Adaptive learning makes use of a variety of advanced technologies to create personalized learning experiences. Algorithms in adaptive technologies are designed to implement individualized learning. Therefore, it would not be correct to claim that every application or computer system we encounter is adaptive. In other words, what we are underlining here is this: Adaptive systems are specifically designed to individualize learning experiences based on user performance, needs and preferences. Adaptive platforms such as Duolingo or Memrise, which are among the most widely used applications, use algorithms to dynamically adjust learning and provide individualized feedback. Whereas traditional AI-powered applications such as Google Translate or Grammarly focus on static functions such as grammar correction or language translation, without tailoring their responses to individual users. Traditional, non-adaptive educational technologies, such as the first Computer Assisted Language Learning (CALL) systems, present a single content, assuming that all users have the same characteristics without taking individual differences into account. The key point of difference lies in adaptability: modern AI platforms can increase engagement and learning outcomes through individualization, while traditional technologies primarily serve more overall, static goals, making the content interactive or effective in meeting individual learning needs.

AI-Powered Communities, Platforms and Applications

AI-powered Adaptive Language Learning Platforms

AI-powered adaptive language learning platforms and applications are designed to personalize the learning

experience by analysing learners' progress, their strengths and weaknesses, and providing tailored content and feedback. Adaptive learning platforms harness the power of AI to create dynamic and personalized learning experiences, adjusting content delivery based on individual learner progress and performance, as noted by Russell and Norvig [15]. In recent years, adaptive language learning platforms such as Duolingo, Babbel, Rosetta Stone, Busuu, Memrise, ELSA Speak, Mondly, Talkpal, Loora AI and MakesYouFluent have completely changed the way individuals learn new foreign languages by offering personalized and engaging learning experiences tailored to each learner's individual needs and progress. Choosing between these platforms depends on the user's needs: those looking for a gamified learning experience usually choose Duolingo, while those who want to improve their pronunciation can choose ELSA Speak. For those who like to learn through social interaction, Busuu is an ideal option. The compatibility of adaptive learning with individualization and learner-centred modern education supports its integration into educational environments. The integration of these systems leverages AI to meet the unique needs of each learner in a scalable and efficient way.

Intelligent Tutoring Systems (ITS) in Language Education

All paragraphs must be indented. All paragraphs must be justified, i.e. both left-justified and right-justified. Intelligent Tutoring Systems (ITS) are systems that provide personalized instruction and feedback to learners without human involvement but by imitating humans. They use (AI) to individualize teaching methods and approaches, the content to be learned, and the pace of teaching/learning according to learners' individual needs and capabilities. "Intelligent tutoring systems (ITS) are able to provide a personalized approach to learning by assuming the role of a real teacher/expert who adapts and steers the learning process according to the specific needs of each learner" [16]. ITS consist of four key components, as outlined by Kang & Maciejewski (2000) [17]: (1) Expert Knowledge Module provides the information to be taught, (2) Student Model Module represents dynamically the learner's competence, (3) Tutoring Module designs and regulates instructional interactions with the learner, (4) User Interface Module controls the interactions between the system and the learner. Concrete examples of ITS in-language education include AutoTutor, which uses Natural Language Processing (NLP) to navigate learners through conversational contexts, and Duolingo, which adjusts the levels of difficulty based on learner performance to ensure that the content corresponds to the learner's skill level. Such systems exemplify the potential of ITS to engage, individualized learning experiences that can greatly increase language learning.

Conversational AI and Chatbots

Conversational AI and chatbots, supported by technologies such as NLP and machine learning, a practical application of this technology, have opened new pathways for language

learning by providing learners with interactive, personalized and scalable solutions. Tools such as Duolingo, ChatGPT, Busuu, Replika, Elsa Speak and Microsoft AI-based chatbots fulfil a variety of needs, from grammar and pronunciation to conversational fluency. The important thing is to choose a chatbot that is appropriate for the learner's proficiency level and goals. Language learners are eager to use chatbots, and this preference has been driven by ease of accessibility and a greater sense of comfort [18]. Compared to interactions with human tutors, chatbots allowed learners to practice without fear of being judged or making mistakes. "By leveraging natural language processing and machine learning technologies, conversational AI enables personalized and interactive learning, while also providing assistance to teachers and educators in evaluating students' work and developing curricula and learning aids" [19]. Shawar highlighted some other benefits of different chatbots in language learning such as learner enjoyment, low language anxiety, endless repetition opportunity and multimodal skills [20]. Chatbots offer several advantages in language learning. A chatbot has unlimited patience and can instantly respond to any requests using natural language. Moreover, chatbots can focus on specific subjects and interests and provide specialized learning experiences without the need for a human tutor or interlocutor [21] [22] [23]. These features help to lower learners' anxiety, encourage willingness to communicate. In the context of language learning, chatbots provide a unique opportunity to practice speaking skills in a low-stress environment, making their content an important tool for learners of all levels.

