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ARTIFICIAL INTELLIGENCE IN PERSONALIZED LANGUAGE LEARNING: BENEFITS, ATTITUDES, AND MOTIVATION OF BANGLADESHI HIGHER EDUCATION EFL STUDENTS

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Abstract
The integration of Artificial Intelligence (AI) into English language learning has transformed personalized learning through immediate feedback, adaptive content, and tailor-made learning paths for students. This study examines the potential of AI to enhance English as a Foreign Language (EFL) learning among higher education students in Bangladesh by exploring the benefits, learners' attitudes, and motivation for AI-based personalized language learning. Based on Sociocultural Theory, Self-Determination Theory, and the Theory of Planned Behavior, this study employed a quantitative design and collected data via an online survey administered to 203 undergraduate and graduate students. Stratified random sampling assured satisfactory representation in terms of academic years and disciplines. The findings show that artificial intelligence, valuing its ability to personalize learning, motivates students through immediate feedback and provides suggestions for further improvement. Concerns were noted that over-reliance on AI may detract from human instruction and raise issues regarding its reliability. This study extends the literature by addressing some important gaps in knowledge about the role of AI in EFL learning in resource-scarce settings, such as Bangladesh. The impacts of AI on motivation and language acquisition, along with the development of teacher-training and student-orientation programs, underscore a critical need for cooperation among universities, policymakers, and developers to ensure that AI tools align with educational requirements and facilitate effective, tailored English-language instruction.

Keywords: AI tools, attitudes, benefits, EFL, motivation, personalized learning

Introduction
Artificial Intelligence (AI) is a transformative force across all sectors, significantly altering traditional practices and introducing modernized alternatives. AI has garnered considerable attention for its capacity to transform teaching and learning processes in education, particularly within personalized language learning, where AI generates personalized educational experiences that aim to address and fulfill individual student needs, thereby enhancing the teaching and learning process (Ellikkal & Rajamohan, 2025; Khan et al., 2024). The current study focuses on AI

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in English as a Foreign Language (EFL) education among Bangladeshi higher education students, examining their attitudes, motivation, and ethical concerns regarding AI-led individualized learning. It involves creating customized learning paths in language learning to meet the diverse needs of learners. Considering this, for our review of EFL education, personalized learning is most inherently relevant to understanding cultural diversity stemming from various languages, as well as students' varied levels of proficiency in the intervention language (Islam et al., 2024).

The advantages that AI brings to personalized language learning include adaptability to students' diverse learning styles, continuous and instant feedback, and personalized learning paths, making the language learning process more effective and engaging (Mahmud, 2024; Merino-Campos, 2025). In addition, personalized language learning offers several benefits, including adaptability for learners with diverse learning styles and the ability to provide continuous, instant feedback and personalized learning plans to achieve better results (Cerny, 2023). Personalized language learning caters to a learner's language needs and preferences and is an important strategy in EFL education (Ginting et al., 2023). These tools can transform EFL education through adaptive, real-time feedback and personalized learning paths, enabling AI to adjust to an individual learner's pace and style, thereby increasing engagement and effectiveness (Cerny, 2023; Merino-Campos, 2025). For example, AI learning applications could analyze students' performance and tailor instruction to address their specific strengths and weaknesses (Ginting et al., 2023). Moreover, AI features provide instant feedback for language learning. Personalized learning paths also allow students to learn at their own pace. Some are slower, others are quicker, and some students are prompted to work at a pace that suits them. Although instruction in individual settings may vary widely, students can learn and move at their own pace and be included (Sumakul & Hamied, 2023).

Whereas AI is made use of in the learning of English in many developed countries, where a technological infrastructure exists to support its uses (Shi et al., 2024), some countries, such as Bangladesh, have barriers, including a lack of adequate technological infrastructure and AI-based tool access (Islam et al., 2024; Khan et al., 2024; Ng et al., 2025). Such hindrances constitute insurmountable barriers to the broad application of AI technology in education. However, current initiatives suggest that AI could revolutionize language learning by providing high-quality learning resources and personalized support, even in resource-poor settings (Ellikkal & Rajamohan, 2025; Ginting et al., 2023; Khan et al., 2024). While some educational initiatives have begun to incorporate AI into the curriculum, comprehensive guidelines and resources dedicated solely to AI-enhanced, personalized language learning are scarce. It is therefore imperative to explore how AI can be effectively integrated into EFL education in Bangladesh to enhance student engagement and motivation, while achieving better outcomes. However, this area of research has remained unexplored, or its relevance has been poorly understood, thus far in the EFL context of Bangladesh. This study, therefore, investigates the attitudes and motivations of EFL students toward integrating AI into their personalized learning experience, highlighting a conspicuous gap in the existing research.

