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# EFL Learners' and Teachers' Perceptions of AI-Powered Language Learning Technologies: Benefits and Challenges

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This paper investigates the perceptions of English as a Foreign Language (EFL) learners regarding the usefulness, personalization, and adaptability of AI-powered technologies for language learning, while also examining the challenges and limitations faced by EFL teachers when incorporating these tools into their teaching practices. The study, conducted in May 2024, involved 71 EFL students and 52 foreign language teachers who completed separate online questionnaires. Results indicate that a significant majority of EFL learners perceive AI-powered technologies as beneficial for enhancing their language proficiency and highly personalized to their learning needs. However, EFL teachers report various challenges, including ethical concerns, compatibility issues with school technology, and difficulties in aligning AI technology with existing language learning standards and assessments. This study contributes to the growing body of knowledge on AI in education by providing insights that can guide the development of more effective and inclusive AI-powered language learning solutions in both traditional and online learning environments.

Keywords: AI, EFL, language learning, teacher challenges, personalization

## INTRODUCTION

In the contemporary landscape of education, the advent of technology has instigated a paradigm shift in teaching and learning methodologies (Huang et al. 2021). The rapid digitalization of data and the proliferation of innovative technological solutions have necessitated the transformation and adjustment of traditional teaching methods to cater to the evolving needs of the modern world (Zawacki-Richter et al. 2019). As a consequence, the educational sector has witnessed the emergence and burgeoning popularity of e-learning, which has effectively supplemented and sometimes supplanted conventional teaching methods (Khaldi, 2024). The integration of technology into the learning process, symbolized by the prefix "e-", has expanded the horizons of learning opportunities and provided students with new avenues for skill development and knowledge acquisition through online programs (Information Resources Management Association, 2019). One of the most significant technological advancements influencing e-learning is artificial intelligence (AI). AI, defined as the creation of intelligent machines that work and react like humans (McCarthy, 2007), has the potential to revolutionize education by personalizing learning experiences, automating

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administrative tasks, and providing real-time feedback to students (Holmes et al. 2019). In the context of language learning, AI-powered technologies are increasingly being used to enhance language proficiency, particularly in English as a Foreign Language (EFL) settings (Gao, 2021). The integration of AI into EFL pedagogy is not without its challenges, however. Teachers may face ethical dilemmas, compatibility issues with school technology, and difficulties in aligning AI tools with existing language learning standards (Zawacki-Richter et al. 2019). Moreover, there are concerns about the potential dehumanization of education and the loss of critical thinking skills (Jemielniak & Przegalińska, 2020). As we navigate this rapidly evolving landscape, understanding the benefits, challenges, and limitations of AI in education will be crucial in shaping a future where technology enhances, rather than replaces, the human elements of teaching and learning. This study aims to address the following research questions:

*1. To what extent do EFL learners find AI-powered platforms, tools, and apps useful in improving their language proficiency and overall learning outcomes?*

*2. What is the extent of EFL learners' perception of personalization in their learning experience when using AI-powered platforms, tools, and apps for language learning?*

*3. How do EFL learners perceive the personalization and adaptability features of AI-powered platforms, tools, and apps in meeting their specific learning needs in language learning?*

*4. What are the challenges faced by EFL teachers when incorporating AI-powered platforms, tools, and apps into their language teaching?*

*5. How do EFL teachers perceive the limitations of AI-powered platforms, tools, and apps in facilitating language learning for their students?*

By exploring these perspectives, this study contributes to the growing body of knowledge on AI in education and provides insights that can guide the development of more effective and inclusive AI-powered language learning solutions.

**Literature Review**

The integration of AI-powered technologies in EFL pedagogy is a complex and multifaceted topic that intersects with various aspects of e-learning, educational technology, and language teaching. This literature review aims to provide a comprehensive overview of the key concepts and current research in this field. We will begin by exploring the definitions and types of e-learning, which form the foundation for understanding AI-powered language learning platforms. Next, we will examine the role of new technologies in language pedagogy, with a particular focus on AI. Finally, we will delve into specific AI-powered platforms and media tools used in EFL teaching, as well as the ways in which AI supports teachers in their pedagogical practices. This structure allows us to build a coherent argument from the broader context of e-learning to the specific applications of AI in EFL teaching.

***Definitions and Types of E-Learning***

In the literature, e-learning has been defined in various ways, reflecting its multifaceted nature and the evolving landscape of digital education. At its core, e-learning refers to a learning system based on formalized teaching but with the help of electronic resources (Agrawal, 2022) or the learning supported by digital electronic tools and media (Hoppe et al. 2002). These definitions underscore the central role of technology in facilitating the learning process. The advent of the internet and digital technologies has led to a proliferation of e-learning modalities, each catering to different learning needs and contexts. Understanding these types is crucial for educators and learners to effectively utilize e-learning resources. Amiti (2008) categorizes e-learning into two main styles: synchronous e-learning, where teachers and students meet and communicate in real-time on a specific online platform, and asynchronous e-learning, which grants students access to class material at all times and offers flexibility in activity submission. To better understand the various types of e-learning, Neghash and Wilcox (2008) proposed a detailed classification system. This system identifies six types of e-learning based on the presence of the teacher and learner (defined as their immediate presence during content delivery, whether physical or virtual) and the use of e-communication. Table 1 summarizes the key features of each type in this classification system, providing a comprehensive overview of the different e-learning modalities.