Language Processing and Translation Tools

Language processing and translation tools offer numerous opportunities for both learners and educators. They have become an inseparable part of modern language education. Translation is itself a highly multifaceted and complex process, with a number of interdependent sub-processes and tasks, each of which involves cognitive, linguistic and technological skills. Alcina highlighted "the relation between translation and the computer began with the development of software for machine translation; the real boom in translation technologies was marked by the development of electronic dictionaries and terminological databases, the arrival of the Internet with numerous possibilities for research and communication, and the emergence of computer-assisted/aided translation (CAT) tools" [24]. AI-supported translation tools such as Google Translate, Replika, DeepL not only provide effective language learning and accessible facilities but also offer a dynamic learning process as in other AI-supported applications and tools. Google Translate is one of the most widely used translation tools for quick translation, which supports more than 100 languages and offers features such as text, speech and image translation [25]. Specialized platforms and applications are preferred in all areas as well as in education. One of these platforms, DeepL, has developed itself quite a lot in this field. "It's no wonder, then, that enterprise customers are seeking

out purpose-built translation platforms that are tailored to their specific needs, that integrate with their tech stacks, and that provide the accuracy, security, and compliance they require" [26]. DeepL's greatest advantage in machine translation is articulated as a direct result of its uniquely specialized Language Artificial Intelligence platform. Through the analyses of thousands of carefully selected and trained language experts, the results are processed for continuous improvement [26]. As technological developments progress, the increasing integration of NLP-supported adaptive translation tools into language education is likely to provide even more innovative solutions for both learners and educators. Language processing and translation tools are transforming language education, making it more available, engaging and relevant for both learners and educators. These tools offer numerous advantages; however, careful implementation and guidance is required to increase their potential while decreasing their limitations.

Speech Recognition and Pronunciation Tools

Speech recognition and pronunciation tools are essential components of language education. These tools utilize AI, machine learning and NLP to improve learners' speaking skills by providing instant feedback, which is one of the most important elements in speech skill development. They provide learners with instant feedback on their speaking skills, helping them improve their pronunciation, fluency and confidence in the target language. Examples such as Speechling, Google Assistant, Duolingo and Rosetta Stone are examples of the effectiveness of these technologies in providing engaging and approachable learning settings. All of the platforms in this area have at least one or more features that make them stand out uniquely. If we discuss a few of them, we analyse their characteristics in the references as follows: Speechling gives individual guidance and feedback on pronunciation, helping students to improve their skills through speaking practice and repetition [27]. Google Assistant is similarly considered as a useful tool for improving pronunciation and speaking skills by offering real-time speech recognition and feedback [28]. In the case of Duolingo, it was mentioned that it uses AI to tailor lessons to student progress and offers features to improve speaking skills while providing a gamified and engaging learning experience. [29]. Rosetta Stone provides learners to practice speaking in real-life situations by using speech recognition to create engaging language learning experiences [30]. These tools perform speech analysis, identify and correct learners' errors and provide feedback, enabling personalized and autonomous learning. Although some problems are encountered, continuous advances in AI and NLP promise even more powerful and inclusive tools in the future, and these tools are becoming an essential component in language teaching.

Content Creation and Curation Tools

Content creation tools are software or platforms that allow educators to create curated learning materials such as quizzes, videos, games and interactive lessons. There are many AI tools that can contribute to both content creation and language teaching. A few of these stand out: ChatGPT, Claude, DALL-E. ChatGPT, developed by OpenAI, which we are all familiar with since 2022, can simulate human-like interactions and perform a wide range of linguistic tasks. In addition to all this, it can create purposeful texts, answer questions in a logical framework, and even create code or visual content [31]. Claude, another chatbot developed by Anthropic, has the ability to interact with humans in the similar way with ChatGPT, in addition to fulfilling the need to produce a variety of different contents [31]. DALL-E is also a tool developed by OpenAI, which generates visual content based on textual information [31].

Content Curation Tools are designed to gather, organize and deliver relevant learning resources from large online data pools specialized to the needs of specific learners or topics. Following is some of the practices to implement to achieve effective language training content curation: Evernote, Feedly, Scoop.it, Wakelet, BBC Languages and Duolingo's Educator Dashboard. Scoop.it and Wakelet are examples of resource aggregation that help educators to collect articles, videos and language practice materials in an organized way for easy access by learners [32] [33]. BBC Languages and Duolingo's Educator Dashboard are examples of Language Specific Libraries. These libraries bring together language-specific exercises, cultural resources and practice materials for targeted learning outcomes [34]. Leveraging AI tools like ChatGPT, Claude, and DALL-E, as well as content curation platforms like Evernote, Feedly, Scoop.it, and Wakelet, can significantly increase the effectiveness of language education by providing diverse, engaging, and well-organized learning materials tailored to specific educational needs.

Learning Analytics Tools

AI-powered learning analytics tools in language education are a variety of tools designed to improve education through insights based on data obtained from users. Learning analytics tools enable language education to be reshaped by providing insights into learners' performance, engagement in the learning process and progress. Engagement analytics tools analyse learner engagement and motivation, while diagnostic tools provide feedback on specific skills such as grammar or pronunciation. Social and collaborative tools provide analysis results of group interactions, whereas resource utilization tools help to optimize the use of learning material. Emotion analysis tools analyse the learner's emotional reactions. In addition, real-time visualization tools and multimodal analytics combine various data sources for comprehension of the learning process. With these tools, educators can make informed decisions, use data collection, analysis and visualization to help individualize the learning