In light of this gap, the benefits of and motivation for educational AI technologies are crucial factors in supporting the widespread adoption of AI education technology and enhancing its effectiveness (Cortez et al., 2024). Not receiving the recognition it deserves from educators may hinder educators' ability to foster the functional aspects of AI for personalized learning outcomes (Ngoc & Dan, 2023). This study aims to fill that gap and facilitate the successful integration of AI tools at the tertiary level, thereby enhancing EFL students' learning outcomes in Bangladesh. The study answers the following research questions:

1. What are the benefits of AI for personalized language learning in Bangladesh?
2. How does integrating AI in personalized language learning tools impact the motivation levels of Bangladeshi higher education EFL students?
3. What are higher education EFL students' attitudes towards the use of AI in personalized language learning in Bangladesh?

AI and personalized language learning

Personalized language learning through AI technologies provides personalized education, utilizing technology that adapts to each student's unique needs and pace. Commonly used AI tools in the Bangladeshi EFL context include ChatGPT, Gemini AI, and DeepSeek. AI-driven tools, as noted by Lin and Chen (2024), provide real-time feedback, adaptivity, and flexibility, enabling learners to develop their own approach to studying. This approach fosters autonomy, an important means of keeping students engaged and motivated, particularly in EFL contexts. Research has shown that learners' use of AI tools can help them retain new knowledge more effectively and reduce anxiety associated with learning, ultimately leading to improved academic outcomes (Lin & Chen, 2024). Khan et al. (2024) stated that using AI tools helps reduce students' work-related stress, as they can use AI for structuring their writing for different purposes. Islam et al. (2024) also mentioned that students currently use AI tools like ChatGPT to learn a language, even without a teacher present instantly.

Benefits of AI in personalized learning

AI tools for personalized learning provide tailored educational experiences by offering real-time feedback and customized content designed to meet the individual needs of learners. Chen et al. (2020) highlight that artificial intelligence platforms enhance learner engagement by providing adaptive instructional materials tailored to individual skill levels and learning preferences. In addition, AI-driven, dynamically updated learning pathways enable the evolution of content and activities in response to students' demonstrated abilities, promoting mastery and understanding (Khan et al., 2024; Laak & Aru, 2025; Son et al., 2025). Moreover, immediate feedback from AI tools enables learners to promptly identify and correct deficiencies, fostering interactive and engaging educational experiences that improve overall outcomes (Liu, 2025; Son et al., 2025). Moreover, artificial intelligence offers personalized recommendations for resources and instructional methodologies based on individual user data, thereby helping to sustain engagement and enthusiasm (Merino-Campos, 2025; Son et al., 2025). The scalability of AI further enhances the accessibility of education, delivering superior, personalized learning experiences to varied populations, including individuals in remote or

disadvantaged regions. Cortez et al. (2024) argue that by addressing unique preferences, AI promotes learner independence and motivation, which are essential for sustained educational achievement.

Students' motivation in AI-facilitated language learning

Student motivation is a key factor in defining the success of AI-embedded educational environments. According to Moybeka et al. (2023), integrating artificial intelligence into English classrooms can significantly improve student motivation. Their research notes that AI tools support both interactive and adaptive education, creating dynamic learning environments that sustain students' interest and motivation. Sumakul and Hamied (2023) support this argument by demonstrating that EFL students are motivated to learn more in AI-supported online learning environments only when they perceive that AI aids their learning. Motivation ensures that students become and remain engaged, if not eager, to learn more, especially when they experience a sense of accomplishment in the learning process, contributing significantly to the level of engagement necessary for successful educational outcomes (Liu, 2025; Merino-Campos, 2025). Artificial Intelligence can be a powerful tool to motivate students when integrated with personalized learning, as it provides individualized content tailored to each learner's specific needs at their preferred time, beyond fixed class hours (Liu, 2025; Son et al., 2025). Chen et al. (2020) and Islam et al. (2024) noted that AI-based personalized learning environments clearly foster autonomy, as they offer learners the choice of learning methods, which aligns with self-determination theory. AI empowers students to determine how they want to learn, thereby increasing their engagement and sustaining their motivation (Kovalchuk et al., 2025).

