**O‘ZBEKISTON RESPUBLIKASI**

**OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI**

**FARG‘ONA DAVLAT UNIVERSITETI**

# FarDU. ILMIY XABARLAR-

1995-yildan nashr etiladi
Yilda 6 marta chiqadi

3-2025

PEDAGOGIKA

# НАУЧНЫЙ ВЕСТНИК. ФерГУ

Издаётся с 1995 года
Выходит 6 раз в год

FarDU. Ilmiy xabarlar – Scientific journal of the Fergana State University

Volume 31 Issue 3, 2025-yil DOI: 10.56292/SJFSU/vol31_iss3/a46

UO‘K: 004.9:81’243+159.922+378.147

# HOW DOES AI CONTRIBUTE TO BOOSTING SELF-ESTEEM AMONG EFL LEARNERS? A CASE STUDY OF FERGANA STATE AND TATU UNIVERSITIES

# КАК ИИ СПОСОБСТВУЕТ ПОВЫШЕНИЮ САМООЦЕНКИ У ИЗУЧАЮЩИХ АНГЛИЙСКИЙ КАК ИНОСТРАННЫЙ ЯЗЫК? КЕЙС-СТАДИ ФЕРГАНСКОГО ГОСУДАРСТВЕННОГО УНИВЕРСИТЕТА И УНИВЕРСИТЕТА ТАТ

# AI (SUN'IY INTELLEKT) EFL (INGLIZ TILINI CHET TILI SIFATIDA O‘RGANUVCHI) TALABALARINING O‘Z-O‘ZIGA ISHONCHINI OSHIRISHGA QANDAY HISSA QO‘SHMOQDA? FARG‘ONA DAVLAT UNIVERSITETI VA TATU MISOLIDA TADQIQOT

**Shikina Anastasiya Aleksandrovna**

Master’s degree student, Department of English Practical Course, Fergana State University

***Abstract***

*This study explores the impact of Artificial Intelligence (AI) tools on the self-esteem of English as a Foreign Language (EFL) learners at Fergana State University and TATU Fergana Branch. Using a quantitative, descriptive design, data were collected from 56 participants through a structured survey. The results revealed that 85.71% of students reported increased confidence in their English abilities, while 92.85% acknowledged that AI positively contributed to skill development. Daily AI use was reported by 78.57% of respondents, indicating strong engagement. The findings confirm that personalized, adaptive AI tools enhance learners’ self-esteem, motivation, and language performance. However, concerns about reduced human interaction and digital competence gaps remain. The study emphasizes the importance of integrating AI thoughtfully into English instruction, alongside teacher training and ethical safeguards. Future research should explore long-term effects and combine quantitative data with interviews for deeper insights.*

***Аннотация***

*В данном исследовании рассматривается влияние инструментов искусственного интеллекта (ИИ) на самооценку изучающих английский язык как иностранный (EFL) студентов Ферганского государственного университета и Филиала ТАТУ в Фергане. Используя количественный описательный дизайн, данные были собраны у 56 участников с помощью структурированной анкеты. Результаты показали, что 85,71% студентов отметили повышение уверенности в своих знаниях английского языка, а 92,85% признали положительное влияние ИИ на развитие языковых навыков. 78,57% респондентов сообщили о ежедневном использовании ИИ, что свидетельствует о высокой вовлеченности. Полученные данные подтверждают, что персонализированные и адаптивные инструменты ИИ способствуют повышению самооценки, мотивации и эффективности изучения языка. Однако сохраняются опасения по поводу снижения уровня личного взаимодействия и недостатка цифровых навыков. Исследование подчеркивает важность обдуманной интеграции ИИ в преподавание английского языка, наряду с подготовкой преподавателей и соблюдением этических норм. В дальнейшем рекомендуется изучить долгосрочные эффекты и дополнить количественные данные интервью для более глубокого анализа.*