experience and adjust teaching strategies. Examples of AI-supported learning analytics tools in language education include OpenAI's ChatGPT, which generates personalized learning materials; Knewton, a learning platform that tailors its content to individual learner needs; and Duolingo's engagement analytics tools such as Quizlet, which analyses learner results and problem areas in learning [35]. Engagement analytics tools such as Quizlet assess learner engagement and motivation. Diagnostic tools such as Grammarly, which analyses grammar and writing skills and provides goal-oriented feedback [36]. Edmodo is one of the in-group social and collaborative analysis tools; whereas Scoop.it helps educators to organize and optimize learning materials [37]. Replika is also one of the emotion analysis tools and makes evaluations by analyzing students' emotional reactions. Furthermore, real-time visualization tools such as Tableau offer real-time, actionable data analyses. AI-powered learning analysis tools have completely changed language education by utilizing learner data to improve learning outcomes and instructional practices. AI-powered analysis tools provide a deeper understanding of learner needs and challenges.

Gamified Learning Tools

Gamified learning tools engage learners emotionally and cognitively by incorporating game elements such as challenges, competition and reward into the learning process. Such tools highlight the potential of gamification to make language learning more enjoyable, interactive and effective. Duolingo, Quizlet, Kahoot! Mondly, Classcraft, Memrise are some of the applications and platforms that offer gamified learning experiences. Almost all of them have similar features. Duolingo uses gamification techniques such as progress levels, experience points (XP), leaderboards and rewards to motivate learners. Its interactive exercises focus on vocabulary, grammar and pronunciation, making language learning feel like a game [38]. This popular language learning app offers interactive exercises and immediate feedback to develop language skills [39]. Kahoot! is another game-based learning platform that allows educators to create quizzes and interactive lessons by engaging learners through competition and rewards [40]. There is also a wide range of gamified learning platforms. Thanks to these platforms, learners are both motivated and a learning experience is realized in which cognitive and emotional engagement is active.

Virtual Reality (VR) and Augmented Reality (AR) Tools

These tools increase participation by providing learners with the opportunity to experience real-world language use and cultural contexts. VR: Provides an immersive, communicative environment where learners can interact and communicate using the target language. AR: Overlays virtual elements such as text, sounds or images on top of the real-world using devices such as smartphones or AR glasses. Some examples of VR and AR AI tools in language education: Mondly AR, Mondly VR, ImmerseMe (VR), Google Expeditions (AR). Mondly VR app offers language

learning experiences by situating users in virtual settings where they have the opportunity to experience conversations with virtual characters. It helps learners improve their speaking and listening skills in a realistic setting [41]. The Mondly AR app brings language learning to life by overlaying digital content into the real world. Virtual items and characters are used for practicing vocabulary and expressions. Another app, ImmerseMe, uses virtual reality to create interactive language learning scenarios. Users can practice real-life conversations in various contexts, such as ordering food at a restaurant or checking into a hotel, enhancing their practical language skills [42]. Google Expeditions is primarily an educational tool, but it includes AR and VR experiences that can be used for language education. It allows students to explore virtual environments and learn vocabulary related to different topics [43].

By incorporating VR and AR AI tools into the education system, learners experience language learning processes in interactive, real-world situations and cultural contexts. These technologies increase engagement, improve communication skills and provide opportunities for effective learning.

Assessment and Feedback Tools

AI-driven assessment and feedback tools have a significant role in language education by providing interactive, individualized and real-time assessments of learners' skills. Conversational AI and chatbots are at the forefront of AI-driven assessment and feedback tools that provide immediate feedback on learners' evaluations. Grammarly, Write & Improve from Cambridge, and once again ChatGPT are some examples of AI Driven Assessment and Feedback Tools. An application can be included in more than one category according to its features and functions. The reason for including ChatGPT in this category is that it provides instant feedback to the learner and allows the learner to evaluate himself/herself by correcting mistakes. Grammarly is included in this category because it provides real-time feedback and assessment of grammar, punctuation and style. It helps learners improve their writing skills by offering suggestions and explanations for corrections [44]. Write & Improve by Cambridge is an AI-powered tool that assesses writing tasks and provides instant feedback. It works just like Grammarly. These tools use Learning Analytic Tools to analyse learner responses. Through the data obtained, they identify learner mistakes and provide corrective responses. The use of these tools not only contributes to the learner's skill development but also allows learners to evaluate themselves. In this way, learners are guided to continuously develop themselves.

CASE STUDIES ON AI-DRIVEN INNOVATIONS IN LANGUAGE EDUCATION

In an age of rapid technological developments, AI, which is at the forefront of these technological developments in the education sector, promises to transform education. The essence of AI's profound potential in education is indeed

