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AI-assisted Academic Writing in a Blended EFL Setting: Practices and Perceived Effectiveness at FPT University, Hanoi

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***Abstract*—This study explores how first-year EFL students at FPT University Hanoi use AI tools to support academic writing in a blended learning environment. With platforms like Edunext and My English Lab integrated into coursework, students increasingly turn to AI tools such as ChatGPT, QuillBot, and DeepSeek for idea generation, grammar correction, and content refinement. Using an explanatory mixed-methods design, data were collected from 103 surveys, 45 paired writing samples, and interviews with 7 students. Results show AI tools are most commonly used during the ideation and revision stages, with writing scores improving by an average of 0.94 IELTS band scores. Students also reported increased confidence and clarity, though concerns about over-reliance were noted. The findings highlight AI's pedagogical potential while stressing the need for digital literacy and guided integration. This research contributes localized insight to the global discourse on AI in EFL writing instruction.**

Keywords—AI writing tools, academic writing, blended learning, higher education, EFL

I. Introduction

Academic English writing has long been recognized as a significant challenge for first-year university students, particularly those operating within English as a Foreign Language (EFL) settings. The complexity of academic genres, the requirement for formalized structure, and the need for accuracy in grammar and vocabulary often place significant cognitive demands on inexperienced writers. At FPT University Hanoi, students tackle these issues in blended learning courses that mix face-to-face classes with online tools like Edunext (as one platform of flipped class used at FPT University), Google Classroom, and My English Lab. Students are expected to undertake significant preparatory and follow-up writing tasks outside the classroom, demanding both linguistic competence and learner autonomy.

In response to these challenges, students have increasingly used AI-powered writing tools such as ChatGPT, QuillBot, Grammarly, DeepSeek, and Grok. These tools offer a wide range of functionalities, from generating ideas and outlines to providing feedback on sentence structure, grammar, and style. While students and teachers have praised the convenience and accessibility of these tools, rigorous empirical research that explores how students actually use them and how effective they are remains limited, especially within the Vietnamese higher education context.

This study aims to address this gap by exploring two key research questions: (1) How do students use AI tools for academic writing tasks in blended learning courses? and (2) How effective are AI tools in improving students' academic English writing?

By adopting a mixed-methods design that triangulates survey data, writing assessments, and student interviews, this research not only evaluates the outcomes associated with AI tool usage but also uncovers the underlying motivations, behaviors, and concerns expressed by learners. In doing so, it contributes to a nuanced understanding of the role that AI technologies can play in supporting EFL writing instruction in blended learning environments.

II. Literature Review

The use of artificial intelligence in educational settings has expanded considerably in recent years, particularly with the rise of large language models and automated writing assistants. Zawacki-Richter et al. [1] and Crompton and Burke [2] provide comprehensive reviews of AI integration in higher education, noting its applications in areas ranging from administrative support to personalized learning environments. However, both studies emphasize a lack of pedagogical grounding and a limited focus on writing-specific applications. Alharbi [3] identifies AI tools as valuable mediators in the foreign language classroom, especially for academic writing tasks, by offering real-time feedback and supporting syntactic and lexical refinement.

Empirical studies such as Gayed et al. [4] demonstrate that AI-based writing assistants can enhance vocabulary use, cohesion, and overall text structure among English language learners. Similarly, Chen et al. [5] emphasize AI's role in adaptive learning and writing enhancement when responsibly implemented. Zhang and Zou [6] stress the effectiveness of peer feedback augmented by digital platforms, while Zhang and Hyland [7] explore student engagement with both teacher and automated feedback in second language (L2) writing. Thi and Nikolov [8] and Almusharraf and Alotaibi [9] reinforce these findings by showing that automated tools like Grammarly can complement traditional feedback, leading to improved learner accuracy and self-efficacy. Bauer et al. [10] extend this

argument by demonstrating how natural language processing (NLP) tools foster peer review quality and reduce instructor workload.