In addition, AI learning tools provide quick, personalized guidance, helping students identify areas for improvement while reinforcing their skills. This immediate feedback system enhances students' confidence in their abilities and fosters their commitment by validating correct inputs and providing beneficial feedback. These feedback solutions align with Bandura's (1997) self-efficacy framework, as students' confidence in their skills significantly influences their performance and motivation. AI tools achieve this by engaging language learners with unlimited resources and customized answers and explanations of language errors (Islam et al., 2024; Sharma et al., 2025). As AI enhances personalized learning, findings show the need for a balance between technology and human interaction. Cerny's (2023) work demonstrate that a balance of AI-facilitated learning and human-facilitated learning can effectively meet the needs of individual learners. Current scholarship demonstrates the promise of artificial intelligence in transforming educational practices and enhancing student engagement. More research is urgently needed better to understand the complexity of individual differences in learning strategies using AI methodologies.

Students' attitudes towards AI in language learning

Students' attitudes toward AI in language learning are among the most crucial factors in determining the effectiveness of educational AI tools. Haryanto and Ali (2019) conducted a study on students' attitudes toward using AI applications, such as Siri, during EFL learning. The results of this study indicate that students generally have a positive attitude toward using AI for personalized EFL learning,

particularly for instant feedback, varied explanations of their linguistic errors, and instant tutoring (Liu, 2025). There is a great deal of appreciation for the instantaneous feedback that AI enables, as well as the personalized tutoring that comes with it, which students perceive as conducive to learning (Hasan et al., 2026). Attitudes toward AI among English as a foreign language students regarding academic writing reveal that some view AI as a means to enhance writing and overall academic aptitude. However, concerns were raised about overreliance on AI and its potential negative impact on critical thinking. Ng et al. (2025) provide insight into the attitudes and concerns about the fear of missing out regarding the adoption of generative AI, and capitalize on this delicate balance between using AI and traditional learning to address these concerns among students.

Therefore, students' attitudes toward AI-assisted language learning are the most important stepping stones to the successful integration of technology. In the literature, students' opinions indicate that AI language learning tools engage them and make them feel positively towards them, which is supported by many learners (Rusmiyanto et al., 2023). For instance, growing interest in AI-integrated learning and teaching technologies for EFL learners in Bangladesh has been observed, driven by the potential for personalized and interactive learning experiences. For example, in another study, Lin and Chen (2024) found that Bangladeshi EFL learners value the personalized and interactive features of AI platforms because they believe AI platforms can enhance their language skills and learning process. However, students are increasingly concerned about the reliability and accuracy of AI tools as their use of AI continues to grow. On the contrary, Haryanto and Ali (2019) emphasized the urgency of improving training in the optimal use of AI tools and of establishing an appropriate level of trust in them.

Theoretical underpinnings

The investigations into the advantages of AI, motivation of EFL students, and attitudes towards artificial intelligence in personalized English learning presuppose theories, i.e., Sociocultural Theory, Input Hypothesis, Self-Determination Theory, Affective Filter Hypothesis, and Theory of Planned Behavior. Vygotsky (1978) invented Sociocultural Theory, which holds that learning through interaction is an activity of the learner and scaffolding is key to the development of his or her abilities. The AI applications offer dynamic feedback and personalized materials that align with the Zone of Proximal Development (ZPD), allowing students to finish difficult assignments with assistance. Similarly, Krashen's (1985) Input Hypothesis focuses on presenting language input (i+1) slightly above learners' current competence levels, which AI tools implement by modifying input based on performance. Motivation is studied through Self-Determination Theory (Deci & Ryan, 1985) whereby AI enables autonomy, competency and relatedness through the provision of personalized learning paths and real-time feedback, the latter being linked to higher intrinsic motivation. Moreover, the Affective Filter Hypothesis by Krashen (1982) can help explain the decrease in anxiety and increase in confidence caused by the use of artificial intelligence, which generates positive emotional states in the learning process. Lastly, the Theory of Planned Behavior (Ajzen, 1991) can be used to understand how positive attitudes of learners towards artificial intelligence, based on its perceived benefits, effectiveness, and capability to meet learning objectives, can impact their intention to use artificial intelligence-based

personalized learning. The theories outlined above offer solid theoretical foundations to the study of the positive aspects of AI, students' motivation and attitude to artificial intelligence in personalized learning of the English language in Bangladesh (Islam et al., 2024; Khan et al., 2024).