revolutionizing the education landscape in numerous ways. The series of case studies we examined consist of studies on the transformative potential of AI in academic frameworks worldwide. In the context of language learning, the main AI technologies are mostly machine learning, adaptive learning systems and NLP-based structures. While some of the previous studies we reviewed presented positive results regarding the effectiveness of AI in language education, others addressed its drawbacks such as its applicability and security risks. Chen's study on AI-based feedback tools in education emphasizes that these tools have a very important place in the field of education [45]. Another research explores the latest trend and innovations in educational technology, which highlights the impact and benefits of technologies such as AI, VR and blockchain in enhancing learning experiences and identifies the challenges such as digital literacy [46]. Qiao and Zhao investigated the effectiveness of AI-based language learning tools such as Duolingo in improving speaking skills and self-regulation. According to the results, learners using AI-based tools showed significant improvements in speaking skills and self-regulation compared to those using traditional methods [47]. The application of generative AI such as ChatGPT in educational settings has been proposed: Findings include a more personalized and efficient learning experience for students as well as easier and faster feedback for teachers [48]. A comparative analysis of AI-integrated teaching with traditional teaching methods showed that AI-integrated teaching methods have several advantages over traditional methods. The AI-integrated group showed significant improvements in proficiency and motivation thanks to personalized feedback and interactive learning experiences compared to the traditional group [49]. The advantages and disadvantages of developing four basic language skills (listening, reading, speaking, writing) in foreign language education with ChatGPT were analysed and the following conclusions were obtained [50]: ChatGPT improves listening skills through interactive exercises, although it lacks the naturalness of human intonation. AI's ability to produce a variety of materials and provide immediate feedback significantly helps comprehension in reading skill. ChatGPT facilitates speaking practice through simulated conversations, but the lack of real-time human interaction can limit natural skill development. Learners' writing skills improve significantly with ChatGPT's instant corrections and suggestions, helping them with grammar and style as well. Although ChatGPT is a useful tool for language learning, it is recommended to be used in combination with various other resources such as textbooks, language courses and real communication opportunities to improve foreign language proficiency [51]. Between 2016 and 2019, approximately 200 empirical studies on Data-Driven Learning (DDL) have been published, emphasizing the many advantages of DDL in language learning [51]. In the study carried out by Barrot, it is promoted that the use of AI-driven tools and applications such as Grammarly, which gives automated written

corrective feedback, improve learner autonomy and learner accuracy [52]. Similar results were obtained in the experimental study conducted by Han and Sari [53]. They conducted a study with an experimental group and a control group including 75 university students studying English as a Foreign Language (ESL). They found that the experimental group that received both automatic and teacher feedback improved significantly more than the group that received only teacher feedback. Another area of AI is the inclusion of chatbots in the language learning process. In this way, the learning experience can be interactive, engaging, interactive and enjoyable, as well as personalized content. The results of another study suggested that students liked interacting with the system like chatbot [54]. Two other studies on this case emphasized that students enjoy interacting with chatbots and that by interacting with the system, students' feelings of anxiety in communication can be reduced and their desire to communicate can be increased. [55] [56]. It is emphasized that with the help of artificial intelligence, an effective teaching model can be created by combining detailed content, which usually includes the learner model, expert knowledge, rules that identify the errors and misconceptions that learners often make [57]. As a result of their study, Kim et al. obtained positive results regarding the use of chatbots. The artificial intelligence tools that learners used to complete speaking tasks contributed to the improvement of speaking performance in text-based and voice-based conversations. In addition, a comparison was made between these two types, and it was found that voice-based chatbot resulted in higher performance compared to text-based chatbot and face-to-face communication [58].

From enhancing personalized learning to improving administrative efficiency, AI's impact on language education practices opens the door to a future where technology and human expertise come together to create more inclusive, accessible, responsive, effective and individualized educational experiences.

CHALLENGES AND LIMITATIONS

In an era where we cannot keep up with the pace of technology, the integration of AI into education has emerged as an increasingly powerful transformative force that offers innovative and personalized learning experiences. From adaptive learning systems to chatbot-powered language practice, AI promises to reshape how learners acquire foreign languages. However, besides these benefits, there are also significant challenges and limitations that educators, learners and institutions need to consider. "Challenges include ethical concerns about data privacy and consent, ensuring pedagogical quality and validity, and managing learner perception and attitude" [59]. Learners and educators are concerned about the need for AI and AI-powered applications and platforms that raise ethical concerns such as data privacy and algorithmic components. The privacy and security of user data is at the forefront of ethical concerns. AI often requires large amounts of data to operate effectively,

which raises concerns about how this data is collected, stored and used. It is crucial to take the necessary measures to ensure that users' data is protected and used ethically [60], [61]. AI-enabled systems can perpetuate and even reinforce existing biases from the data they obtain from users. This can lead to unfair treatment of learners based on their race, gender or socio-economic status. Addressing algorithmic biases so that they cannot be misused is essential to ensure equal learning opportunities for all learners [61]. There is a need for transparency about the algorithms of how AI-enabled technologies make decisions and what data they use and for what purposes. Educators and students need to understand how these systems work and be able to hold them accountable for their decisions about what kind of data they can access [60]. Concerns with the ethical use of AI in education include ensuring that AI tools are used to enhance learning without replacing the critical role of human educators. AI should support and complement human educators, not replace them [62].

