

FROM USE TO AWARENESS: EMBEDDING CRITICAL AI LITERACY IN TERTIARY EFL CLASSROOMS IN BANGLADESH

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ABSTRACT

The rapid integration of Artificial Intelligence (AI) into education has reshaped the practices of language teaching and learning worldwide. In the context of Bangladesh, the emergence of AI demands critical scrutiny. Because, tertiary-level English as a Foreign Language (EFL) education faces constant challenges such as limited resources, uneven digital literacy, and traditional pedagogy. This study investigates the role of critical AI literacy, the ability to use AI tools effectively as well as to evaluate their implications, biases, and ethical concerns in enhancing EFL teaching and learning. Theoretical frameworks of digital and critical literacies are utilized in this research. These explore how AI-powered applications such as, chatbots, automated writing evaluators, and translation tools are perceived and utilized in the Bangladeshi tertiary context. Quantitative data were collected through surveys of 160 students and 30 faculty members from multiple universities. Semi-structured interviews from 10 faculty members across selected institutions are also taken. The findings reveal a dual narrative. AI tools help to improve learner autonomy, feedback practices, and communicative competence. But the lack of critical awareness often leads to unreflective reliance and plagiarism risks. It may diminish critical thinking faculty. The study emphasizes on embedding critical AI literacy into EFL curricula. So that students can develop both functional proficiency and ethical responsibility in their academic and professional engagements. This

study argues that implanting critical AI literacy into tertiary-level EFL education in Bangladesh is essential to balance the benefits of AI-assisted learning with ethical awareness, thereby fostering learner autonomy, digital proficiency, academic integrity, and future-ready global competence.

Keywords: *Critical AI literacy, AI in education, tertiary EFL classrooms, digital pedagogy.*

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1. INTRODUCTION

In present times there is a growing integration of Artificial Intelligence (AI) within the education sector. It has reshaped how knowledge is created, delivered, and evaluated. In the case of English as a Foreign Language (EFL) learning, teachers and learners are increasingly using different AI tools such as Grammarly, ChatGPT, Google Translate and so on. They offer opportunities for personalization, feedback, and learner autonomy (Zawacki-Richter et al., 2019). However, these benefits are accompanied by ethical, cognitive, and digital challenges. And, these are more prominent in developing contexts like Bangladesh. Many tertiary-level students and teachers use AI instrumentally but they don't critically understand its biases, limitations, or implications (Long & Magerko, 2020). This unreflective dependence risks diminishing linguistic creativity and independent thinking. It also hinders academic integrity. Although global research increasingly addresses AI and education, studies focusing on critical AI literacy in the Global South remain limited. This study investigates how Bangladeshi tertiary EFL learners and

educators use, perceive, and critically engage with AI, emphasizing the significance of integrating critical AI literacy into EFL curricula to promote ethical, reflective, and responsible language learning.

The present study is guided by the following research questions:

1. How do tertiary-level EFL students and teachers in Bangladesh use AI tools for language learning and teaching purposes?
2. What levels of awareness and understanding do EFL learners and teachers demonstrate regarding the functions, biases, and ethical implications of AI tools?
3. What are the perceptions and attitudes of tertiary-level EFL educators and learners toward embedding critical AI literacy into formal English language curricula in Bangladesh?

2. REVIEW OF LITERATURE

Artificial Intelligence (AI) has significantly reshaped education, particularly in the field of English language teaching and learning. AI-powered tools such as intelligent tutoring systems, automated essay scorers, adaptive learning platforms, and chatbots now enable personalized and data-driven instruction. It promotes learner autonomy and engagement (Zawacki-Richter et al., 2019). In English language education, AI facilitates vocabulary acquisition, grammar correction, pronunciation training, and real-time feedback on writing (Li, Link, & Hegelheimer, 2021). The emergence of generative AI models

like ChatGPT has further expanded opportunities for dialogic learning, content creation, and reflective communication. However, uncritical dependence on such technologies can undermine cognitive engagement. It can obscure ethical challenges related to bias, data privacy, authorship, and misinformation (Holmes et al., 2022; Cotton et al., 2023).