Despite these promising findings, scholars have also raised important ethical and pedagogical concerns. Bearman et al. [11] and Halaweh [12] caution against over-reliance on AI, which could undermine students' critical thinking and independence. Similarly, Bahroun et al. [13] stress the importance of responsible implementation strategies and digital literacy training. Studies by Shoufan [14] and Ali et al. [15] further explore the motivational aspects of AI, showing that such tools can increase learner engagement, confidence, and autonomy when used appropriately. However, Stahl et al. [16] and Rospigliosi [17] argue that institutional readiness and teacher involvement are crucial for effective adoption.

In the Vietnamese context, little research has been conducted on the localized impact of AI in blended EFL settings. While global reviews by Tlili et al. [18] and Simhadri and Swamy [19] point to a positive trajectory in AI-enhanced education, the need for culturally relevant and pedagogically sound integration remains urgent. This study seeks to address this gap by investigating how Vietnamese undergraduates interact with AI tools in their academic writing processes and how they perceive these tools' impact on their language development.

III. Methodology

This study employed a sequential explanatory mixed-methods design to examine students' use and perceptions of AI tools in academic English writing tasks within a blended learning environment. The research was conducted at FPT University Hanoi between March 8 and May 7, 2025. Participants were 103 first-year undergraduates enrolled in courses that combined in-person instruction with online platforms such as Edunext, My English Lab, and Google Classroom. These students were purposively selected based on their prior exposure to academic writing and AI tools.

Data collection involved three primary components. First, a structured survey comprising 14 Likert-scale items, four closed-ended questions, and three open-ended questions was administered through Google Forms. The survey was informed by Ajzen's Theory of Planned Behavior (TPB) [20], which posits that individuals' behavior is shaped by three core constructs: attitude toward the behavior, subjective norms, and perceived behavioral control. Accordingly, survey items were designed to assess: students' attitudes (e.g., perceived usefulness of AI tools), the influence of peers and instructors (subjective norms), and the ease or difficulty of using AI tools (perceived behavioral control).

Second, writing samples from 45 volunteer participants were collected. Each student submitted two 200-word essays on the same prompt ("benefits and drawbacks of vaccination"), one written independently and one produced with AI assistance. These samples were evaluated by trained raters using IELTS Writing Task 2 band descriptors, covering Task Response, Coherence and Cohesion, Lexical Resource, and Grammatical Range and Accuracy. A limitation of this approach is that it focuses solely on the final compositions, providing limited insight into the dynamic interaction process between students and AI-generated content (AIGC) tools during writing. To address this gap, future research could employ lagged sequence analysis, a method that examines sequential patterns in behavior over time, to analyze how students iteratively engage with AI tools—such as generating ideas, revising drafts, or seeking feedback—and how these interactions influence their writing process.

Third, semi-structured interviews were conducted with 7 students who participated in the survey and writing task. The interviews lasted approximately 25–30 minutes and were audio-recorded with participant consent. Questions explored students' motivations for using AI tools, how they incorporated these tools into specific assignments, and their perceptions of the benefits and limitations. Thematic analysis followed Braun and Clarke's six-phase model [21] to identify recurring themes.

Quantitative data were analyzed using SPSS version 25, with descriptive statistics and paired-sample comparisons used to assess writing performance. Ethical clearance was obtained from the university's review board, and all participants signed informed consent forms. Anonymity and confidentiality were maintained throughout the research process.

IV. Findings and Discussions

A. Results

This section presents and discusses the key findings from the survey (n = 103), writing score analysis (n = 45), and semi-structured interviews (n = 7) conducted in response to the research questions: (1) How do students use AI tools for academic writing tasks in blended learning courses? (2) How effective are AI tools in improving students' academic English writing?

1) Findings for research question 1: Student use of AI tools in academic writing tasks

Table I presents the mean scores and standard deviations for five key AI-related writing behaviors based on student self-reports (n = 103).

TABLE I: MEAN FREQUENCY OF AI TOOL USAGE IN ACADEMIC WRITING TASKS

Function	Mean	SD	Interpretation
Idea generation (ChatGPT)	3.80	1.08	Frequently used
Paraphrasing (QuillBot)	3.00	1.33	Moderately used
Style improvement (DeepSeek/Grok)	3.11	1.34	Occasionally used
Use differently (Online vs Offline)	3.45	1.29	Mixed use

The results indicate that students frequently engage with ChatGPT for idea generation, particularly during the prewriting phase. This aligns with its perceived value in overcoming writer's block and assisting with topic exploration. The relatively high variability (SD = 1.08) suggests individual differences in dependency and familiarity.