Apart from algorithmic and ethical issues, it also raises pedagogical limitations, including the inability of AI to fully emulate the nuanced understanding and creativity of human educators, as well as issues of over-reliance on technology. "AI-based solutions run the risk of not fully grasping the complexity and nuances of language. Especially jokes, word games, and complex structures of the language may not be interpreted correctly by AI, which may lead to erroneous results" [63]. Sharadgah and Sa'di, in their review of studies between 2015-2021 on the use of AI in English language learning and teaching, pointed out gaps in the literature, including inherent issues such as body language, gestures, expressions, emotions, translation, lack of detailed descriptions of instructional materials used for AI-guided learning [64]. These can also include jokes, jokes and difficulties in interpreting complex language structures, which can lead to misunderstandings. Kolchenko emphasized that AI has pedagogical inadequacies, and, in this context, the templates formed as a result of learner-instructor interaction, in which emotional agents also come into play, cannot be adequately created by AI [65]. While most researchers recommend the use of AI tools widely, it is also recommended that they should be used with appropriate instructor guidance [66]. Kessler, on the other hand, also addressed concerns that educators are not yet ready to use AI effectively [67]. In this context, the integration of AI in the field of education requires a transformation in the role of traditional educators.

Furthermore, technical challenges of AI in educational context, such as system reliability and compatibility with existing educational infrastructures, also present limitations and issues, which are barriers to the integration of AI into education. For AI systems to be used effectively in educational environments, they need to be reliable, robust and sustainable. Technical failures or systemic inconsistencies risk disrupting learning and can undermine confidence in AI tools. Ensuring high reliability and

minimizing downtime is crucial for the successful adoption of AI in education [68]. Technology breakdowns are common across various technologies, including connectivity issues and program or computer malfunctions [69]: AI technology can fail by providing incorrect answers or there can be challenges related to the limited capabilities of AI systems, where users desire more advanced functionalities from these systems. Among the technological limitations encountered in the use of AI is that many educational institutions do not yet have the necessary infrastructure to support advanced AI technologies such as hardware, software and networking. As a result, upgrading these systems can be costly and time-consuming, which is a significant barrier to AI integration [69] [70]. Another limitation associated with the integration of AI into education is that it requires significant investment in modern software, hardware and qualified staff. These costs can be prohibitive for many institutions, especially in underfunded or rural areas [70]. Another issue is the digital divide. Inequality in access to technology between different regions and socioeconomic groups can even worsen educational inequalities. To prevent the digital divide from widening, it is necessary to ensure equal access to AI tools [69]. It is essential that all of these issues and more are addressed to ensure that the potential of AI in language education is utilized effectively and equitably.

FUTURE DIRECTIONS

This study was compiled by examining recent research. The most used studies were those conducted on teaching English as a foreign language. Future studies can include more languages and research can be conducted. Case studies of concrete applications of AI in language education might be examined. How different educational institutions use AI and their findings can be emphasized. The issue of limitations and concerns regarding AI in foreign language education can be addressed more comprehensively as a separate study topic.

Another issue that I realized during the research and literature review, which is only mentioned in a small way in many sources, can be included in comprehensive studies to inform educators about AI. On the other hand, when talking about the integration of AI into education, educational planning should be reshaped by providing a multi-faceted organization such as policy makers and educational programmers who prepare curriculum. Research can be conducted on the effects of AI applications in different geographical regions and cultures. In the context of this research, how AI interacts with local language policies and cultural differences in language teaching can be examined. There is conceptual confusion regarding AI, and there are important points that need to be clarified on this subject. In future studies, concepts related to this subject can be determined and used within this framework.

In conclusion, while AI offers a wide range of opportunities in the field of language education through many applications and platforms, the integration of AI into educational environments needs to be carried out by carefully

considering various factors.

REFERENCES

- [1] Oxford Reference. (2021). *Artificial intelligence*. [Online]. Available: <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095426960>
- [2] B.J. Copeland (2024). Artificial intelligence. *Encyclopedia Britannica*. [Online]. Available: <https://www.britannica.com/technology/artificial-intelligence>
- [3] R. F. Murphy, (2019). Artificial intelligence applications to support K-12 teachers and teaching. *The RAND corporation*. [Online]. Available: <https://www.jstor.org/stable/pdf/resrep19907>
- [4] G. Kessler, P. Hubbard (2017). *Language Teacher and Education Technology*. The Handbook of Technology and Second Language Teaching and Learning, 227-291. DOI:10.1002/9781118914069.ch19
- [5] M. Zapata-Ros, (2023). *Los programas generativos "Transformer" AI, entre los que está ChatGPT, ¿una oportunidad para la evaluación formativa?* [Online]. Available: DOI:10.13140/RG.2.2.18669.46565
- [6] *Teachflow*. AI (April 22, 2023), The Evolution of AI in Education: Past, Present, and Future. [Online]. Available: <https://teachflow.ai/the-evolution-of-ai-in-education-past-present-and-future/>
- [7] S. Doroudi, "The Intertwined Histories of Artificial Intelligence and Education", *International Journal of Artificial Intelligence in Education*, vol. 33, pp. 885–928, 2023. [Online]. Available: <https://doi.org/10.1007/s40593-022-00313-2>.
- [8] I. Roll and R. Wylie, "Evolution and Revolution in Artificial Intelligence in Education," *International Journal of Artificial Intelligence in Education*, vol. 26, no. 2, pp. 582-599, 2016. [Online]. Available: <https://doi.org/10.1007/s40593-016-0110-3>.
- [9] E. A. Jackson, "The Evolution of Artificial Intelligence: A Theoretical Review of its Impact on Teaching and Learning in the Digital Age," ZBW – Leibniz Information Centre for Economics, Kiel, Hamburg, 2024. [Online]. Available: <https://www.econstor.eu/bitstream/10419/280893/1/Evolucion%20of%20Artificial%20Intelligence.pdf>
- [10] G. McCalla, "The history of artificial intelligence in education - the first quarter century", in *Handbook of Artificial Intelligence in Education*, B. du Boulay, A. Mitrovic, & K. Yacef, Eds. *Celtenham*, UK: Edward Elgar Publishing 2023, pp. 10-29. [Online]. Available: <https://www.elgaronline.com/edcollbook/book/9781800375413/9781800375413.xml>
- [11] M. Schart, (2022). *The ChatGPT chatbot is blowing people away with its writing skills. An expert explains why it's so impressive*. The University of Sydney. [Online]. Available: <https://www.sydney.edu.au/news-opinion/news/2022/12/08/the-chatgpt-chatbot-is-blowing-people-away-with-its-writing-skill.html>.
- [12] M. Yurdagel, H. S. Karaca, *Merhaba Yapay Zekâ, Ben İnsan!* Bağcılar- İstanbul : Remzi Kitapevi, 2023, p. 56
- [13] L. Kohnke., B.L. Moorhouse, & D. Zou, (April, 2023). ChatGPT for language teaching and learning. *RELC Journal*, [Online]. Volume : 54, (3) pp. 1-14. Available: <https://journals.sagepub.com/doi/abs/10.1177/00336882231162868>
- [14] L. Kohnke, (2023). A Pedagogical Chatbot: A Supplemental Language Learning Tool. *RELC Journal*, [Online]. Volume:

- 54(3), 828-838. Available: <https://doi.org/10.1177/00336882211067054>
- [15] S. Russell and P. Norvig, *Artificial Intelligence: A Modern Approach*, 3rd ed. Upper Saddle River, NJ, USA: Prentice Hall, 2010. [Online]. Available: <https://www.econstor.eu/bitstream/10419/280893/1/Evolution%20of%20Artificial%20Intelligence.pdf>.
- [16] D. Tafazoli, E. G. María, and C. A. Abril, "Intelligent Language Tutoring System: Integrating Intelligent Computer-Assisted Language Learning into Language Education," *International Journal of Information and Communication Technology Education (IJICTE)*, vol. 15, no. 3, pp. 60–74, 2019. doi: 10.4018/IJICTE.2019070105.
- [17] Y. S. Kang, A. A. Maciejewski, "A student model of technical Japanese reading proficiency for an intelligent tutoring system," *CALICO Journal*, vol. 18, no. 1, 18th Annual Symposium: Technologies for Language Learning: Using the Proven and Proving the New, University of Central Florida, Orlando, Florida, pp. 9-40, Mar. 13-17, 2001. [Online]. Available: <https://www.jstor.org/stable/24147687>.
- [18] N. Haristiani, "Artificial Intelligence (AI) Chatbot as Language Learning Medium: An inquiry," *Journal of Physics: Conference Series*, vol. 1387, no. 1, pp. 012020, 2019. doi: 10.1088/1742-6596/1387/1/012020.
- [19] R. Herson, "The Role of Conversational AI in Language Learning," *Second Nature*, Oct. 24, 2023. [Online]. Available: <https://secondnature.ai/the-role-of-conversational-ai-in-language-learning/>.
- [20] Shawar, B.A. Integrating CALL systems with chatbots as conversational partners. *Comput. Syst.* **2017**, *21*, 615–626. [Google Scholar] [CrossRef] [Green Version]
- [21] S. Bibauw, T. François, and P. Desmet, "Discussing with a computer to practice a foreign language: Research synthesis and conceptual framework of dialogue-based CALL," *Computer Assisted Language Learning*, vol. 32, no. 8, pp. 1-51, 2019.
- [22] D. Coniam, "The linguistic accuracy of chatbots: Usability from an ESL perspective," *Text & Talk*, vol. 35, no. 5, pp. 545-567, 2014.
- [23] L. K. Fryer, D. Coniam, R. Carpenter, and D. Lăpuşneanu, "Bots for language learning now: Current and future directions," *Language Learning & Technology*, vol. 24, no. 2, pp. 8-22, 2020.
- [24] A. Alcina, "Translation Technologies; Scope, Tools and Resources," *Target*, vol. 20, no. 1, pp. 79-102, 2008. DOI: 10.1075/target.20.1.05alc.
- [25] V. Kučič and S. Seljan, "The role of online translation tools in language education," *Babel*, vol. 60, no. 3, pp. 303-324, 2014. DOI: 10.1075/babel.60.3.03kuc.
- [26] "DeepL Industry Survey Results," DeepL, 2024. [Online]. Available: <https://www.deepl.com/en/blog/alc-survey-results>.
- [27] "Speechling Review: Does A Good Job Training Pronunciation," Mezzoguild, 2024. [Online]. Available: <https://www.mezzoguild.com/speechling-review/>.
- [28] "Google Assistant Review: My Hands-On Experience," Appy Pie, Dec. 6, 2024. [Online]. Available: <https://www.appypie.com/blog/reviews/google-assistant-review>.
- [29] P. Wallingford, "What Is AI Powered Duolingo: Does It Cost Extra?" Duolingo Guides, Nov. 17, 2024. [Online]. Available: <https://duolingoguides.com/what-is-ai-powered-duolingo/>.