***Annotatsiya***

*Mazkur tadqiqotda Farg‘ona Davlat Universiteti va TATU Farg‘ona filiali talabalarining sun’iy intellekt (SI) vositalari orqali o‘z-o‘ziga bo‘lgan ishonchiga ta’siri o‘rganiladi. Tadqiqot miqdoriy, tavsifiy metod asosida olib borildi va 56 nafar ishtirokchidan so‘rovnoma orqali ma’lumotlar yig‘ildi. Natijalarga ko‘ra, talabalarining 85,71 foizi ingliz tilidagi ishonchi oshganini, 92,85 foizi esa SI vositalari ko‘nikmalarni rivojlantirishda ijobiy ta’sir ko‘rsatganini bildirgan. 78,57 foiz respondentlar SI vositalaridan har kuni foydalanishini aytdi, bu esa kuchli jalb etilganlikni ko‘rsatadi. Tadqiqot shuni tasdiqlaydiki, moslashtirilgan va shaxsiylashtirilgan SI vositalari talabalar o‘zini baholashini, motivatsiyasini va til o‘rganish samaradorligini oshiradi. Shu bilan birga, insoniy muloqotning kamayishi va raqamli ko‘nikmalardagi kamchiliklar ham muammo sifatida qolmoqda. Tadqiqot SI ni ingliz tili ta’limiga ongli ravishda joriy etish, o‘qituvchilarni tayyorlash va axloqiy tamoyillarga amal qilish zarurligini ta’kidlaydi. Kelgusidagi tadqiqotlar uzoq muddatli ta’sirlarni o‘rganib chiqishi va chuqurroq tahlil uchun intervyular bilan boyitilishi lozim.*

***Key words:*** *Artificial Intelligence (AI), EFL learners, self-esteem, English language learning, techno-competence, learner motivation, adaptive learning tools*

***Ключевые слова:*** *искусственный интеллект (ИИ), изучающие английский как иностранный, самооценка, обучение английскому языку, технокомпетентность, мотивация учащихся, адаптивные обучающие инструменты*

***Kalit so'zlar:*** *sun'iy intellekt (SI), EFL o'quvchilari, o'zini baholash, ingliz tilini o'rganish, texnokompetentlik, o'quvchi motivatsiyasi, moslashuvchan o'quv vositalari*

## INTRODUCTION

The rapid integration of Artificial Intelligence (AI) into education has transformed the landscape of language learning, especially in English as a Foreign Language (EFL) contexts. As AI tools become more accessible and adaptable, they are increasingly used to facilitate personalized learning experiences, immediate feedback, and self-paced study routines. These features are particularly beneficial for language learners, who often face psychological barriers such as low confidence, fear of failure, and performance anxiety. Among the emerging benefits of AI in education, its potential to boost learners' self-esteem has become a focal point of academic inquiry.

Self-esteem plays a pivotal role in academic success, particularly in language acquisition, where learners must consistently engage in communicative tasks and confront linguistic challenges. High self-esteem is associated with increased motivation, autonomy, and willingness to take risks—key components for developing communicative competence in a foreign language. This study aims to explore how AI-supported tools contribute to enhancing EFL learners' self-esteem, using case data from Fergana State University and the Tashkent University of Information Technologies (TATU) Fergana Branch. By combining theoretical perspectives and empirical data, the study investigates the psychological and pedagogical implications of integrating AI into English for Specific Purposes (ESP) courses.

Theoretical construct

The integration of AI in language learning environments has demonstrated a notable positive impact on EFL learners' self-esteem (S-E), which, in turn, significantly enhances their overall academic engagement and emotional well-being. According to Xiao, Yi, and Akhter (2024), AI-supported platforms foster a learner-centered environment that not only supports metacognitive strategies but also boosts learners' belief in their capabilities, thereby increasing their motivation and persistence in the face of challenges (p. 79). The implementation of tools like the AI-driven chatbot "Ellie" exemplifies how task-oriented AI interactions can elevate learners' confidence and oral proficiency, with students showing both high task completion rates and improved self-evaluation (Xiao et al., 2024, p. 79). This aligns with earlier research by Murk (2006) and Rubio-Alcalá (2017), emphasizing that strong self-esteem encourages goal-setting, resilience, and emotional regulation—traits that are vital for academic success.

The connection between self-esteem and enjoyment, as underscored by Liu (2022) and Elahi Shirvan et al. (2020), illustrates that AI-facilitated personalization and adaptivity create engaging learning experiences that strengthen learners' positive self-perceptions. For instance, students engaging with customized AI tasks reported greater academic enjoyment, which enhanced their motivation and cognitive-emotional regulation (Xiao et al., 2024, pp. 80–81). These findings affirm the transformative role of AI in not only providing effective linguistic practice but also nurturing learners' psychological attributes such as autonomy, self-confidence, and emotional control, ultimately contributing to higher academic performance and well-being in the EFL context.

The study by Kabilovna and Aleksandrovna (2024) provides compelling evidence of the positive impact AI has on the self-esteem of EFL learners, particularly through case studies conducted at Fergana State University and TUIT Fergana Branch. A striking 85.7% of participants reported positive feelings toward the use of AI tools in language learning, suggesting that AI fosters a supportive, non-judgmental environment where learners can progress at their own pace (p. 46). This individualized and responsive feedback mechanism aligns with Bandura's self-efficacy theory, where learners' belief in their ability to succeed enhances their motivation and engagement. The immediate, tailored assistance offered by AI boosts learners' confidence, as they attribute their progress to their own effort, guided effectively by AI rather than external judgment.

