


Perspectives of EFL Teachers Toward the Influence of AI Writing Tools on Students' Writing Content and Organization

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Abstract

Objectives: This study investigated Vietnamese English as a foreign language (EFL) teachers' perspectives on the influence of artificial intelligence (AI) writing tools on students' writing content and organization, examining tool selection patterns and effectiveness relationships through a mixed-methods approach.

Methods: An exploratory sequential mixed-methods design was employed, combining semi-structured interviews and classroom observations with six EFL teachers, followed by a survey of 52 teachers from various Vietnamese universities. Data analysis integrated thematic analysis of qualitative data with correlation and regression analyses of survey responses to examine relationships between usage patterns, institutional factors, and effectiveness ratings.

Results: Teachers strategically combined multiple AI platforms (ChatGPT, Grammarly, and QuillBot) to support different aspects of writing development. Statistical analysis revealed strong correlations between AI tool usage frequency and effectiveness ratings for both content and organization. Regression analysis indicated that usage patterns and institutional factors significantly predicted organizational effectiveness. While AI tools enhanced students' idea generation and organizational coherence, they showed limitations in supporting sophisticated argument development. Significant disparities in implementation effectiveness existed between private and public institutions, with guided instruction approaches demonstrating superior outcomes compared to independent AI tool usage.

Conclusions: AI writing tools function effectively as scaffolding mechanisms in EFL writing instruction when implemented within structured pedagogical frameworks, with effectiveness determined by implementation strategies and institutional support rather than technological capabilities alone. Statistical validation confirms that guided integration approaches yield significantly better outcomes than independent usage.

Implications: These findings inform the development of balanced integration approaches that combine technological support with traditional pedagogy while highlighting the need for institutional support to address implementation disparities in different educational contexts.

Keywords: *AI writing tools, writing content, writing organization, EFL teachers, perspectives*

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Introduction

The integration of artificial intelligence (AI) tools in educational contexts has fundamentally transformed traditional approaches to teaching and learning English as a foreign language (EFL), particularly in writing instruction (Mohebbi, 2025). The proliferation of AI writing tools, ranging from grammar checkers to sophisticated content generators, has sparked considerable debate about their impact on student writing development and pedagogical practices (Marzuki et al., 2023). This technological shift necessitates a thorough examination of how these tools influence writing instruction and development, particularly from the perspective of educators who implement them in their teaching practice, as they serve as the primary mediators between AI technology and student learning outcomes.

Researchers have begun to explore the integration of AI writing tools in EFL contexts, examining their impact on various aspects of writing development, including grammar accuracy (Aladini et al., 2024), vocabulary development (Al-Raimi et al., 2024), and overall writing quality (Selim, 2024). However, investigations into how these tools influence fundamental aspects of writing—specifically content and organization—remain limited, particularly from teachers' perspectives. This gap is especially pronounced in the Vietnamese context, where the adoption of AI writing tools in EFL instruction is rapidly increasing despite limited empirical research on their effectiveness and implementation challenges (Nguyen et al., 2024). Understanding the impact of these tools on writing content (encompassing ideas, arguments, evidence, and overall message quality) and organization (including structural elements that facilitate logical flow and coherence) is essential for developing effective pedagogical approaches that balance technological innovation with sound educational practices.

The Vietnamese educational context presents distinctive considerations for AI writing tools integration, influenced by recent educational reforms, emphasizing technology integration in language teaching (Tham, 2024). However, implementation faces specific challenges related to technological infrastructure, pedagogical traditions, and cultural attitudes toward AI-assisted learning (Tran et al., 2024). While previous studies in Vietnam have examined general technology integration in EFL classrooms (Bang, 2024; Bui, 2022) and student attitudes toward AI tools (Nguyen et al., 2024), there is a notable absence of research examining teachers' perspectives on how AI writing tools specifically impact writing content and organization. This research gap is particularly significant given that existing studies predominantly focus on student perceptions and general implementation challenges, overlooking how teachers integrate these tools within established pedagogical frameworks.

Previous researchers have largely focused on quantitative assessments of AI writing tools' effectiveness or broad surveys of implementation challenges, leaving a methodological gap in understanding the ways teachers perceive and utilize these tools in their instructional practices. This study addresses this gap by employing a mixed-methods approach that combines in-depth qualitative exploration with broader quantitative validation, providing a comprehensive understanding of teachers' perspectives and experiences. Furthermore, while existing literature has documented the potential benefits of AI writing tools in language learning, understanding remains limited about how teachers navigate the balance between technological assistance and authentic writing development, particularly in contexts where traditional teaching methods remain deeply embedded in educational culture.