- [30] "Rosetta Stone Review: Has The Method Itself Been Changed And Improved?" Sololingual, 2024. [Online]. Available: <https://www.sololingual.com/apps-programs/rosetta-stone-re-view>.
- [31] MIT Sloan Teaching & Learning Technologies, "AI writing and content creation tools," MIT Sloan School of Management. [Online]. Available: <https://mitsloanedtech.mit.edu/ai/tools/writing/>.
- [32] M. Afzal, "8 Useful Content Curation Tools for Education," Edly, Sep. 22, 2023. [Online]. Available: <https://edly.io/blog/8-useful-content-curation-tools-for-education/>.
- [33] Raccoon Gang, "Top 7 Content Curation Tools for Education," Raccoon Gang, Mar. 4, 2024. [Online]. Available: <https://raccoongang.com/blog/top-7-content-curation-tools-education/>.
- [34] P. Wallingford, "Duolingo Education: Language Learning Made Simple," Duolingo Guides, 08-Dec-2024. [Online]. Available: <https://duolingoguides.com/duolingo-education/>.
- [35] ATC Language Schools, "Top 7 AI Tools for Language Teachers and Language Learners," [Online]. Available: <https://atclanguageschools.com/top-7-ai-tools-for-language-teachers-and-language-learners/>.
- [36] Belitsoft, "AI in Education: AI in Language Learning," [Online]. Available: <https://belitsoft.com/custom-elearning-development/ai-in-education/ai-in-language-learning/>.
- [37] Teaching English, "Artificial Intelligence and English Language," [Online]. Available: <https://www.teachingenglish.org.uk/publications/case-studies-insights-and-research/artificial-intelligence-and-english-language>.
- [38] R. Vesselinov and J. Grego, "Duolingo Effectiveness Study," City University of New York, 2012.
- [39] S. Chan and N. Lo, "Enhancing EFL/ESL instruction through gamification: a comprehensive review of empirical evidence," *Frontiers in Education*, vol. 9, Aug. 2024. [Online]. Available: <https://www.frontiersin.org/journals/education/articles/10.3389/educ.2024.1395155/full>.
- [40] S. H. Author, "Revolutionizing Language Learning: The Power of Gamification in Language Learning," *Future Education Magazine*, 2024. [Online]. Available: <https://futureeducationmagazine.com/gamification-in-language-learning/>.
- [41] Coursera Staff, "Augmented Reality vs. Virtual Reality: What's the Difference?" *Coursera*, 25-Nov-2024. [Online]. Available: <https://www.coursera.org/articles/augmented-reality-vs-virtual-reality>.
- [42] Coursera Staff, "9 Augmented Reality Examples," *Coursera*, 25-Nov-2024. [Online]. Available: <https://www.coursera.org/articles/augmented-reality-examples>.
- [43] Google, "Google Expeditions," [Online]. Available: <https://edu.google.com/products/vr-ar/expeditions/>.
- [44] A. Yıldız, "The Role of Artificial Intelligence in Language Education," *Journal of Educational Technology*, vol. 8, no. 2, pp. 45-58, 2024. [Online]. Available: <https://dergipark.org.tr/en/download/article-file/3858518>.
- [45] Z. Chen, "Artificial intelligence-virtual trainer: innovative didactics aimed at personalized training needs," *Journal of the Knowledge Economy*, vol. 14, no. 2, pp. 2007–2025, 2023. doi: 10.1007/s13132-022-00985-0.
- [46] B. Allman, R. Kimmons, W. Wang, H. Bao, J. M. Rosenberg, and M. J. Koehler, "Trends and topics in educational technology, 2024 edition," *TechTrends*, vol. 68, no. 4, pp. 402–410, 2024. doi: 10.1007/s11528-024-00950-5.