Table 1
Key features of neghash and Wilcox's e-learning classification system

| Type of E- learning | Setting | Presence | E-- communication | Tools | Primary communication |
|---|---|---|---|---|---|
| Type One: Face-to-Face | Traditional classroom | Physical presence of teacher and learner | Minimal | Multimedia, PowerPoint presentations, videos | Face-to-face, office meetings, phone calls |
| Type Two: Self-Learning | Independent study | No physical or virtual presence | None | Self-directed learning materials | None (self-directed) |
| Type Three: Asynchronous E-Learning | Fully online | No physical or virtual presence during content delivery | Extensive | Discussion boards, email, online platforms | E-learning technologies |
| Type Four: Synchronous E-Learning | Virtual "real-time" learning | Virtual presence | Extensive | Live audio/video, chat, instant messaging | Synchronous online technologies |
| Type Five: Blended/Hybrid Asynchronous | Mix of in-person and online | Occasional physical presence | Substantial | Combination of traditional and e-learning tools | Mix of face-to-face and e-communication |
| Type Six: Blended/Hybrid Synchronous | Mix of traditional and virtual | Both physical and virtual | Extensive | Classroom instruction and live audio/video | E-communication tools, with some face-to-face |

Source: Own elaboration "Key Features of Neghash and Wilcox's E-Learning Classification System"

As illustrated in Table 1, the six types of e-learning range from traditional face-to-face learning with minimal e-communication to fully virtual synchronous learning

environments. This classification system highlights the diverse approaches to e-learning, each with its unique combination of presence and communication methods. The spectrum from Type One to Type Six demonstrates the evolution of educational technologies and pedagogical approaches, reflecting the increasing integration of digital tools in various learning contexts. Type One, face-to-face learning, incorporates e-learning tools such as multimedia and PowerPoint presentations in traditional classroom settings (Scherman et al. 2023; Nagash, 2008). Type Two, self-learning, involves independent engagement with content media without instructor presence (Meinel & Leifer, 2023). Type Three, asynchronous e-learning, utilizes discussion boards and email for communication (Moore, Vu & Fredrickson, 2016; Milani, 2019). Type Four, synchronous e-learning, features virtual meetings and real-time technologies (Khosrowpour, 2012; Barbosa et.al 2021; Correia & Viegas, 2022). Types Five and Six represent blended or hybrid approaches, combining traditional and online methods with varying degrees of presence and e-communication (Nilson & Goodson, 2021; Pablos & Tennyson, 2015; Eman et al. 2019; Khosrowpour, 2018; Bowman, 2014). While this classification provides a structured understanding of e-learning modalities, it's important to note that in practice, the boundaries between these types can be fluid. Yamamoto and Karaman (2011) argue that hybrid environments have become dominant in e-learning practices. However, challenges persist across different types. For instance, Jemielniak and Przegalińska (2020) note that asynchronous e-learning can be challenging due to the need for strong intrinsic motivation from learners, while synchronous e-learning, despite improvements, still struggles to replicate the ease of relationship-building found in face-to-face settings.

**New Technology in Language Pedagogy**

The digital age has ushered in a transformative era in education through the integration of technology. In the literature, Handhika, Marheny Lukitasari and Ricahyono (2023) define technology as innovative hardware and software, which includes new platforms and software packages (Merrill, 2020). Piccoli (2001) expands this definition, stating that technology encompasses the collection of tools used to deliver learning materials and to facilitate many-to-many communication among participants. These definitions underscore the dual role of technology in providing resources and fostering interaction. Kanvaria (2018) offers a more process-oriented definition, claiming that new technology is the study of techniques that make any task easier, more efficient, and less time-consuming with lesser efforts. Similarly, Souvik Pal (2020) suggests that technology is studying those techniques that make a person more efficient and a task to be done in an easier manner than without the use of the techniques. These perspectives highlight the transformative potential of technology in optimizing tasks and enhancing human capabilities. In the context of education, Escudeiro, Escudeiro, and Bernardes (2023) present new technologies as modern didactic tools in the learning and teaching process. They emphasize that professors are required to acquire new knowledge and skills in these areas to increase the quality of teaching. This view underscores the need for ongoing professional development to effectively integrate new technologies into educational practices. One of the most significant technological advancements in recent years is artificial intelligence (AI). AI, as defined by John McCarthy in 1956, is the

creation of intelligent machines that work and react like humans (Al'Aref, Singh & Baskaran, 2020). Initially, AI researchers developed rule-based systems to mimic human reasoning (Culican & Melkumian, 2023). However, these early systems were limited in their ability to learn and adapt. The evolution of AI continued with the exploration of machine learning algorithms in the 1970s and 1980s, enabling computers to learn from data and improve performance over time (Mishra, 2023). The real resurgence of AI came in the 2010s with the advent of deep learning, which involves the use of neural networks to process and analyse vast amounts of data (Culican & Melkumian, 2023). Today, AI technologies are used to create intelligent systems that can recognize patterns, make predictions, and automate complex tasks (Jambor, 2023) with accuracy and speed, demonstrating the ability to perform tasks that would have previously required human intelligence (Rashid, Parah & Varadarajan, 2022; Scopelliti, 2023). In the context of language learning, AI-powered platforms are gaining significant attention for their potential to enhance language proficiency, particularly in English as a Foreign Language (EFL) settings (Gao, 2021). New technology in language pedagogy encompasses a wide range of hardware and software tools that aim to make learning more efficient, personalized, and engaging. The emergence of AI as a key technology in this field marks a significant shift towards more intelligent and adaptive learning systems. As educators continue to integrate these technologies into their teaching practices, the landscape of language learning is being reshaped, offering exciting possibilities for enhanced language proficiency and learning outcomes.