However, the study also notes that 14.2% of respondents expressed neutral or slightly negative views, highlighting concerns related to the diminished role of traditional language

instruction—especially conversational practice (Kabilovna & Aleksandrovna, 2024, p. 46). While these concerns warrant further exploration, the overall findings strongly support the integration of AI in EFL contexts as a means of enhancing learner autonomy and self-esteem. The authors recommend practical steps, such as customizing learning paths, combining AI with traditional methods, and training teachers in AI technologies, to maximize these benefits while minimizing drawbacks. These insights are not only critical for teachers but also for policymakers seeking to modernize and humanize the digital language learning experience (pp. 46–47).

The study by Saleh and Alsubhi (2025) highlights the multifaceted positive impact of AI-based assessments on EFL learners' self-esteem, particularly through the lens of techno-competence. AI-driven platforms offer tailored feedback and adaptive assessments that are calibrated to learners' skill levels, helping them avoid the common pitfalls of traditional, one-size-fits-all tests. This personalization keeps learners engaged and allows them to experience gradual, self-paced progress. When students receive focused, constructive feedback that highlights both strengths and areas for growth, their confidence in their language abilities improves, supporting a healthy sense of self-worth (p. 3). This aligns with Liu et al. (2022), who noted that such feedback fosters a growth mindset, encouraging learners to view challenges as opportunities rather than threats. In this environment, learners are more likely to participate, take linguistic risks, and develop their writing and communication skills without the fear of judgment.

The study connects this boost in self-esteem directly to learners' techno-competence—the ability to effectively use digital tools. Students proficient in navigating AI platforms benefit more fully from their features, such as adaptive writing prompts and real-time progress tracking, which create dynamic and motivating learning experiences. As students become more competent with these tools, they develop a stronger belief in their own learning potential, which positively influences their emotional well-being and academic engagement (Saleh & Alsubhi, 2025, pp. 3–4). Conversely, learners who lack digital fluency may feel overwhelmed or excluded from these benefits, experiencing frustration and a decline in self-esteem (Zhou & Lee, 2021). Thus, while AI holds transformative potential, its effectiveness hinges on equipping both learners and educators with the necessary technological skills to engage meaningfully with the tools.

The implications extend beyond learners to include teachers and educational institutions. Saleh and Alsubhi (2025) argue that educators must be digitally literate to effectively integrate AI into curricula and support students in overcoming technological barriers. Teachers play a crucial role not just in delivering AI-enhanced instruction but also in critically evaluating AI-generated feedback, ensuring it aligns with learners' needs and ethical standards (p. 5). This pedagogical techno-competence ensures that AI becomes a complement to human instruction rather than a substitute. The study also reinforces theories like Vygotsky's constructivism and Csikszentmihalyi's flow theory, emphasizing how AI can scaffold learning experiences that are immersive, appropriately challenging, and emotionally rewarding. Overall, when implemented with sufficient training and support, AI-based assessments significantly contribute to the emotional empowerment and academic success of EFL learners by enhancing their self-esteem and transforming their engagement with language learning.

## METHODOLOGY RESEARCH DESIGN

This study employed a quantitative, descriptive research design to investigate the influence of AI tools on the self-esteem of EFL learners, with a particular focus on students at Fergana State University and the Fergana branch of Tashkent University of Information Technologies (TATU). The research aimed to measure learner perceptions, experiences, and emotional responses to AI-supported language learning tools in English for Specific Purposes (ESP) contexts. A structured survey served as the primary data collection instrument, and the analysis was conducted to identify prevailing patterns, attitudes, and potential correlations between AI use and perceived improvements in confidence and motivation.

Participants demographic

The data reveals the demographic distribution of 56 survey participants by age and gender. The majority of respondents (32 out of 56) are female, with a significant concentration in the 19 to 22 age range (32 out of 32 female participants are aged 19–22). This suggests that most female participants are likely undergraduate students, possibly in the earlier stages of their studies.

Among males (24 participants), there is a noticeable shift toward older age groups, with no male participants under 22. Instead, male respondents are concentrated between ages 22 and 26, particularly peaking at age 23 (8 participants).

**Table 1 Gender and Age Distribution of ESP Survey Participants**

| | | How old are you? | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | Total |
| What is your gender? | female | | | 12 | | | | | | 32 |
| | male | | | | | | | | | 24 |
| | Total | | | 12 | 12 | | | | | 56 |

This contrast indicates a possible gender-based generational gap within the program or survey population. Females are predominantly younger, while males are mostly older, which could reflect differences in enrollment timing, academic paths, or returning adult learners. Such distribution could influence language learning needs, preferences, or even participation styles in the ESP (English for Specific Purposes) course. Understanding this demographic composition is essential for tailoring age-appropriate and gender-sensitive instructional strategies.