The notion of digital literacy has evolved beyond basic technical skills toward critical understanding and ethical awareness (Lankshear & Knobel, 2015). This shift has given rise to the concept of critical AI literacy. It emphasizes the use of AI as well as the interpretation, questioning, and critique of algorithmic systems (Long & Magerko, 2020). It involves understanding how AI-driven decisions, data biases, and automated authorship shape meaning and agency within digital communication (Hinrichs, 2023). This orientation aligns with Freire's (1970) concept of critical consciousness, which encourages learners to challenge technological determinism and engage reflectively and ethically with digital tools.

Within English as a Foreign Language (EFL) education, AI has been applied to enhance motivation, feedback quality, and formative assessment (Li et al., 2022; Reinders & White, 2016). Despite these benefits, integration remains inconsistent due to teachers' limited training and lack of ethical awareness (Kessler, 2018). Overreliance on AI writing tools also threatens academic integrity and critical reasoning (Ahn & Lee, 2024). In South Asia, AI adoption in higher education is still nascent. Digital education is advancing in Bangladesh. But EFL instruction remains exam-oriented and teacher-centered (Rahman & Karim, 2022). Local studies (Hasan, 2023; Sultana, 2024) highlight technology-

enhanced learning, but few address AI's ethical, critical, and epistemological dimensions.

2.1 Research Gap

Despite AI's growing global presence in education, research on critical AI literacy in Bangladesh's tertiary EFL context remains limited. Existing studies emphasize digital literacy. But these overlook ethical, reflective, and critical engagement with AI. In Bangladesh, AI use in EFL classrooms is mostly unregulated and teacher-driven. This study, therefore, investigates how tertiary-level EFL teachers and learners use and critically engage with AI, aiming to embed critical AI literacy for ethical and autonomous learning.

2.2 Theoretical and Conceptual Framework

This study is grounded in Critical Pedagogy (Freire, 1970) and Critical Digital Literacy Theory (Lankshear & Knobel, 2015). It offers a transformative framework for examining learner engagement with Artificial Intelligence (AI) in language education. Freire's notion of *conscientização* (critical consciousness) views learners as active agents who question and reshape educational power structures. In AI-mediated EFL contexts, this perspective emphasizes reflection and ethical responsibility. It also focuses on critical interrogation of algorithmic influence, technological dependency, and socio-political implications in digital learning. Together, these frameworks advocate for empowering learners to engage with AI critically. And, to transform passive tool use into reflective, ethical, and socially aware educational practice.

3. RESEARCH METHODOLOGY

This study employed a mixed-method design to explore critical AI literacy among tertiary-level EFL students and faculty members in Bangladesh. It combined quantitative and qualitative approaches for a comprehensive understanding of AI use, awareness, and pedagogical implications. Participants included 160 students and 30 faculty members from public and private universities. They were selected via purposive sampling based on prior AI experience. There were two structured questionnaires for students and teachers. They covered the concepts of AI usage, awareness, ethical literacy, and pedagogical perceptions. Likert scales and open-ended items were also used. Additionally, 10 faculty members participated in semi-structured interviews on institutional readiness and AI integration challenges. Data were collected via Google Forms and virtual interviews. Then these data were analyzed using descriptive statistics and thematic analysis (Braun & Clarke, 2006). Ethical approval, consent, and confidentiality were maintained.

4. FINDINGS AND DISCUSSION

4.1 Students' Questionnaire

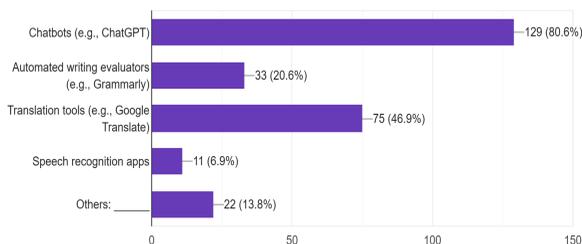


Figure 1. Which AI Tools do you use in your English Learning?