QuillBot's moderate usage (M = 3.00) suggests it is used situationally, likely during editing stages when paraphrasing is

needed. Tools like DeepSeek and Grok are used more selectively, likely by students aiming to enhance academic tone or coherence (M = 3.11). Interestingly, students reported moderate differences in AI usage across online (e.g., Google Classroom) and offline assignments (M = 3.45). This may reflect different levels of flexibility or tool compatibility depending on assignment mode. Furthermore, moderate scores for AI-assisted feedback (M = 3.13) show that students are beginning to use AI to review and refine writing before final submission.

Figure 1 illustrates the AI-assisted academic writing process reported by students in the study, showing typical stages where tools such as ChatGPT, QuillBot, and DeepSeek are most frequently employed. However, this process is inferred from student self-reports rather than direct observation of their interactions with AI tools, which could be better captured through methods like lagged sequence analysis in future studies.

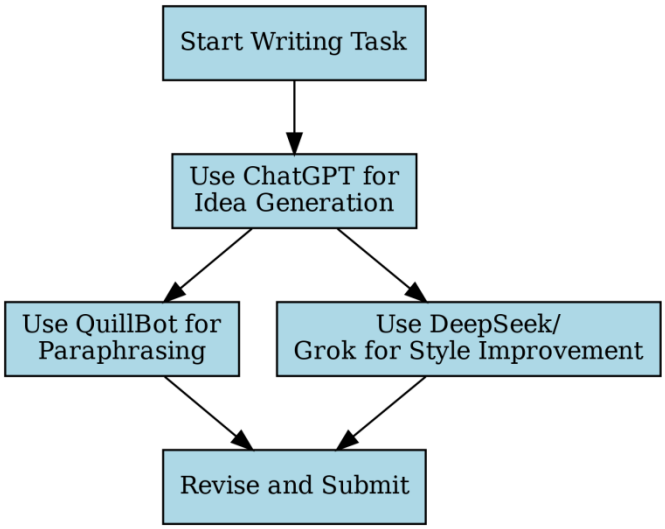

Fig. 1. Stages of AI Use in Academic Writing

Overall, these trends suggest that students apply AI tools in strategic ways, particularly at the ideation and revision stages. The findings imply emerging digital writing literacy and a growing reliance on generative and corrective technologies to navigate academic writing within blended learning environments.

2) Finding for research question 2: Effectiveness of AI tools in improving academic English writing

Table II below compares writing scores before and after AI use, and interview data offer further insights into student experiences.

TABLE II. COMPARISON OF STUDENT WRITING SCORES BEFORE AND AFTER AI USE

Metric	Without AI	With AI	Difference
Mean Score	5.81	6.76	+0.94
No of Students Improved	–	–	40 of 45

Quantitative analysis of paired writing samples (n = 45) shows a significant improvement after AI tool use. As shown in Table II, the average writing score improved from 5.81 (without AI) to 6.76 (with AI), reflecting a mean gain of +0.94 IELTS band points. Notably, 40 out of 45 students (88.9%) demonstrated an improvement in their writing performance after using AI tools. The average increase of 0.94 IELTS band points demonstrates the measurable benefit of AI tools in enhancing student writing. Specifically, improvements were seen in grammatical range, lexical resource, and coherence—areas where tools like ChatGPT and QuillBot provide targeted support.

Interview responses complement this finding. Students frequently described feeling more confident and clearer in their writing. One shared: *"ChatGPT helped improve how my sentences connect and how I organize ideas."* Another stated: *"My grammar improved the most, and I feel more confident submitting assignments now."* Such reflections mirror the survey ratings: clarity (M = 3.77), confidence (M = 3.84), and overall writing quality (M = 3.84).

Confidence emerged as both a cognitive and emotional gain. Students noted reduced anxiety and increased efficiency. However, concerns about over-reliance were also voiced: *"If I use AI too much, I feel like I'm not learning how to write* independently." This signals the need for guided integration of AI into writing instruction.