Academic background of the participants

The data shows the university distribution of the 56 survey participants. A majority—32 respondents (57.14%)—are from Fergana State University, while the remaining 24 respondents (42.86%) come from TATU (Tashkent University of Information Technologies, Fergana branch). There are no invalid responses, indicating full data integrity for this question.

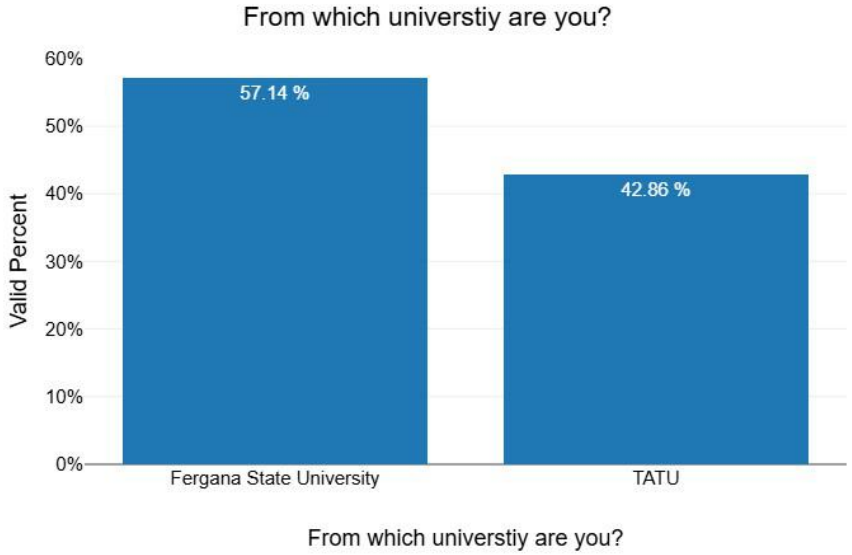


**Figure 1 University Affiliation of Survey Respondents**

This relatively balanced representation between the two universities provides a diverse academic sample. However, with Fergana State University contributing a slightly higher proportion, its students' perspectives may have a marginally greater influence on the overall results. This distribution is important to consider when analyzing other parts of the survey, such as preferences for ESP course content or learning challenges, as institutional curriculum or culture might impact responses.

Ethical considerations

All participants voluntarily agreed to take part in the study with prior knowledge of its purpose and procedures. Participation was fully anonymous, and no personal or identifying information was collected. The research was conducted in full compliance with the ethical standards outlined in the Helsinki Declaration and was approved and regulated by Fergana State

University. These measures ensured the protection of participants' rights and upheld the integrity of the research process.

Data collection instruments

The primary data collection instrument was a structured survey developed specifically for this study. It consisted of multiple-choice and Likert-scale questions designed to measure students' attitudes toward AI tools, the frequency of their usage, and the perceived effects on their confidence, motivation, and English language proficiency. The survey also included demographic questions to contextualize the responses based on age, gender, and university affiliation.

Procedure

The survey was administered both in print and online formats to ensure maximum accessibility and participation. Students were given clear instructions and ample time to complete the survey without external pressure. The responses were collected over a defined time period and reviewed for completeness and validity before analysis. No participant was coerced or incentivized, ensuring that the data reflected genuine perceptions and experiences.

Data analysis

Collected data were analyzed using descriptive statistical methods. Frequency distributions and percentage breakdowns were used to summarize participant demographics and responses to survey items. The analysis focused on identifying trends in learners' use of AI tools, their perceived impact on self-esteem and motivation, and concerns about AI integration. Charts and tables were employed to visually present findings, allowing for clearer interpretation and support of the study's conclusions.

## RESULTS

The data reveals a predominantly positive perception of using AI tools in English learning among the 56 survey participants. A combined 85.71% of respondents view AI favorably: 50% (28 participants) feel somewhat positive and 35.71% (20 participants) feel very positive about its use. This overwhelming majority reflects a strong openness to incorporating AI into language acquisition, possibly due to its usefulness in grammar correction, vocabulary building, and conversational practice.

**Table 2 Attitudes Toward AI Tools in English Learning**

| How do you feel about using AI tools in your English learning? | Frequency | % | Valid % |
|---|---|---|---|
| Somewhat positive | 28 | 50% | 50% |
| Neutral | 4 | 7.14% | 7.14% |
| Somewhat negative | 4 | 7.14% | 7.14% |
| Very positive | 20 | 35.71% | 35.71% |
| Total | 56 | 100% | 100% |
| Invalid | 0 | 0% | |
| Total | 56 | 100% | |

In contrast, a small minority expressed reservations or indifference: 7.14% (4 participants) felt neutral, and another 7.14% (4 participants) reported somewhat negative feelings. Notably, there were no "very negative" responses and no invalid answers, indicating both a high level of engagement with the question and a generally optimistic or at least tolerant stance toward AI. This trend suggests that AI-assisted tools can be confidently integrated into ESP (English for Specific Purposes) programs, provided user training and ethical considerations are addressed.