Students were asked which AI tools they use in their English learning and out of 160 students, a maximum of 129 or 80.6% of them responded that they use chatbots like ChatGPT. Among other tools, 33 or 20.6% of the students use automated writing evaluators like Grammarly, 75 or 46.9% of the students use translation tools like Google Translate, 11 or 6.9% of the students use various speech recognition apps and 22 or 13.8% of the students use other AI tools.

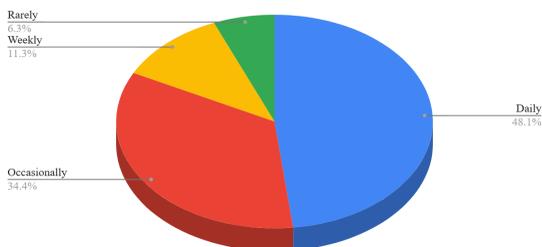


Figure 2. Frequency of AI use

48.1% of the 160 students use AI daily, 34.4% of the students use occasionally, 11.3% of the students use weekly and 6.3% of the students use AI rarely according to their response.

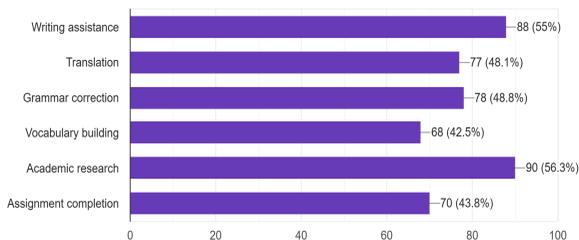


Figure 3. Purpose of using AI in Learning

Students use AI in EFL learning for various purposes. Out of 160 students, 88 or 55% of the students responded that they use AI for writing assistance. 77 or 48.1% of the students use AI for translation, 78 or 48.8% of the students use for grammar correction, 68 or 42.5% of the students use for vocabulary

building, 90 or 56.3% of the students use for academic research, and 70 or 43.8% of the students use AI for assignment completion purposes.

Table 1. Responses of Students' Questionnaire

| Statement | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|--------------------|--------------------|--------------------|--------------------|-------------------|
| I understand how AI tools generate answers or corrections. | Count: 16 10% | Count: 83 51.9% | Count: 53 33.1% | Count: 4 2.5% | Count: 4 2.5% |
| I am aware that AI tools may contain biases or inaccuracies. | Count: 27 16.9% | Count: 82 51.2% | Count: 38 23.8% | Count: 8 5% | Count: 5 3.1% |
| I believe AI tools can support but not replace my learning process. | Count: 66 41.3% | Count: 68 42.5% | Count: 19 11.9% | Count: 3 1.9% | Count: 4 2.5% |
| I know how to evaluate the reliability of AI-generated outputs. | Count: 18 11.3% | Count: 82 51.2% | Count: 47 29.4% | Count: 9 5.6% | Count: 4 2.5% |
| I worry about plagiarism when using AI tools. | Count: 29 18.1% | Count: 84 52.5% | Count: 34 21.3% | Count: 8 5% | Count: 5 3.1% |
| Overreliance on AI tools can weaken my own critical thinking skills. | Count: 66 41.3% | Count: 69 43.1% | Count: 18 11.3% | Count: 5 3.1% | Count: 2 1.3% |
| I have been taught about the ethical use of AI in academic work. | Count: 8 5% | Count: 84 52.5% | Count: 37 23.1% | Count: 21 13.1% | Count: 10 6.3% |
| AI helps me to learn independently (autonomy). | Count: 15 9.4% | Count: 90 56.3% | Count: 40 25% | Count: 10 6.3% | Count: 5 3.1% |
| Teachers should guide us on how to use AI tools critically. | Count: 40 25% | Count: 90 56.3% | Count: 19 11.9% | Count: 8 5% | Count: 3 1.9% |

| | | | | | | |
|--|--|--------------------|--------------------|--------------------|------------------|------------------|
| Embedding literacy in the curriculum would improve my academic skills. | AI in the curriculum would improve my academic skills. | Count: 20 12.5% | Count: 94 58.8% | Count: 41 25.6% | Count: 3 1.9% | Count: 2 1.3% |
|--|--|--------------------|--------------------|--------------------|------------------|------------------|

Source: The authors' own work.