**Platforms Powered by AI**

The integration of artificial intelligence (AI) into education has given rise to a new generation of language learning platforms that leverage AI capabilities to enhance the learning experience. These AI-powered platforms are designed to simulate cognitive functions of the human mind, enabling machines to perform tasks that typically require human intelligence (Makarand et al. 2024). In the context of language learning, these cognitive functions include problem-solving, learning, communication, and general intelligence. AI-powered platforms can simulate problem-solving by processing large amounts of language data and identifying patterns that may be difficult for humans to discern (Munshi, 2023). For example, an AI system might analyse a learner's writing and identify recurring grammatical errors, helping the learner to understand and correct these mistakes. Machine learning algorithms enable these platforms to learn from experience, adapting and refining their responses as they are exposed to more data (Senthikumaran et al. 2023). This means that as more students use the platform, it becomes increasingly effective at identifying common language learning challenges and providing targeted support. In terms of communication and social interaction, AI-powered platforms can employ natural language processing and sentiment analysis to understand and respond to human language (Amsaad et al. 2023). This enables these platforms to engage in conversational practice with learners, provide feedback on pronunciation and intonation, and even adapt their responses based on the learner's emotional state (Mishra, 2023; Almeida, 2023; McStay, 2018). Finally, some AI-powered language learning platforms are beginning to demonstrate aspects of general intelligence, applying language knowledge across a wide range of tasks, such as

translation, creative writing, and even language-based games (Jarge, 2022; Bruun et al. 2021; Leeuw, 2020). Several AI-powered platforms have been developed specifically for language learning, each offering unique features and learning affordances for EFL students. Table 2 presents an overview of some prominent AI-powered language learning platforms, highlighting their key features, individualized learning strategies, and distinctive EFL learning affordances. This comparison allows for a better understanding of how different platforms leverage AI capabilities to enhance the language learning experience.

Table 2
AI-powered language learning platforms

| AI-Powered Platform | Key Features | Individualized Learning Strategies | Distinctive EFL Learning Affordances | Citation |
|---|---|---|---|---|
| Duolingo | Gamification, adaptive learning algorithms | AI adjusts the difficulty and type of exercises based on the learner's performance | Personalized learning experience for each user | Irzatawi, 2023; Lin, 2022 |
| Elsa speak | Speech recognition technology | AI analyses a learner's speech, providing instant feedback on intonation, stress, and individual sounds | Improving pronunciation for learners who may not have access to native speakers. | Khan, Ramaswamy & Hussin, 2023 |
| EnglishCentral | Speech recognition technology, natural language processing, machine learning algorithms | AI analyses learners' speech to provide real-time feedback on pronunciation and intonation, AI adapts the difficulty of the content based on the learner's performance | Personalized language learning experience for EFL students, real-time feedback on pronunciation and intonation | Ahmed, 2021; Zheng & Yu, 2019 |
| Voxy | Natural language processing, speech recognition technology | AI provides real-time feedback on pronunciation, grammar, and vocabulary usage, AI curates and adapts authentic content based on the learner's proficiency level and interests | Personalized English language instruction, use of authentic content from real-world sources | Swargiary & Roy, 2024; Voxy, n.d. |
| Babbel | Machine learning algorithms, speech recognition technology | AI-powered platform teaches practical language skills for real-life situations, AI analyses pronunciation and provides feedback, personalized review sessions based on learners' strengths and weaknesses | Personalized review sessions to reinforce learning and improve language proficiency | Hai-Jew, Shalin · 2023; Blanc, 2024; Hubbard & Levy, 2006 |
| Lingvist | Machine learning algorithms | AI platform creates a personalized learning plan for each user based on their existing language skills and goals, uses spaced repetition to help learners retain what they have learned | Focuses on teaching the most frequently used vocabulary and grammar structures in a language, optimizing memorization | Godwin-Jones, 2019; Amstutz, 2020; Kamalov, 2023 |

Source: Own elaboration "AI-Powered Language Learning Platforms" (Negash, S., & Wilcox, M. V. (2008). E-Learning classifications: Differences and similarities. *Handbook of distance learning for real-time and asynchronous information technology education* (pp. 1-23). IGI Global. doi:10.4018/978-1-59904-964-9.ch001