In sum, AI tools are viewed as highly effective by students, not only in improving output but also in enhancing motivation and self-perception. The improvement in writing scores reinforces their value, particularly in blended learning contexts where independent work is essential. Nonetheless, thoughtful pedagogy must accompany AI use to ensure it supplements rather than supplants core writing skill development.

B. Disccussion

This study provides evidence of how first-year EFL students strategically use AI tools in academic writing and perceive them as both supportive and transformative. These results add depth to the growing literature on AI-assisted writing in blended learning environments.

First, the high frequency of ChatGPT use for idea generation (M = 3.80) aligns with Gayed et al. [4], who found that generative AI can effectively support brainstorming and early-stage content organization in writing. This aligns with Alharbi's [3] view of AI as a pedagogical mediator, scaffolding L2 learners in vocabulary building and syntactic variation. Similarly, the moderate use of tools like QuillBot reinforces findings from Zhang and Hyland [7], who argue that students often rely on automated feedback for lexical diversity and fluency enhancements. These behaviors reflect Vygotskian principles of mediated learning, whereby digital tools extend learners' zone of proximal development [22].

AI tool usage varied slightly across course formats (M = 3.45), supporting Bearman et al.'s [11] conclusion that platform access and instructional expectations shape tool adoption. Additionally, students' moderate engagement with AI for feedback (M = 3.13) demonstrates growing autonomy—

consistent with Zhang and Zou's [6] findings that technology can empower peer- and self-review.

The paired writing samples revealed significant performance gains after AI use, with an average 0.94 increase in IELTS band scores. This supports research by Thi and Nikolov [8], who showed that AI-assisted writing tools like Grammarly can enhance clarity, grammar, and cohesion. Interviews further confirmed this, as students described feeling more confident and better able to organize and articulate their ideas—echoing Almusharraf and Alotaibi's [9] findings on AI's impact on self-efficacy. Multiple studies, including those by Ali et al. [15] and Shoufan [14], further confirm that AI tools enhance writing motivation and emotional engagement, especially among digital-native learners in blended environments.

The findings of this study can be better understood through the lens of the Theory of Planned Behavior [20]. Students' frequent and strategic use of AI tools—particularly during the idea generation and revision stages—suggests a strong behavioral intention rooted in positive attitudes (e.g., perceiving AI as helpful for brainstorming or improving clarity). The moderate influence of classroom context and instructor expectations (e.g., differing AI use in online vs. offline tasks) reflects the role of subjective norms. Meanwhile, the varying levels of comfort and proficiency reported with tools like QuillBot and DeepSeek reveal differences in perceived behavioral control. By mapping these insights to the TPB framework, this study not only sheds light on students' decision-making processes but also underscores the need for supportive learning environments that foster informed, autonomous tool use.

However, concerns regarding over-reliance were also noted by participants. One student expressed, "*I worry I'm not learning how to write by myself*." These concerns mirror warnings by Halaweh [12] and Bahroun et al. [13], who argue that unchecked AI use may undermine critical thinking and long-term skill acquisition. Zawacki-Richter et al. [1] and Crompton and Burke [2] also emphasize the lack of ethical guidelines and pedagogical frameworks in many AI-integration strategies.

Importantly, students' behaviors suggest developing metacognitive awareness. Many reported using AI tools selectively—primarily during idea generation and revision phases—demonstrating an emerging ability to regulate tool use in alignment with writing needs. This supports Teng et al. [23], who argue that AI can enhance metacognitive strategy use when students are guided appropriately. The pattern also echoes best practices identified in global reviews by Tlili et al. [18] and Bahroun et al. [13], which recommend structured integration of AI at specific stages of the writing process.

Finally, the role of instructional context emerged as a pivotal factor. Students reported adjusting their AI use based on classroom norms and teacher expectations. This supports Stahl et al.'s [16] and Rospigliosi's [17] contention that AI adoption is socially mediated and must be supported through well-designed literacy programs, instructor training, and context-aware pedagogies. Chen et al. [5] similarly stress the need for cognitive and ethical scaffolding to ensure AI is used as a learning enhancer rather than a dependency.