Maximum 83 or 51.9% of the students agreed that they understand how AI tools generate answers or corrections. 82 or 51.2% of the students agreed that they are aware that AI tools may contain biases or inaccuracies. 68 or 42.5% of the students agreed that they believe AI tools can support but not replace their learning process. 82 or 51.2% of the students agreed that they know how to evaluate the reliability of AI-generated outputs. 84 or 52.5% of the students agreed that they worry about plagiarism when using AI tools. 69 or 43.1% of the students agreed that overreliance on AI tools can weaken their own critical thinking skills. 84 or 52.5% of the students agreed that they have been taught about the ethical use of AI in academic work. 90 or 56.3% of the students agreed that AI helps them to learn independently (autonomy). 90 or 56.3% of the students agreed that teachers should guide them on how to use AI tools critically. 94 or 58.8% of the students agreed that embedding AI literacy in the curriculum would improve their academic skills.

4.2 Teachers' Questionnaire

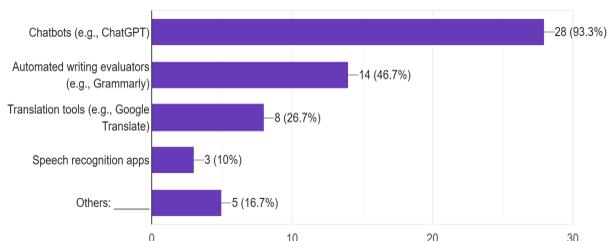


Figure 4. Which AI tools do you use or observe students using in EFL classrooms?

EFL teachers were asked which AI tools they use or observe students using in EFL classrooms and out of 30 teachers, maximum 28 or 93.3% of them responded that they use chatbots like ChatGPT. Among other tools, 14 or 46.7% of them responded that they use automated writing evaluators like Grammarly, 8 or 26.7% of them responded that they use translation tools like Google Translate, 3 or 10% of them responded that they use various speech recognition apps and 5 or 16.7% of them responded that they use other AI tools.

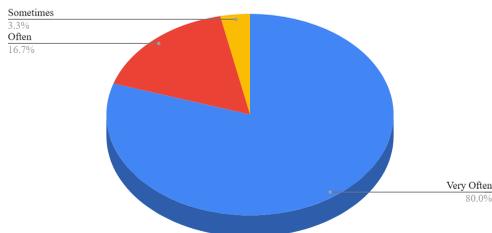


Figure 5. How frequently do you see students rely on AI tools for assignments?

According to the teachers, their students rely on AI tools for academic tasks. 80.0% of the 30 teachers responded daily, 16.7% of the teachers responded often, and 33% of the teachers responded sometimes while asked about how much they see their students to rely on AI tools for assignments.

Table 2. Responses of Teachers' Questionnaire

| Statement | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|--|-------------------|--------------------|------------------|-------------------|-------------------|
| I understand how AI applications function in language learning. | Count: 7 23.3% | Count: 13 43.3% | Count: 9 30% | Count: 0 0% | Count: 1 3.3% |
| I am aware of the risks of plagiarism or academic dishonesty through AI. | Count: 15 50% | Count: 13 43.3% | Count: 1 3.3% | Count: 1 3.3% | Count: 0 0% |
| I feel confident evaluating AI-generated student work. | Count: 3 10% | Count: 8 26.7% | Count: 9 30% | Count: 8 26.7% | Count: 2 6.7% |