Method

Research design

This study employed a quantitative method to investigate attitudes and motivational influences of Bangladeshi undergraduates towards AI-enabled personalized language learning. In this study, a cross-sectional survey method was employed to collect data at a single point in time, thereby providing a snapshot of the benefits of AI, students' experiences, and motivations regarding AI applications in English language acquisition (Creswell, 2014). This design was specifically selected for its effectiveness in identifying patterns and trends within large populations, making it well-suited to the research objectives.

Participants

The study employed 203 participants, including undergraduate and graduate students, who, after informed consent, completed an online survey. The sample size, in a sense, sought a balance between statistical reliability and practical feasibility, as suggested by Teddlie and Yu (2007). Using stratified random sampling enhanced the representation of the aforementioned demographic groups within the university context. The study involved stratification by year and course of study, followed by simple random sampling within each stratum (Neuman, 2014). The integration of diverse perspectives through this methodology increased the generalizability of the findings. The 203 participants are students from the target population, as defined by Krejcie and Morgan (1970). Informed consent was obtained, and confidentiality and the autonomy of the participants were respected. Permission for data collection and use was documented in accordance with ethical standards and institutional guidelines. The demographic profiles of the participants in this study are shown in Table 1.

Table 1. Demographic profile of the participants

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	95	46.8%
	Female	107	52.7%
	Other/Prefer not to say	1	0.5%
Age Group	18-20 years	6	3%
	21-23 years	94	46.3%
	24-26 years	80	39.4%
	Over 26 years	23	11.3%
Educational Level	Undergraduate	116	57.1%
	Postgraduate	85	41.9%
	PhD	2	1%
Experience with AI Tools	Yes	189	93.1%
	No	14	6.9%
Field of Study	English & Humanities	149	73.4%
	Science & Technology	17	8.4%
	Business	32	15.8%
	Others	5	2.5%

Instrument

This study used a survey questionnaire containing four sections. Section A contained demographic items; Section B contained 13 items on students' benefits of AI for personalized language learning; Section C contained seven items on AI integration and its effects on motivation levels; and Section D contained eight items on students' attitudes towards AI in personalized learning. The items of the instrument are adapted from Hasan et al. (2026) and Islam et al. (2024). A pilot testing was conducted to establish reliability, yielding a Cronbach's alpha of .85 for the adapted scale.

Data collection

The data were collected through a carefully structured online questionnaire, specifically designed to gain insight into students' benefits of artificial intelligence, motivational factors, and attitudes towards AI-enabled tools within the framework of English language acquisition. The questionnaire comprised Likert-scale items and open-ended responses to gather both quantitative and qualitative data (McMillan & Schumacher, 2010; Pallant, 2020). A pilot test was conducted on the instrument to verify its reliability and consistency, yielding Cronbach's alphas exceeding 0.8 for the principal constructs. Content validity was established through expert assessment and cross-referencing with existing literature in the field (Drost, 2011). To enhance accuracy and ensure consistency, rigorous measures were followed during the data collection process (Bryman, 2012). Although the cross-sectional design precludes causal inference, the heterogeneous sample and robust instrument lend credence to the findings (Frankfort-Nachmias & Nachmias, 2008).

Data analysis

Descriptive statistical analysis of the collected data could help identify trends in students' perceptions of AI benefits, motivations, and attitudes toward the use of AI tools for personalized language acquisition. Mean scores, percentages, and standard deviations were used to summarize responses and identify significant trends. While this technique is instrumental for clearly presenting general findings, wherever possible, subgroup differences and more detailed nuances were further explored to gain a holistic understanding (Uddin et al., 2020). Additionally, responses to the open-ended question in the survey were integrated as qualitative findings into the findings and discussion section.