- [47] H. Qiao and A. Zhao, "Artificial intelligence-based language learning: illuminating the impact on speaking skills and self-regulation in Chinese EFL context," *Frontiers in Psychology*, vol. 14, 2023. doi: 10.3389/fpsyg.2023.1255594.
- [48] J. Su and W. Yang, "Unlocking the power of ChatGPT: A framework for applying generative AI in education," *ECNU Review of Education*, vol. 6, no. 3, pp. 355-366, 2023. doi: 10.1177/20965311231168423.
- [49] D. Choukaier, "Integrating AI in English language pedagogy: Innovations and outcomes in teaching English as second/foreign language," *Educational Administration: Theory and Practice*, vol. 30, no. 5, pp. 3811-3822, 2024. doi: 10.53555/kuey. v30i5.3538.
- [50] M. Çıldır, "Collaborating with ChatGPT: An Exploratory Study of German Language Learning," *Alman Dili ve Kültürü Araştırmaları Dergisi*, vol. 5, no. 2, pp. 63-76, 2023. doi: 10.55143/alkad.1371058.
- [51] G. Cooper, "Examining Science Education in ChatGPT: An exploratory study of generative artificial intelligence," *Journal of Science Education and Technology*, vol. 32, no. 3, pp. 444-452, 2023. doi: 10.1007/s10956-023-10039-y.
- [52] J. S. Barrot, "Using automated written corrective feedback in the writing classrooms: Effects on L2 writing accuracy," *Computer Assisted Language Learning*, vol. 36, no. 4, pp. 584-607, 2023. doi: 10.1080/09588221.2021.1936071.
- [53] T. Han and E. Sari, "An investigation on the use of automated feedback in Turkish EFL students' writing classes," *Computer Assisted Language Learning*, vol. 37, no. 4, pp. 961-985, 2024. doi: 10.1080/09588221.2022.2067179.
- [54] C. M. Forsyth, C. Luce, D. Zapata-Rivera, G. T. Jackson, K. Evanini, and Y. So, "Evaluating English language learners' conversations: Man vs. Machine," *Computer Assisted Language Learning**, vol. 32, no. 4, pp. 398-417, 2019. doi: 10.1080/09588221.2018.1517126.
- [55] T.-Y. Tai and H. H.-J. Chen, "The impact of Google Assistant on adolescent EFL learners' willingness to communicate," *Interactive Learning Environments**, vol. 31, no. 3, pp. 1485-1502, 2023. doi: 10.1080/10494820.2020.1841801.
- [56] E. Ayedoun, Y. Hayashi, and K. Seta, "Adding communicative and affective strategies to an embodied conversational agent to enhance second language learners' willingness to communicate," *International Journal of Artificial Intelligence in Education*, vol. 29, pp. 29-57, 2019. doi: 10.1007/s40593-018-0171-6.
- [57] L. Chen, P. Chen, and Z. Lin, "Artificial intelligence in education: a review," *IEEE Access*, vol. 8, pp. 75264-75278, 2020. doi: 10.1109/ACCESS.2020.2988510.
- [58] H.-S. Kim, N. Y. Kim, and Y. Cha, "Is it beneficial to use AI chatbots to improve learners' speaking performance?" *The Journal of Asia TEFL*, vol. 18, no. 1, pp. 161-178, 2021. doi: 10.18823/asiatefl.2021.18.1.10.161.
- [59] Y. E. Yesilyurt, "AI-Enabled Assessment and Feedback Mechanisms for Language Learning: Transforming Pedagogy and Learner Experience," in *Transforming the Language Teaching Experience in the Age of AI**, 1st ed., Y. E. Yesilyurt, Ed. Hershey, PA: IGI Global, 2023, pp. 25-43. doi: 10.4018/978-1-6684-9893-4.ch002.
- [60] S. Akgun and C. Greenhow, "Artificial intelligence in education: Addressing ethical challenges in K-12 settings," *AI and Ethics*, vol. 2, pp. 431-440, 2022. doi: 10.1007/s43681-021-00096-7.
- [61] E. Watal, "AI in Education: The Ethical Concerns of Using AI," *Techstrong.ai*, March 26, 2024. [Online]. Available: <https://techstrong.ai/articles/ai-in-education-the-ethical-concerns-of-using-ai/>.
- [62] M. J. Reiss, "The use of AI in education: Practicalities and ethical considerations," *London Review of Education*, vol. 19, no. 1, pp. 1-14, 2021. doi: 10.14324/LRE.19.1.05.
- [63] U. Ertan, "The Use of Artificial Intelligence in Language Teaching," **Air Force Magazine**, 2024. [Online]. Available: https://www.academia.edu/115318322/The_Use_of_Artificial_Intelligence_in_Language_Teaching.
- [64] Sharadgah, T. A., & Sa'di, R. A. (2022). İngilizce öğretimi ve öğreniminde yapay zeka kullanımı üzerine yapılan araştırmaların sistematik bir incelemesi (2015-2021): Mevcut etkiler nelerdir? *Bilgi Teknolojileri Eğitimi Dergisi: Araştırma*, 21, 337-377. <https://doi.org/10.28945/4999>
- [65] V. Kolchenko, "Can modern AI replace teachers? Not so fast! Artificial intelligence and adaptive learning: Personalized education in the AI age," *HAPS Educator*, vol. 22, no. 3, pp. 249-252, 2018. doi: 10.21692/haps.2018.032.
- [66] L. K. Fryer, K. Nakao, and A. Thompson, "Chatbot learning partners: Connecting learning experiences, interest, and competence," **Computers in Human Behavior**, vol. 93, pp. 279-289, 2019. doi: 10.1016/j.chb.2018.12.023.
- [67] G. Kessler, "Current realities and future challenges for CALL teacher preparation," **CALICO Journal**, vol. 38, no. 3, pp. i-xx, 2021. doi: 10.1558/cj.21231.
- [68] E. Galaczi and R. Luckin, "Generative AI and Language Education: Opportunities, Challenges and the Need for Critical Perspectives," *Cambridge Papers in English Language Education*, Cambridge University Press & Assessment, 2024. [Online]. Available: <https://www.cambridge.org/sites/default/files/media/documents>.
- [69] H. Crompton, A. Edmett, N. Ichaporia, and D. Burke, "AI and English Language Teaching: Affordances and Challenges," *British Journal of Educational Technology*, vol. 55, pp. 2503-2529, 2024. doi: 10.1111/bjet.13460.
- [70] B. P. A. T. Mathew, "Affordances and Challenges of Integrating Artificial Intelligence into English Language Education: A Critical Analysis," *English Scholarship Beyond Borders*, 2024. [Online]. Available: https://www.academia.edu/121499551/Affordances_and_Challenges_of_Integrating_Artificial_Intelligence_into_English_Language_Education_A_Critical_Analysis.