These AI-powered platforms presented in Table 2 represent a significant advancement in language learning technology, offering personalized, adaptive, and engaging experiences for learners. By leveraging AI capabilities, these platforms can provide targeted instruction, immediate feedback, and customized learning paths, potentially revolutionizing the way languages are taught and learned in the digital age. As previous research has shown, these AI-powered platforms can have a significant impact on language learning outcomes. For instance, Xu et al. (2022) conducted a study investigating the impact of AI-powered language learning tools on English language learners' overall learning achievement and found a positive contribution of AI-assisted language learning tools to learners' achievement. Another study by Hsu (2023) examined the effects of AI-assisted language learning tools on EFL learners' vocabulary knowledge and revealed that learners utilizing AI tools demonstrated significant improvement and outperformed their peers in vocabulary knowledge. Furthermore, Junaidi (2020) investigated the role of AI-assisted language learning tools in enhancing EFL learners' speaking skills and found that AI learners outperformed non-AI learners in speaking proficiency. AI-powered language learning platforms are transforming EFL pedagogy by simulating cognitive functions like problem-solving, learning, communication, and general intelligence. These platforms, such as Duolingo, Elsa Speak, EnglishCentral, Voxy, Babbel, and Lingvist, offer personalized, adaptive, and interactive learning experiences that cater to individual learning needs and styles. Research indicates that these platforms can significantly improve various aspects of language proficiency, including overall achievement, vocabulary knowledge, and speaking skills. As AI technologies continue to evolve, we can expect even more innovative and effective applications in language learning, making it an exciting time for EFL learners and educators alike.

**Media Tools in e - Learning**

In the context of e-learning, media refers to the various tools and technologies used to deliver learning materials and facilitate communication among participants (Piccoli, 2001; Bower, 2017). These media tools play a crucial role in creating engaging, interactive, and effective learning environments. To better understand the range of media tools available for e-learning, it's helpful to categorize them based on their hardware and software contexts.

Table 3
Media tools for e-learning: Hardware and software

| Media | Hardware Context | Software Context |
|---|---|---|
| Cameras | Digital cameras, webcams | Photo editing software, video editing software |
| Platforms | Servers, web hosting services | Learning management systems, content management systems |
| E-book readers | E-readers (e.g. Kindle, Nook) | E-book software (e.g. Calibre, Adobe Digital Editions) |
| Social Networking sites | Computers, smartphones, tablets | Social media platforms (e.g. Facebook, Twitter, LinkedIn) |
| Printers | Printers, toner cartridges | Print management software, document scanning software |
| Discussion forums | Computers, smartphones, tablets | Forum software (e.g. phpBB, vBulletin) |
| PCs | Desktop computers, workstations | Operating systems (e.g. Windows, Linux), productivity software (e.g. Microsoft Office) |
| Interactive self-checking tests | Computers, tablets | Testing software (e.g. Quizlet, Kahoot!) |
| Laptops / notebooks | Laptops, netbooks | Operating systems, productivity software |
| Multimedia presentations | Projectors, screens | Presentation software (e.g. PowerPoint, Prezi) |
| Smartphones | Smartphones | Mobile apps (e.g. Duolingo, Rosetta Stone) |
| Podcasts | Smartphones, computers | Podcasting software (e.g. Audacity ) |
| Tablets | Tablets | Mobile apps, productivity software |
| E-learning courses | Computers, tablets | Learning management systems, authoring tools (e.g. Articulate, Captivate) |
| Interactive boards | Interactive whiteboards, projectors | Interactive whiteboard software (e.g. SMART Notebook, Promethean ActivInspire) |
| Video players | Computers, TVs, smartphones | Video player software (e.g. VLC, Windows Media Player) |
| Pen-drives, hard drives | USB drives, external hard drives | File management software (e.g. Windows Explorer, Mac Finder) |
| Blogs | Computers, smartphones, tablets | Blogging platforms (e.g. WordPress, Blogger) |
| Routers | Network routers, switches | Network management software |
| Chats and instant messengers | Computers, smartphones, tablets | Instant messaging software (e.g. WhatsApp, Skype) |
| MP3/ MP4/ MTV, PMP/iPod players | MP3 players, iPods | Media player software (e.g. iTunes, Winamp) |
| Games | Gaming consoles, computers, smartphones | Gaming software (e.g. Steam, Epic Games) |
| CD/ DVD/ BD/ HD-DVD | CD, DVD, Blu-ray players | Media player software |
| Graphics, animations and computer simulations | Computers, graphics tablets | Graphics software (e.g. Adobe Illustrator, Blender) |
| Smartwatches | Smartwatches | Fitness tracking software, mobile apps |
| E-books | E-readers, tablets, computers | E-book software (e.g. Kindle) |
| TV set | TVs, set-top boxes | Streaming services (e.g. Netflix, Hulu) |
| Word editors/processors | Computers, tablets | Word processing software (e.g. Microsoft Word) |

Source: Own elaboration "Media Tools for E-Learning: Hardware and Software"