Findings and Discussion

Findings

Benefits of AI for personalized language learning

Table 2 presents the benefits of artificial intelligence in personalized language learning and is generally positive about most items. The mean scores for most items are above 4, indicating strong agreement with the effectiveness and usefulness of AI tools for language learning. The mean score of 4.517, the highest recorded, refers to the portability of AI-based learning, indicating that it is easily integrated into students' learning practices. Other items that received high scores include the functionality of AI tools in providing immediate feedback (4.512), helping to retain vocabulary and grammar (4.433), and enhancing writing skills through effective error correction (4.448). The qualitative findings from the open-ended responses

also show that students consider AI tools effective and provide immediate feedback, thereby promoting personalized learning. These results indicate that, on average, students perceive artificial intelligence tools as making learning more personalized and efficient, while also significantly enhancing their interest and performance in English studies (Laak & Aru, 2025). In addition, students express satisfaction with the overall usefulness of AI tools, with a mean score of 4.438, which supports their positive view of using AI in the language classroom. While there are some ups and downs, the generally high average scores suggest that, overall, AI tools are viewed positively across all aspects of personalized learning. This trend reveals the increasing importance students attribute to AI technologies as integral components in their language acquisition process.

Table 2. The benefits of AI for personalized language learning

Items	SD	D	N	A	SA	Mean
I am familiar with AI tools used for language learning.	0.5%	0.5%	3.9%	40.9%	54.2%	4.478
AI tools make learning English more engaging and effective.	0%	2.5%	5.9%	43.3%	48.3%	4.374
Using AI tools has enabled me to identify and effectively focus on individual learning needs.	0%	3.9%	5.9%	40.4%	49.8%	4.361
AI-powered personalized learning has improved my language skills.	1.5%	3%	7.9%	38.4%	49.3%	4.313
I find that AI tools provide immediate feedback that helps me understand my mistakes and learn from them.	0%	1%	4.9%	36%	58.1%	4.512
AI tools provide valuable feedback that helps me understand my mistakes and learn from them.	0%	1%	4.4%	39.4%	55.2%	4.488
AI tools help me retain vocabulary and grammar rules more effectively than traditional methods.	0%	3%	5.4%	36.9%	54.7%	4.433
Personalized feedback provided by AI tools has a lasting impact on my learning progress.	0%	1.5%	6.9%	41.4%	50.2%	4.403
AI tools made it easier to access learning materials and practice English at any time.	0%	1%	4.9%	38.9%	55.2%	4.483
The portability of AI-based learning allows me to continue learning English seamlessly.	0%	0.5%	5.4%	36%	58.1%	4.517
AI tools help me improve my writing skills by providing practical error correction suggestions.	0%	1.5%	6.4%	37.9%	54.2%	4.448

Items	SD	D	N	A	SA	Mean
The feedback provided by AI tools helps me quickly understand and correct my mistakes.	0%	1%	4.9%	39.4%	54.7%	4.488
I am satisfied with the effectiveness of AI tools in enhancing my English learning experience.	0%	2.5%	4.4%	39.9%	53.2%	4.438

AI Integration on motivation levels

Table 3 presents a strong case for students' positive perceptions of AI tools' impact on their motivation to learn English. The high mean scores across the items indicate a clear preference for AI-supported learning environments over traditional methods. Students demonstrated a notable level of motivation in their engagement with AI tools, as indicated by a mean score of 4.41 for the assertion "I am motivated to learn English when using AI tools compared to traditional methods." Likewise, the implementation of AI tools was perceived as a practical resource in assisting students in establishing and accomplishing individual language learning objectives, as evidenced by a mean score of 4.31. In particular, the interactive and gamified features of these tools were found to be crucial factors in increasing students' learning motivation, with a mean score of 4.51. This suggests that these features not only grab students' attention but also make the learning experience much more enjoyable. Moreover, the belief that AI tools increase confidence in self-directed learning was strongly supported, with a score of 4.40. Likewise, the qualitative findings from the open-ended responses indicate that students found AI integration to be user-friendly in developing their language skills personally. The uniform pattern observed in these responses indicates that learners recognize artificial intelligence as a significant factor that can foster engagement, enhance self-confidence, and deepen their commitment to language acquisition (Kovalchuk et al., 2025). This underscores the transformative power of AI in contemporary educational environments.