The data shows that the vast majority of the 56 respondents believe that AI contributes positively to improving their English language skills. Specifically, 57.14% (32 participants) responded "Yes, somewhat", and 35.71% (20 participants) selected "Yes, a lot". This means a combined 92.85% of the participants acknowledge some level of benefit from using AI tools in their English learning process.

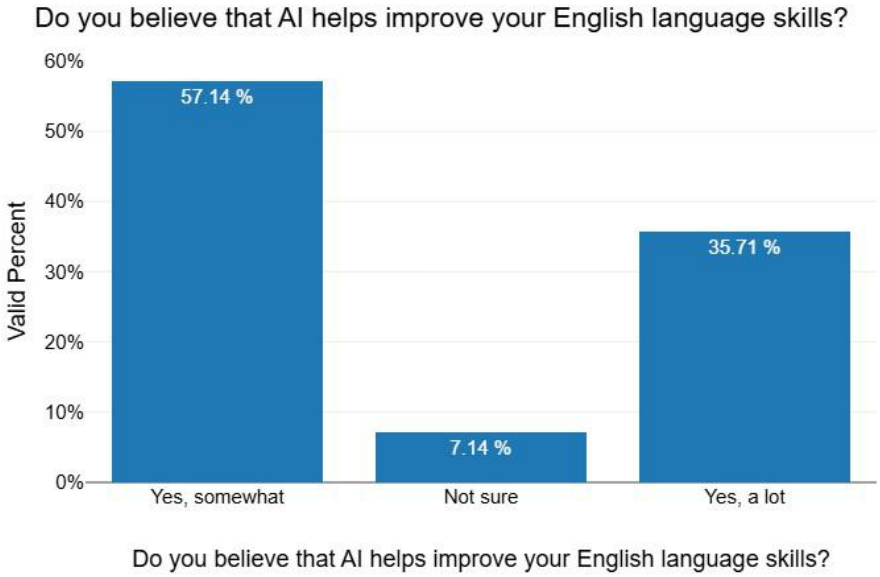


**Figure 2Perceived Impact of AI on English Skill Improvement**

Only 7.14% (4 respondents) were not sure, and importantly, there were no negative responses or invalid entries, indicating strong engagement and general optimism regarding AI's role in language development. These results suggest that learners perceive AI not just as a supportive tool but as an effective complement to traditional learning methods, especially in enhancing skills such as writing, vocabulary, and comprehension. The high level of agreement also provides a solid foundation for integrating AI tools more actively into English for Specific Purposes (ESP) courses.

The data indicates a high frequency of AI tool usage among the 56 respondents in their English learning. The majority—78.57% (44 participants)—reported using AI tools daily, suggesting that these tools have become a regular and integrated part of their study routines. This daily engagement reflects not only accessibility but also a perceived value in using AI for consistent language practice and support.

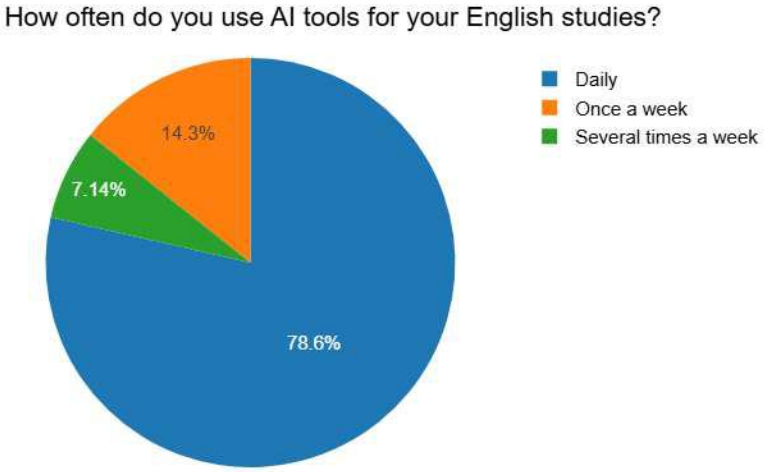


**Figure 3 Frequency of AI Tool Usage in English Studies**

Additionally, 14.29% (8 participants) use AI tools once a week, and 7.14% (4 participants) use them several times a week. Though smaller in comparison, these figures still show that 100% of respondents use AI tools at least occasionally, with no one selecting "never" or submitting an invalid response. This pattern underlines AI's widespread adoption and popularity as a learning aid, particularly in environments where learners seek personalized, on-demand assistance for improving their English language skills. It also suggests strong potential for incorporating AI-based tasks or platforms into formal ESP course structures.