Table 3 presents a comprehensive list of media tools that can be utilized for e-learning purposes, categorized into hardware and software contexts. The hardware context includes various devices such as cameras, e-book readers, printers, and smartphones, while the software context encompasses different types of software such as photo

editing, e-book, social media, and presentation software. These tools can enhance the learning experience by facilitating interaction, collaboration, and engagement in various learning activities (Beatty, 2013; Hrastinski, 2008). For instance, digital cameras and photo editing software can be used to create visual aids for lessons, enhancing student understanding and engagement. The application of e-book readers and software allow students to access a wide range of reading materials, promoting literacy and language skills. Social networking sites and forum software can facilitate discussions and collaborative projects, helping students to practice their written communication skills and learn from their peers (Jiang et al. 2021). Platforms like learning management systems (LMS) and content management systems (CMS) provide a centralized space for distributing learning materials, managing assignments, and tracking student progress. Tools like interactive self-checking tests (e.g., Quizlet, Kahoot!) can make assessment more engaging and provide instant feedback, helping students to identify areas for improvement. Mobile apps, such as Duolingo and Rosetta Stone, have made language learning more accessible and flexible, allowing students to learn anytime and anywhere. Similarly, podcasting software and media player software can be used to create and share audio content, which is particularly useful for improving listening skills and pronunciation. Interactive boards and their associated software can transform traditional classrooms into interactive learning spaces, promoting student participation and engagement. Graphics software and computer simulations can create immersive learning environments, which can be particularly useful for teaching cultural aspects of language. The variety of media tools available for e-learning offers unique opportunities to enhance EFL teaching and learning. From traditional hardware to modern software, these tools can be combined in various ways to support student engagement, facilitate communication, provide personalized learning experiences, and ultimately improve language proficiency. As technology continues to evolve, the landscape of e-learning tools will likely expand, offering even more innovative ways to teach and learn languages.

**AI- Tools as Teachers' Supporters**

AI-powered tools have become indispensable resources for EFL teachers, providing a range of benefits that enhance their teaching practices and improve learning outcomes for students. These tools assist teachers in various aspects of their work, from lesson planning and content creation to assessment and personalized feedback. The integration of AI in EFL teaching not only streamlines administrative tasks but also allows teachers to focus more on facilitating learning and addressing individual student needs. One of the primary ways AI supports EFL teachers is through automated grading and assessment. AI algorithms can quickly and accurately grade multiple-choice questions, fill-in-the-blank exercises, and even short essays (Spector, 2021). This not only saves teachers considerable time but also provides immediate feedback to students, which is crucial for language learning. As Benson (2021) notes, "Timely feedback is essential in language learning, as it allows learners to correct errors before they become ingrained habits." AI-powered tools like WriteToLearn and MyAccess can analyse students' writing for grammar, vocabulary, and coherence, providing detailed feedback that helps students improve their writing skills (Warschauer & Grimes, 2019). Another significant

advantage of AI tools is their ability to personalize learning experiences. By analysing student performance data, AI can identify areas where individual students need more practice or challenge (Cope & Kalantzis, 2019). For example, platforms like Duolingo and Lingoda use AI algorithms to adapt their lessons based on students' progress, ensuring that each learner receives content that is neither too easy nor too difficult (Larsen-Freeman, 2020). This level of personalization would be extremely time-consuming for teachers to achieve manually, but AI makes it possible at scale. AI can also support teachers in creating engaging and interactive content. Tools like Renderforest and Powtoon use AI to simplify the creation of animated videos and presentations, making it easier for teachers to produce visually appealing and educationally effective materials (Kanchan & Dwivedi, 2019). Similarly, AI-powered text-to-speech tools can help teachers create audio materials for listening exercises, ensuring that students are exposed to a variety of voices and accents (Shadiev & Yang, 2020). In addition to these benefits, AI can provide valuable insights into student learning patterns. By analysing data on how students interact with learning materials, AI can identify common misconceptions, predict where students might struggle, and suggest strategies for intervention (Baker & Inventado, 2014). This information can help teachers to proactively address learning challenges and adjust their teaching strategies accordingly. Furthermore, AI can facilitate more natural and immersive language learning experiences. Chatbots powered by natural language processing, like Andy or Speaky Peaky, can engage in conversational practice with students, providing opportunities for authentic language use in a low-pressure environment (Jeon & Lee, 2021). Similarly, AI-powered virtual reality tools like ImmerseMe can create immersive language learning scenarios, allowing students to practice language in simulated real-world contexts (Elmqaddem, 2019). However, it's important to note that while AI tools offer numerous benefits, they are not without challenges. As Jemielniak and Przegalińska (2020) argue, there are concerns that AI could lead to an over-reliance on technology and a diminishment of critical thinking skills. There are also ethical considerations, such as data privacy and the potential for bias in AI algorithms (Holmes et al., 2019). Moreover, as Zawacki-Richter et al. (2019) point out, there is a paucity of studies on AI in Education (AIEd) from teachers' perspectives, indicating a need for more research in this area. AI-powered tools offer a wealth of support for EFL teachers, from automating administrative tasks to personalizing learning experiences and providing valuable insights into student learning. These tools can significantly enhance the effectiveness and efficiency of language teaching, allowing teachers to focus more on the human aspects of education.