Table 3. AI integration on motivation levels

Items	SD	D	N	A	SA	Mean
I am motivated to learn English when using AI tools compared to traditional methods.	0%	4.9%	4.9%	34.5%	55.7%	4.41
AI tools have helped me set and achieve my personal language-learning goals.	0.5%	3.9%	8.4%	38.4%	48.8%	4.31
The interactive features of AI tools increase my enthusiasm for learning English.	0%	3%	6.4%	37.4%	53.2%	4.41
I feel more confident when I use AI tools for personalized learning.	0%	3.4%	6.4%	36.9%	53.2%	4.40
AI tools encourage me to practice English.	1%	3.9%	6.9%	34.5%	53.7%	4.36
The integration of AI in personalized language learning	0%	2%	7.9%	36.9%	53.2%	4.41

Items	SD	D	N	A	SA	Mean
has enhanced my motivation to improve my English skills.						
The gamified elements of AI tools make me more enthusiastic about learning English.	0.5%	1%	8.4%	28.1%	62.1%	4.51

Attitudes towards AI in personalized learning

Table 4 provides an overview of participants' views on the use of AI tools in language acquisition. It displays the responses to various statements, ranging from Strongly Disagree (SD) to Strongly Agree (SA). The findings indicate overall positive attitudes toward AI tools, with a strong emphasis on their usefulness and potential to transform the future of language education. The highest mean score, 4.49, was on the statement about the role artificial intelligence will play in shaping the future of English language learning, with a firm belief in its long-lasting impact. In contrast, the mean score of 4.24 for trust in the accuracy and reliability of AI tools in providing accurate information is relatively lower; this could indicate that, on average, participants are confident in the tools but do not fully trust them to be reliable. By and large, the responses demonstrate high confidence in the accessibility of artificial intelligence tools, their usability, and their usefulness in maintaining learner interest and motivation. The findings from the open-ended responses also show that the students have a positive attitude towards the future of education with the incorporation of AI. They think AI is the future reality that needs to be operated ethically. While the majority of respondents felt comfortable and satisfied with AI, several concerns persist, particularly those related to trust and content accuracy. However, the overall trend indicates a growing acceptance, suggesting that while the role of artificial intelligence in language learning is still evolving, it is viewed as a valuable asset with considerable potential (Laak & Aru, 2025).

Table 4. Attitudes towards AI in personalized learning

Items	SD	D	N	A	SA	Mean
I am comfortable using AI tools for my English language learning.	0%	1.5%	6.4%	40.9%	50.7%	4.39
I believe that AI can provide a more personalized learning experience.	0%	2.5%	6.4%	48.8%	42.4%	4.31
I trust the accuracy and reliability of AI tools for learning English.	0%	5.9%	8.9%	37.9%	46.8%	4.24
I feel confident in my ability to use AI tools for personalized language learning.	0.5%	0.5%	6.9%	43.8%	48.3%	4.39
I am more likely to recommend AI-based language learning tools to my peers.	0.5%	3.5%	5.4%	42.4%	48.3%	4.35
I find AI tools for language learning to be user-friendly and easy to navigate.	0%	3.4%	5.4%	41.9%	51.2%	4.47
I trust AI tools to provide accurate and reliable information for learning the English language.	0.5%	4.9%	6.4%	41.4%	46.8%	4.28
I believe that AI will continue to reshape and influence the future of English language education.	0%	1%	5.4%	36.9%	56.7%	4.49

Discussion

The data show that EFL students perceive AI tools as very useful for independent language learning, particularly for their portability, immediate feedback, and support for memorizing grammar and vocabulary. The high mean scores such as 4.512 for immediate feedback, 4.433 for vocabulary retention show the perceived effectiveness of AI in improving language acquisition, which is in line with the findings of Rusmiyanto et al. (2023), where it is emphasized that AI has the potential to speed up learning through tailor-made, real-time interventions. The role of AI in error correction and writing improvement has also emerged as a significant advantage of using AI, reinforcing its value in fine-tuning language skills, as respondents stated in the survey's open-ended question section.

While these findings provide evidence of a strong inclination among students toward artificial intelligence, important questions remain about the broader effects of integrating AI into language education. One prominent concern is excessive reliance on technology, which could preclude the development of cognitive and communicative skills integral to the traditional interface between instructors and students. Artificial intelligence, as posited by Li and Chai (2025) and Molla et al. (2023), should be viewed as augmenting, rather than replacing, human teaching. There is scant discussion of this topic in the study, which limits its depth given its important role in developing critical thinking and social communication in a language-learning setting.