The data reveals that using AI tools has had a positive impact on learners' confidence in their English abilities. A combined 85.71% of respondents reported increased confidence, with

50% (28 participants) selecting “Agree” and 35.71% (20 participants) choosing “Strongly agree.” This strong affirmation suggests that AI tools not only support language development but also contribute to learners’ self-assurance and motivation, likely by providing immediate feedback, reducing fear of mistakes, and offering accessible practice.

**Table 3 Confidence Gains from AI-Assisted English Learning**

| Has using AI made you feel more confident in your English abilities? | Frequency | % | Valid % |
|---|---|---|---|
| Strongly agree | 20 | 35.71% | 35.71% |
| Neutral | 8 | 14.29% | 14.29% |
| Agree | 28 | 50% | 50% |
| Total | 56 | 100% | 100% |
| Invalid | 0 | 0% | |
| Total | 56 | 100% | |

Meanwhile, 14.29% (8 respondents) selected “Neutral,” indicating neither a gain nor a loss in confidence, and no one expressed disagreement. This complete absence of negative or invalid responses highlights a generally supportive view of AI’s role in language learning. The confidence boost associated with AI use is a valuable insight for educators, suggesting that integrating AI tools into English for Specific Purposes (ESP) courses can enhance not just skill acquisition, but also learner empowerment and engagement.

The data shows that a clear majority of the 56 respondents believe AI tools enhance the engagement of their English learning experience. Specifically, 57.14% (32 participants) answered “Yes, somewhat,” while 28.57% (16 participants) responded “Yes, very much.” This means a total of 85.71% perceive AI as a positive influence on their learning motivation and interest, reflecting its capacity to make English study more interactive, personalized, and enjoyable.

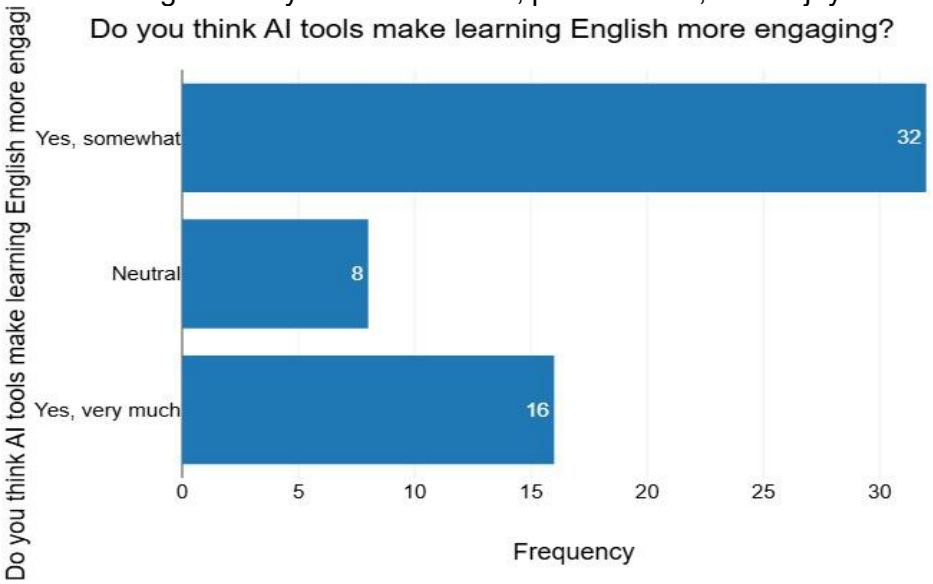


**Figure 4 Perceived Engagement from AI in English Learning**

Only 14.29% (8 participants) chose “Neutral,” and there were no negative or invalid responses, indicating general agreement and a lack of resistance to AI-based learning approaches. These results suggest that AI tools are not just useful for improving language skills but are also effective in sustaining learner attention and enthusiasm, which is crucial for long-term success. For ESP course designers, this confirms the potential of AI to create more dynamic and student-centered learning environments.

The data highlights key concerns among students regarding the use of AI in their studies. Out of 56 total respondents, 48 provided valid answers, with 50% (24 participants) citing lack of personal interaction as their primary concern. This indicates that while AI tools are valued for efficiency and support, many learners still prioritize human connection and communication, which AI cannot fully replicate—especially important in language learning contexts where real-time conversation and emotional nuance matter.