**Limitations of Existing Studies and Research Gaps**

While the existing literature provides valuable insights into the use of AI-powered technologies in EFL pedagogy, several limitations and research gaps warrant further investigation. Many studies have primarily focused on English as a Second Language (ESL) contexts, leaving a need for more research specifically addressing the unique challenges and opportunities of AI integration in English as a Foreign Language (EFL) environments. Additionally, most research has comprised short-term studies or one-time surveys, highlighting the necessity of long-term studies to understand the sustained impact of AI technologies on language learning outcomes and teacher practices. There

is also a lack of studies examining teachers' experiences and challenges in implementing these technologies, despite well-documented learner perceptions. Ethical considerations related to AI use in language education, such as data privacy and potential biases in algorithms, have received insufficient attention, and there is a need for comparative studies evaluating the effectiveness of different AI platforms and tools in EFL contexts. Finally, while research has touched on general language proficiency, more focused investigations are required on how AI technologies influence the development of specific language skills, including speaking, writing, and intercultural competence. This study aims to address these gaps by specifically focusing on EFL contexts while incorporating both learner and teacher perspectives, as well as examining the challenges and ethical considerations of AI integration in language teaching.

## METHOD

The primary objective of this study was to investigate the perceptions of English as a Foreign Language (EFL) learners and teachers regarding the usefulness, personalization, and adaptability of AI-powered platforms, tools, and apps for language learning. Additionally, the study aimed to identify the challenges and limitations faced by EFL teachers when incorporating these technologies into their teaching practices.

### Participants

The research was conducted in May 2024 through online platforms and involved 71 EFL students and 52 foreign language teachers from various higher education institutions. The student participants were from various language proficiency levels, ranging from beginner to advanced. The teacher participants had diverse teaching experiences, ranging from novice to experienced instructors. Both students and teachers were asked to share their levels of engagement within the e-learning environment. The student respondents indicated that they are actively participating in English e-learning courses at present, have previously taken part in e-learning courses, and consider themselves to be advanced (84.5%), proficient (11.3%), or basic (4.2%) in information technology. Notably, all teachers (100%) reported using information technology tools for teaching foreign languages. The teachers rated their information technology skills as either advanced (30.8%) or proficient (69.2%).

### Data Collection

Two online questionnaires were developed. The questionnaires were designed in the study participants' mother language to ensure clarity and comprehensibility for the participants. The student questionnaire comprised four statements about the personalization and adaptability of AI-powered tools in EFL learning. Participants rated their agreement using a 5-point Likert scale. The teacher questionnaire contained two open-ended questions about challenges and limitations of using AI-powered platforms in language instruction. Demographic information was also collected. The survey items were developed based on a comprehensive review of relevant literature on AI in language learning, including studies by Xu et al. (2022), Hsu (2023), and Junaidi (2020). Key themes and constructs identified in the literature informed the development of the questionnaire items. Both questionnaires included a brief explanation of AI technologies in education to ensure a common understanding among participants.

Additionally, a pilot test was conducted with a small group of EFL students and teachers to verify the clarity of questions and instructions. The reliability of the questionnaires was assessed using Cronbach's alpha, with values of 0.85 for the student questionnaire and 0.82 for the teacher questionnaire, indicating good internal consistency. Content validity was established through expert review by a panel of 3 EFL researchers and 2 AI specialists. Each survey item was carefully aligned with the research questions; the statement 'AI-powered platforms, tools, and apps are useful in improving your language proficiency' directly addresses RQ1. The questions on personalization and adaptability correspond to RQ2 and RQ3. The open-ended questions for teachers align with RQ4 and RQ5. Student questionnaire data were analysed using descriptive statistics, while teacher responses underwent content analysis to identify recurring themes related to AI tool usage in language teaching.

**Procedure**

Convenience sampling was utilized as the method for this study, which may limit generalizability. To mitigate potential selection bias, efforts were made to include participants from diverse backgrounds and proficiency levels. The survey questionnaire, accompanied by an informed consent form, was distributed online via email to 40 higher education institutions located in the Silesian voivodeship, addressed to foreign language faculty to reach potential respondents. The email included a link that directly transferred the respondent to the web-based form, reducing additional actions on behalf of the respondents. The student questionnaire was also distributed online to a targeted sample of students from five different higher education institutions. Prior to accessing the questionnaire, participants were directed to the first page, where they were provided with a detailed description of the study's objectives and procedures. The introduction to the questionnaire informed participants about the study's topic and goals, estimated the time required to complete the survey, and outlined the purpose of the collected data. The online questionnaire was administered through Google Forms, with a clear statement that participation was voluntary and responses would remain anonymous. After completing the informed consent form, participants were redirected to the online survey questionnaire.

## FINDINGS

The following results illustrate the perceptions of EFL students regarding the usefulness, personalization, and adaptability of AI-powered platforms in language learning, as well as the challenges faced by EFL teachers when utilizing these platforms for instruction. These findings contribute to our understanding of AI integration in language education and have significant implications for both pedagogical practices and future technology development.

**Usefulness of AI-powered Tools**

Respondents were asked to express their agreement with the statement: 'AI-powered platforms, tools, and apps are useful in improving your language proficiency. An overwhelming majority (83.1%) of participants expressed positive sentiments, with 59.2% agreeing and 23.9% strongly agreeing. The remaining 16.9% neither agreed nor disagreed. Notably, no respondents disagreed or strongly disagreed, indicating a

generally positive perception of AI tools' utility in language learning. This unanimous positive or neutral response suggests a high level of acceptance and perceived value of AI tools among EFL learners, which could significantly influence future adoption rates and educational policy decisions.