EFL learners exhibit a strong tendency towards AI tools, as evidenced by high mean scores across several dimensions, indicating positive perceptions of motivation and educational outcomes. For instance, a mean score of 4.41 on motivation when using AI tools compared to traditional methods indicates that learners consider AI to be a strong supporter of their participation in language learning. Moreover, the fact that AI helps students set and achieve their own goals (mean score 4.31) and incorporates gamified and interactive elements (mean score 4.51) suggests that AI resources make educational environments more engaging and enjoyable. These results are supported by recent research on the promising effects of gamified AI technologies on educational environments (Lin & Chen, 2024). Participants also reported an increase in their self-assurance regarding their linguistic competencies, as evidenced by a notable score of 4.40, thereby endorsing Krashen's (1982) Affective Filter Hypothesis, which asserts that reduced anxiety and increased confidence contribute to improved language acquisition outcomes. In the Bangladeshi higher education context, students feel more engaged in lessons when their affective filter is lowered with the support of comprehensive materials presented across different channels.

Although AI tools may increase intrinsic motivation, overreliance on technology can still pose risks. Sumakul and Hamied (2023) warn that overreliance on artificial intelligence may diminish learners' ability to self-regulate their educational processes, thereby compromising the development of independent learning methodologies. Additionally, AI applications lack the emotional intelligence and contextual awareness that human educators bring to learners, which negatively impacts learners' deeper motivational engagement in more complex language activities. The potential for AI tools to replace human interaction rather than merely augment it underscores the need further to explore the balance between technological interventions and educator-led instruction (Molla et al., 2023).

While the data clearly show the potential of artificial intelligence to increase EFL learners' motivation, a more nuanced understanding is required to ensure these tools are leveraged effectively. The broader implications of integrating artificial intelligence necessitate a critical assessment of the risk that educational practices and experiences may become overly mechanized, as well as the potential for overreliance on technology (Hasan et al., 2026; Khan et al., 2024; Rusmiyanto et al., 2023). This has also been echoed in a study conducted in China by Li and Chai (2025). The findings align due to a similar language-teaching context. For China and Bangladesh, English is a foreign or second language, and learners have nearly the same kind of challenges and orientations in learning English. On the contrary, the findings do not match with Yaşar and Yılmaz (2026) due to the differences in the participants' background and study contexts. This indicates that personalized learning may vary from context to context based on the learners' backgrounds and contexts.

Additionally, the results show that EFL learners' attitudes towards AI tools, particularly in the context of personalized education, are very positive, as indicated by a mean score of 4.49. This reflects a high level of confidence that AI will transform English language teaching. This statement aligns with Jiang (2022), who emphasizes that AI has the potential to transform EFL pedagogy through its adaptability and innovation. Students view artificial intelligence as beneficial not only for enhancing engagement and motivation but also for further personalizing educational experiences. The marginally lower average rating of 4.24, reflecting confidence in AI's precision and dependability, suggests lingering uncertainties, especially about the accuracy and trustworthiness of materials generated by AI technologies. These apprehensions align with the findings of Ngoc and Dan (2023), who identify data security and reliability as significant obstacles to the broader adoption of AI in the educational sector. Likewise, the students in Bangladesh are also sometimes confused about the accuracy and authenticity of the information they receive from AI tools. Therefore, they check with their peers and teachers to be fully sure about the information they have collected. Teachers here spend a huge amount of time with such issues, which need to be investigated by researchers.

The implications of these findings are far-reaching. The strong support for AI tools reflects their growing importance in educational settings, particularly in providing adaptive feedback and scaffolding that aligns with Vygotsky's (1978) concept of the Zone of Proximal Development. Furthermore, the availability of AI has great potential to democratize education by making advanced language-learning tools accessible to students regardless of background or limited resources (Lin & Chen, 2024). Nonetheless, the doubts regarding precision show a deficiency that must be addressed to establish trust and encourage continued use. Reliable AI tools can enhance students' sense of self-efficacy and autonomy, as postulated by Self-Determination Theory (Deci & Ryan, 1985).