In summary, while AI tools offer measurable benefits for writing development and learner confidence, their integration must be guided by pedagogical principles that promote autonomy, critical awareness, and responsible use. This study contributes to the broader understanding of how AI can support EFL writing instruction, especially in Southeast Asian contexts where research remains limited.

V. Conclusion and Recommendations

This study explored the integration of AI writing tools in a blended learning environment, focusing on first-year EFL students at FPT University Hanoi. The findings demonstrate that students actively utilize AI technologies such as ChatGPT and QuillBot during various stages of the writing process, particularly in generating ideas, paraphrasing, and refining content. Survey data indicated frequent and varied AI usage, while writing performance scores showed a statistically significant average increase of 0.94 bands in IELTS-based assessments. Furthermore, qualitative data revealed enhanced confidence, greater clarity, and increased independence among many students, although concerns about over-reliance on AI tools were also expressed.

These findings are consistent with a substantial body of recent scholarship that highlights the instructional benefits of AI in language education, particularly in enhancing writing performance and learner engagement. Research has shown that AI tools can support learners in generating ideas, improving grammatical accuracy, and refining lexical choices—skills critical for academic writing in EFL contexts. At the same time, this study supports the growing number of scholarly calls for careful and pedagogically informed implementation of AI technologies. Concerns regarding over-reliance, diminished critical thinking, and ethical ambiguity have been well documented and must be addressed through strategic instructional planning. By focusing on first-year Vietnamese undergraduates in a blended learning environment, this study contributes to the underexplored literature on AI integration in Southeast Asian EFL settings. It offers context-sensitive insights into how AI tools can be effectively leveraged to support academic writing development while underscoring the need for guided usage, instructor facilitation, and critical digital literacy.

Based on these outcomes, the following recommendations are proposed for FPT University Hanoi:

1. Introduce AI awareness in early writing courses: Foundation English classes should include short sessions on how to use AI tools critically and ethically.

2. Develop guided toolkits via LMS platforms: Resources on Edunext or Google Classroom should clearly explain when and how to use tools like ChatGPT or QuillBot, with examples of both appropriate and inappropriate uses.

3. Train instructors in AI-supported writing instruction: Professional development should help faculty integrate AI tools into feedback, peer review, and assignment design.

4. Pilot AI-assisted writing tasks in other disciplines: General education courses in areas like Business or IT could adopt AI-enhanced assignments, encouraging student reflection on both human and AI-generated outputs.

5. Establish a support center for AI + writing: A virtual or physical hub could provide one-on-one guidance on AI tool use and foster digital writing literacy.

Future research should explore long-term impacts of AI use on writing development and examine how students in various majors adapt AI tools to specific writing demands. This would help inform broader policy and curriculum design for AI-enhanced education.

VI. Limitations

Despite the value of this study, several limitations should be acknowledged. First, the absence of a control group limits the ability to attribute writing improvements solely to AI tool usage; other factors such as ongoing instruction or peer input may have contributed. Future studies could incorporate randomized or matched control groups for stronger causal inference.

Second, the study primarily evaluated the application of AI-generated content (AIGC) through students' final compositions, which does not fully capture the dynamic, iterative process of how students interact with AI tools during writing. Methods like lagged sequence analysis, which examines sequential behavioral patterns over time, could provide deeper insights into these interactions—for example, by analyzing the order and frequency of actions such as generating ideas, revising text, or seeking AI feedback—and should be considered in future research.

Third, while students reported perceived benefits, the potential for AI tool misuse—such as over-reliance, reduced engagement in the drafting process, or plagiarism—was not empirically assessed. These concerns warrant deeper investigation to ensure ethical and pedagogically sound use of AI.

Fourth, the sample was limited to 103 first-year students from a single university, which restricts the generalizability of findings. The writing task focused only on argumentative essays, which may not reflect outcomes in other academic genres.

Lastly, transparency around student-AI interactions remains a challenge. Students may not fully disclose the extent to which AI tools influenced their work, complicating assessments of authentic writing ability. These limitations should be considered when interpreting the results and designing future research.

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