| | | | | | |
|---|--------------------|--------------------|-------------------|--------------------|-----------------|
| I am knowledgeable about AI bias and ethical implications in education. | Count: 5 16.7% | Count: 18 60% | Count: 5 16.7% | Count: 2 6.7% | Count: 0 0% |
| Overuse of AI can hinder students' independent learning and creativity. | Count: 21 70% | Count: 9 30% | Count: 0 0% | Count: 0 0% | Count: 0 0% |
| Students need training to critically assess AI-generated content. | Count: 18 60% | Count: 11 36.7% | Count: 1 3.3% | Count: 0 0% | Count: 0 0% |
| Current institutional policies are adequate to address AI misuse. | Count: 2 6.7% | Count: 4 13.3% | Count: 4 13.3% | Count: 21 36.7% | Count: 9 30% |
| AI tools can enhance teaching effectiveness if used critically. | Count: 14 46.7% | Count: 14 46.7% | Count: 2 6.7% | Count: 0 0% | Count: 0 0% |
| Embedding AI literacy in the EFL curriculum is necessary for future readiness. | Count: 11 36.7% | Count: 13 43.3% | Count: 6 20% | Count: 0 0% | Count: 0 0% |
| Teachers require professional training to integrate AI responsibly in classrooms. | Count: 13 43.3% | Count: 14 46.7% | Count: 2 6.7% | Count: 1 3.3% | Count: 0 0% |

Source: The authors' own work.

Maximum 13 or 43.3% of the teachers agreed that they understand how AI applications function in language learning. 15 or 50% of the teachers strongly agreed that they are aware of the risks of plagiarism or academic dishonesty through AI. 9 or 30% of the teachers are neutral regarding the statement that they feel confident evaluating AI-generated student work. 18 or 60% of the teachers agreed that they are knowledgeable

about AI bias and ethical implications in education. 21 or 70% of the teachers strongly agreed that overuse of AI can hinder students' independent learning and creativity. 18 or 60% of the teachers strongly agreed that students need training to critically assess AI-generated content. 21 or 36.7% of the teachers disagreed with the statement that current institutional policies are adequate to address AI misuse. 14 or 46.7% of the teachers strongly agreed that AI tools can enhance teaching effectiveness if used critically. 13 or 43.3% of the teachers agreed that embedding AI literacy in the EFL curriculum is necessary for future readiness. 14 or 46.7% of the teachers agreed that teachers require professional training to integrate AI responsibly in classrooms.

4.3 Teachers' Interview

From the semi structured interview of 10 faculty members across selective institutions, the study found that AI tools such as ChatGPT, Grammarly, and Google Translate are widely used in tertiary-level EFL education in Bangladesh. These are primarily used for writing and translation tasks. However, both students and teachers exhibit limited critical awareness and ethical understanding of AI use. Attitudes toward AI are largely positive. But uncritical reliance raises concerns about plagiarism, authenticity, and diminished critical thinking. Participants strongly supported integrating AI literacy training into curricula to promote ethical, reflective, and informed engagement. They highlighted the urgent need for structured pedagogical frameworks. A framework that balances technological innovation with critical consciousness and ethical responsibility.

5. CONCLUSION, LIMITATIONS AND FUTURE WORK

The study found that AI tools are increasingly used in Bangladesh's tertiary EFL classrooms. But their application remains largely functional rather than reflective. Students and teachers exhibit moderate familiarity. But they possess limited critical and ethical understanding. While AI enhances autonomy and feedback, uncritical reliance risks plagiarism and reduced critical thinking. Integrating critical AI literacy into curricula is essential. It emphasizes ethical use, bias recognition, and evaluative skills. Teachers need professional development, and universities should implement clear AI policies. Awareness campaigns, participatory learning, and collaboration among educators, policymakers, and technologists can foster responsible, reflective, and creative engagement with AI in EFL education.

This study was limited by its sample size and geographical focus. Because participants were drawn from only selected universities in Bangladesh. The reliance on self-reported data may have introduced response bias. Additionally, the study examined perceptions rather than direct classroom practices. So, the need for future longitudinal and intervention-based research is suggested.

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