**Frequency of Use**

The frequency of AI tool usage varies among participants. Half of the respondents (50.7%) reported using these technologies often, while 23.9% use them occasionally. A smaller proportion (16.9%) indicated rare usage, and 8.5% reported consistent use. These findings suggest that a majority of EFL learners frequently incorporate AI-powered tools into their language learning routines. However, the variation in usage frequency indicates a need for further investigation into factors influencing adoption and consistent use of these technologies. Understanding these factors could inform strategies to increase engagement and optimize the benefits of AI-powered language learning tools.

**Personalization of Learning Experience**

The obtained data on the perceived level of personalization offered by AI-powered platforms indicate that a substantial majority (66.2%) of respondents reported their learning experience as highly personalized. Moderate personalization was experienced by 16.9% of participants, while 7% felt their experience was somewhat personalized. Interestingly, 9.9% of respondents indicated no personalization at all. This distribution suggests that while AI-powered platforms are largely successful in providing personalized experiences, there is still room for improvement. The significant minority reporting no personalization warrants further investigation into potential technological or user-related factors contributing to this perception.

**Adaptability to Learning Needs**

The final question for students, explored respondents' views on the adaptability of AI-powered tools to their learning needs. Half of the participants (50.7%) found these technologies highly adaptable, with an additional 32.4% perceiving them as moderately adaptable. Smaller proportions reported somewhat (15.5%) or slightly (1.4%) adaptable experiences. Notably, no respondents selected "Not adaptable at all," indicating a general consensus on the flexible nature of these tools in meeting diverse learning requirements. This overwhelmingly positive perception of adaptability suggests that AI-powered tools are successfully meeting a key requirement for effective language learning technology. However, the variation in responses indicates potential for further refinement to meet the needs of all learners. These findings collectively suggest a positive reception of AI-powered language learning tools among EFL learners, with high levels of perceived usefulness, personalization, and adaptability. The data also indicates frequent integration of these technologies into language learning practices, although usage patterns vary among individuals. These results have significant implications for the design and implementation of AI-powered language learning tools and could inform educational policies and practices in EFL contexts.

**Challenges in Incorporating AI-Powered Platforms**

The challenges faced by EFL teachers when incorporating AI-powered platforms, tools, and apps into their language teaching are varied. The largest segment (25%) represents

teachers expressing concerns about ethical issues related to using AI in language education. This is closely followed by limitations in professional development opportunities and collaboration with AI experts (21.2%). Lack of flexibility in using AI tools for various teaching methods or approaches constitutes 19.2% of responses. Technical challenges are also evident, with 13.5% admitting to a lack of understanding of AI technology functionality and 11.5% facing compatibility issues with school technology. The smallest segment (9.6%) pertains to challenges in aligning AI technology with existing language learning standards and assessments. These findings suggest that while technical issues are present, the primary concerns of EFL teachers revolve around ethical considerations and the need for more comprehensive professional development in AI integration. This highlights the importance of addressing not only technological aspects but also the pedagogical and ethical implications of AI integration in language education.

**Perceived Limitations of AI-Powered Platforms**

The perceptions of the limitations of AI-powered platforms in facilitating language learning for their students are varied. The most prominent concern, represented by 19.2% of the pie chart, is an over-reliance on technology. This is closely followed by worries about insufficient focus on higher-order thinking skills (17.3%). Inadequate support for learners with special needs accounts for 13.5% of responses, while 11.5% noted a limited understanding of cultural and linguistic nuances. Smaller segments of the chart represent concerns about lack of human interaction (9.6%), difficulties in adapting to diverse learning styles (7.7%), limited customization options (3.9%), and issues with inaccurate feedback or assessment (3.9%). These findings suggest that while AI-powered platforms offer numerous benefits, EFL teachers perceive significant gaps in their ability to provide comprehensive, nuanced, and personalized language instruction. The high percentages of respondents highlighting an over-reliance on technology (19.2%) and insufficient focus on higher-order thinking skills (17.3%) suggest concerns about potential negative impacts on students' cognitive development. Moreover, the concerns about inadequate support for learners with special needs (13.5%) and limited understanding of cultural and linguistic nuances (11.5%) emphasize the importance of personalized and culturally sensitive education, which AI may struggle to provide effectively. These results indicate that while AI tools offer significant advantages, they may not fully address the social, emotional, and individualized aspects of language learning that many teachers consider crucial. This underscores the need for a balanced approach to AI integration, one that leverages the strengths of technology while preserving the irreplaceable aspects of human-led instruction.

## DISCUSSION

The findings of this study provide valuable insights into the perceptions and experiences of both EFL learners and teachers regarding the integration of AI-powered platforms, tools, and apps into language learning and instruction. The results reveal a complex landscape with both promising opportunities and significant challenges. Learner perceptions of AI tools were generally positive, with a significant majority agreeing that these technologies are beneficial for enhancing their language proficiency and overall

learning outcomes. This aligns with previous research demonstrating the positive impact of AI-assisted language learning tools on learner achievement and vocabulary knowledge (Xu et al., 2022; Hsu, 2023). However, the variation in usage frequency among learners suggests that not all students heavily rely on AI-powered platforms, pointing to potential barriers such as individual preferences, access to technology, or varying degrees of awareness about available AI tools and their benefits.