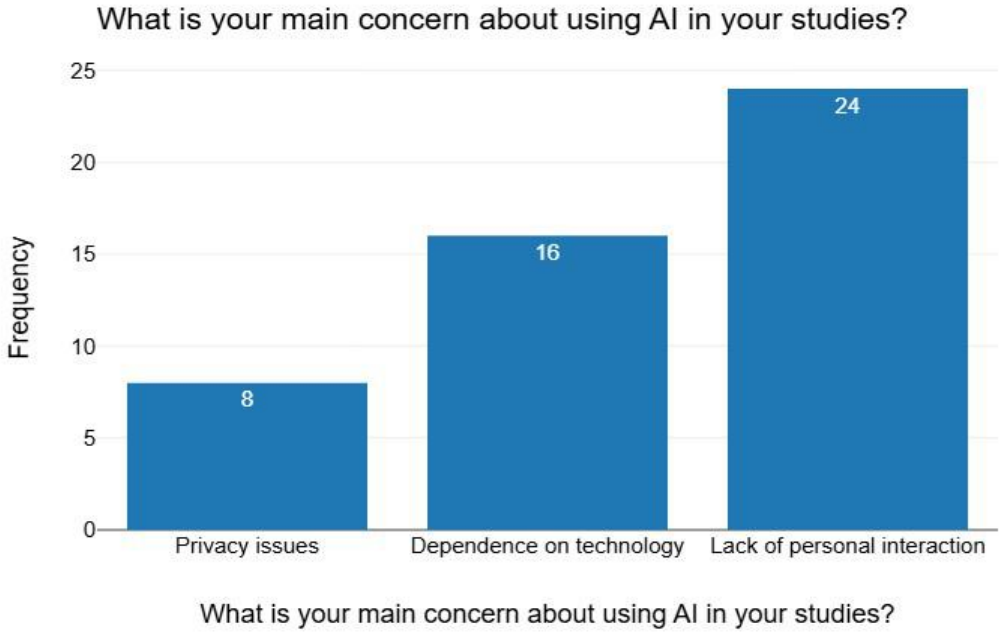


**Figure 5 Learners' Concerns About AI in Education**

Other notable concerns include dependence on technology, selected by 33.33% (16 respondents), and privacy issues, noted by 16.67% (8 respondents). These responses suggest some skepticism about over-reliance on digital tools and the security of personal data. Additionally, 8 responses (14.29%) were invalid or left blank, possibly reflecting uncertainty or a lack of strong concern. Overall, the results point to a need for balanced integration of AI in education—where it complements, rather than replaces, human instruction—and for greater transparency around privacy and ethical use.

The data reveals that most respondents perceive AI as a positive influence on their motivation to learn English. A combined 71.43% of participants reported an increase in motivation: 42.86% (24 respondents) said AI somewhat increases their motivation, while 28.57% (16 respondents) stated it greatly increases their motivation. This suggests that AI tools may offer engaging, personalized, and supportive learning environments that encourage students to study more consistently and with greater interest.

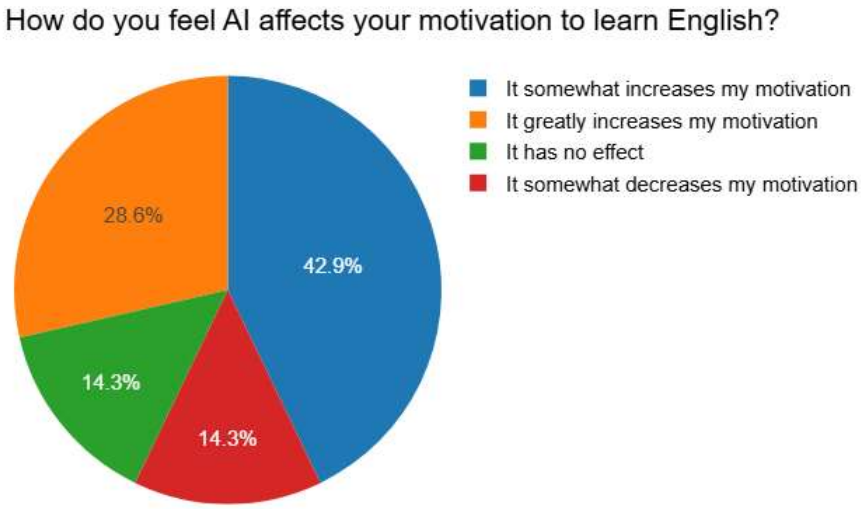


**Figure 6 Impact of AI on Motivation to Learn English**

On the other hand, 14.29% (8 participants) felt that AI somewhat decreases their motivation, and another 14.29% (8 participants) reported that it has no effect. While these are minor groups, they highlight that AI does not universally enhance motivation and may, for some learners, lack the human interaction or emotional encouragement needed to stay engaged. Overall, the data indicates a strong trend toward motivation-enhancing effects of AI, supporting its integration into English language learning strategies—particularly when blended with human support to meet diverse learner needs.