Artificial intelligence tools, by providing individualized feedback and tailored content, echo Vygotsky's (1978) Zone of Proximal Development (ZPD), facilitating students' progress with technological support. Moreover, the Input Hypothesis, presented by Krashen (1985), is relevant in this context, as AI tools tailor linguistic input to learners' current proficiency level (i+1) and thereby enhance the learning process. Expanding on it, the results indicate that AI-mediated scaffolding in the ZPD is dynamic. The students had a faster pace when tasks were

slightly more challenging than they would have been on their own and the support went away as they gained competence. Likewise, in the case of i+1 by Krashen, AI adjustments to proficiency changes in real-time made sure that the learners were presented with input that was easy to understand and challenging to help them eliminate anxiety and enhance uptake. This interaction of individualized challenge and in-time assistance is why the learners in the research showed faster language acquisition.

Moreover, the Self-Determination Theory, proposed by Deci and Ryan (1985), provides a fitting framework for explaining how artificial intelligence supports motivation through the pillars of autonomy, competence, and relatedness. The ability of AI to offer personalized learning paths and instant feedback increases learners' perceived agency over their educational experience, boosting intrinsic motivation. However, these positive motivational effects must not overshadow potential drawbacks. Ng et al. (2025) argue that, while artificial intelligence makes personalized educational experiences feasible, it may have the unintended consequence of pushing to the margins precisely those collaborative and social dimensions necessary for developing communicative competence in second language acquisition. Students' perceptions of the effectiveness of artificial intelligence are derived from beliefs described by the Theory of Planned Behavior (Ajzen, 1991), which affects students' willingness to use technological tools. It is essential to note that further research is necessary regarding the development of student motivation over time. Do the positive perceptions remain, or do they wear off as students become accustomed to using AI tools? Studies in this area are relatively scarce, and longitudinal approaches may help uncover whether the initial motivational boosts observed at the beginning are sustained or diminished later on (Shi et al., 2024).

Regarding limitations, this study focuses solely on students, without exploring educators or institutional readiness for AI integration; moreover, relying on quantitative mean scores provides limited insight into nuanced or subgroup-specific concerns (Rizvi et al., 2025; Sumakul & Hamied, 2023). Future research should undertake longitudinal studies to investigate how attitudes towards AI change as technologies mature, and examine how AI can be effectively integrated to augment, rather than replace, traditional teaching methods. Concerns regarding reliability and security must be addressed through technological advancements and comprehensive user training. Implementing these measures would not only foster confidence in artificial intelligence but also ensure its potential to revolutionize tailored education is fully realized (Khan et al., 2024). Moreover, this type of research overlooks the barriers that could hinder the fair application of AI technologies, such as inequalities in access to technology and digital literacy disparities (Lin & Chen, 2024). These challenges become even more relevant in heterogeneous educational settings, where some students may be denied the resources or skills required to utilize AI-powered education tools effectively (Laak & Aru, 2025; Li & Chai, 2025).

Conclusion

The findings of this study underscore the growing recognition of AI's potential in personalized language learning among EFL students. AI tools are perceived as highly effective in enhancing engagement, motivation, and linguistic

competence through their portability, immediate feedback, and personalized interventions. The tools themselves demonstrate congruence with established theories of learning, including Vygotsky's (1978) Sociocultural Theory and Krashen's (1985) Input Hypothesis, as they provide scaffolding and allow for individually tailored inputs. Furthermore, students reported increased motivation and improved self-efficacy when using AI tools for individualized learning. It is in line with Self-Determination Theory (Deci & Ryan, 1985).

The results, however, reveal the limitations and obstacles. Compared to the more optimistic view, issues with the dependability and precision of content generated by artificial intelligence are highlighted by relatively diminished trust scores, indicating skepticism that needs to be addressed to facilitate wider acceptance. This supports Ngoc and Dan (2023) in their argument for the transparency and security of AI tools in gaining users' trust. Moreover, gaps in access to technology and unequal digital literacy levels persist as significant barriers, particularly in heterogeneous learning environments (Lin & Chen, 2024). Moreover, excessive reliance on artificial intelligence may even undermine students' self-regulation abilities and threaten the very human dimension of teaching, as Molla et al. (2023) caution. A balanced approach is necessary to fully realize AI's potential in language education. Educators and developers must collaborate to enhance the reliability, transparency, and accessibility of AI tools and integrate them effectively with traditional teaching methods. This will require longitudinal research into how motivation and attitudes develop over time, as well as long-term studies of the effects of AI on learner autonomy and communicative competence.

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