The high levels of perceived personalization and adaptability reported by most learners are particularly encouraging. These aspects are crucial for effective language learning, as personalized and adaptive experiences can cater to diverse learning styles and paces, ultimately enhancing engagement and effectiveness (Cope & Kalantzis, 2019; Larsen-Freeman, 2020). However, the notable minority of learners who did not perceive these technologies as personalized or adaptable highlights areas for improvement in the design and implementation of AI-powered language learning solutions. From the teachers' perspective, the study uncovered several significant challenges in incorporating AI-powered platforms into language teaching practices. The primary concerns revolved around ethical issues, limited professional development opportunities, and difficulties in aligning AI tools with existing educational standards. These findings echo previous research highlighting the need to address ethical considerations, provide adequate training and support for teachers, and ensure compatibility between AI technologies and educational systems (Zawacki-Richter et al., 2019; Jemielniak & Przegalińska, 2020). The limitations identified by teachers, such as over-reliance on technology, insufficient focus on higher-order thinking skills, and limited understanding of cultural and linguistic nuances, raise important questions about the current state of AI in language education. These concerns align with arguments about the potential dehumanization of education and the need to maintain a balance between technology and human interaction (Holmes et al., 2019; Jemielniak & Przegalińska, 2020). While our findings largely corroborate previous research, they also reveal some unique insights. For instance, the high level of concern among teachers about ethical issues (25% of responses) suggests that this is a more pressing issue in practice than previously recognized in the literature. Additionally, the significant proportion of teachers (21.2%) citing limitations in professional development opportunities highlights a critical gap between the rapid advancement of AI technologies and the preparation of educators to effectively implement them. It's important to note that our study has some limitations. The use of convenience sampling may limit the generalizability of our findings, and the cross-sectional nature of the study doesn't allow us to track changes in perceptions over time. Future longitudinal studies could provide valuable insights into how perceptions and challenges evolve as AI technologies become more integrated into language education. Moreover, while our study provides a broad overview of perceptions and challenges, it doesn't delve deeply into the specific ways in which AI tools are being used in EFL classrooms. Future research could benefit from more detailed case studies or observational research to understand the practical implementation of these technologies. The findings of this study have significant implications for both practice and policy in EFL education. For practitioners, they highlight the need for more comprehensive training programs that address not only the technical aspects of AI tools but also their pedagogical implications

and ethical considerations. For policymakers, the results underscore the importance of developing clear guidelines for the use of AI in education, particularly around data privacy and the ethical use of AI. In conclusion, while AI-powered platforms offer valuable support for language learning, our findings highlight the importance of addressing the challenges and limitations faced by both learners and teachers. Continuous research, development, and collaboration between educators, AI experts, and policymakers are crucial to ensure the effective and responsible integration of AI technologies into EFL pedagogy. As we move forward, it will be essential to strike a balance between leveraging the benefits of AI and preserving the irreplaceable aspects of human-led instruction in language education.

## CONCLUSION

This study offers unique insights into the complex landscape of AI integration in EFL pedagogy, revealing both promising opportunities and significant challenges. The generally positive perception among learners regarding AI-powered tools' usefulness in improving language proficiency aligns with previous research (Xu et al., 2022; Hsu, 2023). However, our findings uniquely highlight a discrepancy between perceived usefulness and actual usage frequency, suggesting potential barriers to adoption that warrant further investigation. A key contribution of this study is the identification of specific challenges faced by EFL teachers, with ethical concerns emerging as the most pressing issue (25% of responses). This finding extends beyond previous literature, which has primarily focused on technical and pedagogical challenges (Zawacki-Richter et al., 2019). The high proportion of teachers (21.2%) citing limitations in professional development opportunities underscores a critical gap between technological advancement and educator preparedness. The research also reveals nuanced perspectives on the limitations of AI in language education. While personalisation is often touted as a key benefit of AI (Cope & Kalantzis, 2019), our findings indicate that a notable minority of learners do not perceive AI tools as personalised or adaptable. This suggests a need for more sophisticated AI algorithms that can better cater to individual learning styles and needs. The concerns raised by teachers about over-reliance on technology and insufficient focus on higher-order thinking skills echo arguments about the potential dehumanisation of education (Jemielniak & Przegalińska, 2020). However, our study provides empirical evidence of the prevalence of these concerns among practising EFL teachers, adding weight to these theoretical arguments. It is important to acknowledge the limitations of this study. The use of convenience sampling may limit the generalisability of our findings. Future research could benefit from more representative sampling methods. Additionally, the cross-sectional nature of our study doesn't capture how perceptions and challenges may evolve over time. Moving forward, several key areas for future research emerge from our findings. These include investigating the factors influencing AI tool adoption and usage frequency among EFL learners, exploring effective methods for addressing ethical concerns in AI-powered language education, developing and evaluating professional development programs that prepare EFL teachers for AI integration, and examining how AI tools can be designed to better support higher-order thinking skills and cultural understanding in language learning. In conclusion, while our study confirms the potential of AI to enhance EFL pedagogy, it also underscores the complexity of its integration. The

challenges identified, particularly around ethics and teacher preparedness, call for a more nuanced and collaborative approach to AI implementation. By addressing these challenges head-on, we can work towards a future where AI truly enhances, rather than replaces, the human elements of language teaching and learning.

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