Discussion

The findings of this study support a growing body of literature that underscores the positive impact of AI tools on EFL learners' self-esteem and language learning outcomes. The data collected from 56 participants across two universities (Fergana State University and TATU Fergana) revealed overwhelmingly positive attitudes toward AI-supported learning. Specifically, 85.71% of participants reported feeling more confident in their English abilities, mirroring findings from Xiao, Yi, and Akhter (2024), who argue that AI fosters self-directed learning environments and strengthens learners' self-perceptions through adaptive, personalized support. This reinforces Bandura's self-efficacy theory, as the use of AI tools appears to boost learners' belief in their own capabilities, promoting greater persistence and resilience in the face of academic challenges.

The integration of AI tools not only increased learners' confidence but also positively influenced their engagement and motivation. These outcomes align closely with the work of Liu (2022) and Elahi Shirvan et al. (2020), who highlighted the strong correlation between enjoyment and academic involvement in EFL contexts. In the present study, 85.71% of learners reported enhanced engagement when using AI tools, suggesting that these technologies can make English learning more enjoyable and personally meaningful. Additionally, 71.43% of students indicated increased motivation, a finding that echoes Saleh and Alsubhi's (2025) assertion that personalized, adaptive AI assessments help maintain learner interest and emotional investment by avoiding both boredom and discouragement.

Further comparison with Kabilovna and Aleksandrovna's (2024) case study at the same universities reinforces these conclusions. Their research found that 85.7% of students expressed positive feelings about using AI in language learning, especially due to the non-judgmental, self-paced nature of AI interaction. This environment reduces anxiety and fear of failure—key barriers to self-esteem in language acquisition. Our study similarly noted that students appreciated the immediate feedback and individualized support provided by AI, which likely contributed to their heightened confidence. These parallels validate the consistency and replicability of AI's psychological benefits across EFL learning contexts, particularly in Central Asian academic institutions.

However, while the overall sentiment was positive, both our research and the cited studies acknowledge important limitations and learner concerns. For instance, 14.29% of participants in our study reported neutral feelings regarding confidence gains, and 28.58% expressed either no

change or decreased motivation due to AI usage. Likewise, 50% cited the lack of personal interaction as a major concern. These findings reflect similar cautions raised by Saleh and Alsubhi (2025) and Zhou and Lee (2021), who warn that low techno-competence and reduced human contact can undermine AI's effectiveness. This implies that while AI offers substantial benefits, its implementation should be blended with human interaction and supported by digital literacy training for both students and educators.

Another key theme across all studies is the crucial role of techno-competence. Saleh and Alsubhi (2025) found that students with higher digital skills showed significantly greater self-esteem and language development, while those with limited digital experience faced barriers. Our results further support this claim, as frequent users of AI (78.57% reported daily use) also reported the highest levels of engagement and confidence. This suggests that digital fluency is a necessary enabler for realizing AI's benefits. Consequently, teacher training and infrastructure investment should be prioritized to ensure equitable access to the full range of AI-supported learning outcomes.

The convergence between empirical data from our survey and existing research establishes that AI-supported language learning plays a significant role in fostering EFL learners' self-esteem, engagement, and motivation. Yet, the successful realization of these benefits depends on thoughtful integration strategies—ones that balance AI with human interaction, address digital literacy gaps, and respond to learner concerns. These insights can guide educators, curriculum developers, and policymakers in designing more effective, inclusive, and emotionally supportive AI-enhanced English learning environments.

Conclusion

The results of this study confirm that AI tools can play a transformative role in enhancing the self-esteem of EFL learners. A significant majority of participants reported increased confidence, engagement, and motivation as a result of using AI applications in their English learning process. These findings align with existing research that emphasizes the psychological benefits of AI, particularly through individualized feedback, reduced performance pressure, and adaptive learning environments. When used effectively, AI becomes not just a linguistic aid but a source of emotional support and academic empowerment for students.

Nevertheless, the successful implementation of AI in EFL education requires more than just access to technology. The impact of techno-competence, the need for teacher training, and the importance of human interaction remain central to ensuring inclusive and meaningful learning experiences. To fully harness AI's potential, it must be integrated thoughtfully—complementing traditional pedagogical methods, addressing learner concerns, and promoting digital literacy. This study contributes to the growing understanding of AI's role in education and provides practical recommendations for designing learner-centered, confidence-building English language programs in the digital age.

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