The specific problem this research addresses is the lack of empirical evidence regarding how Vietnamese EFL teachers perceive and implement AI writing tools' impact on student writing content and organization, which limits the development of effective pedagogical frameworks for AI-enhanced writing instruction. This problem is particularly pressing given the rapid adoption of AI tools in Vietnamese universities without corresponding research-based guidelines for their effective implementation. The absence of comprehensive understanding of teachers' perspectives creates a significant barrier to developing culturally appropriate and pedagogically sound approaches to AI integration in EFL writing instruction. To address these research gaps, this study investigates Vietnamese EFL teachers' perceptions of AI writing tools' impact on student writing content and organization through the following research questions:

RQ1: What AI writing tools do Vietnamese EFL teachers use to support students' writing content and organization?

RQ2: How do these teachers perceive the impact of AI writing tools on students' writing content?

RQ3: What is the relationship between AI tool usage patterns, institutional factors, and teachers' effectiveness ratings regarding the impact on students' writing organization?

This research contributes to the field by providing empirical evidence about AI writing tools implementation in a specific cultural and educational context, offering insights that may be valuable for similar EFL environments. The study advances understanding of how teachers perceive the relationship between AI tools and fundamental aspects of writing development, moving beyond surface-level analyses of tool adoption to examine deeper pedagogical implications. Additionally, it informs the development of context-sensitive guidelines for integrating AI writing tools in EFL writing instruction, particularly in educational systems transitioning from traditional to technology-enhanced teaching methods.

Literature Review

Theoretical Framework for AI Tools in Language Education

The theoretical underpinning for understanding AI writing tools in language education draws primarily from Vygotsky's sociocultural theory and the technology acceptance model (TAM). Sociocultural theory emphasizes that learning occurs through language internalization from social interactions, with knowledge first acquired at a social level before being internalized individually (Vygotsky, 1987). In AI-mediated writing instruction, AI tools function as more capable peers, providing scaffolding support within learners' zone of proximal development (ZPD). These tools offer immediate feedback and suggestions that help bridge the gap between what students can achieve independently and what they can accomplish with guidance (Zawacki-Richter et al., 2019), particularly in developing writing content and organization skills.

Complementing this perspective, the TAM provides insights into teachers' acceptance and implementation of AI writing tools. Originally developed by Davis (1989), TAM posits that perceived usefulness and ease of use significantly influence teachers' behavioral intention to adopt new technologies. Recent studies have expanded TAM by incorporating additional constructs relevant to educational technology adoption, such as pedagogical beliefs and perceived trust (Choi et al., 2023). Research has shown that when teachers believe AI-based applications can enhance teaching effectiveness and student outcomes in writing, they are more likely to integrate these tools into their instructional practices (Wang et al., 2021). Furthermore, teachers' trust in AI systems' reliability and fairness mediates the relationship between perceived usefulness and their intention to implement AI tools in writing instruction.

AI Writing Tools in EFL Education

The integration of AI in EFL education has evolved significantly, transforming traditional approaches to writing instruction. Initially emerging as simple grammar checkers, AI writing tools have developed into sophisticated platforms, offering comprehensive writing support through automated evaluation, personalized feedback, and interactive learning features (Tseng & Warschauer, 2023). This evolution reflects a shift toward more integrated approaches to writing support, where single platforms now address multiple aspects of writing development simultaneously, from basic grammar correction to advanced content generation and organizational assistance (Eragamreddy, 2024).

In the current EFL landscape, several AI writing tools have gained prominence for their distinct yet complementary functions in supporting writing development. Tools such as Grammarly, QuillBot, and ChatGPT represent the forefront of AI-powered writing assistance, each offering specialized features for different aspects of writing enhancement (Selim, 2024). Grammarly employs sophisticated algorithms, providing comprehensive writing support, analyzing content coherence, clarity, and style appropriateness. QuillBot specializes in paraphrasing and vocabulary enhancement, helping students refine their writing style while maintaining original meaning (Kurniati & Fithriani, 2022). More recently, ChatGPT has emerged as a powerful tool for content generation and organization, demonstrating significant potential in providing immediate guidance during the writing process (Sok & Heng, 2023).

The implementation of these tools in EFL writing instruction has shown promising results, particularly when integrated thoughtfully into the pedagogical framework. Research indicates that AI writing tools are most effective when used as scaffolding mechanisms rather than standalone solutions, with teachers playing an important role in guiding students to use these tools effectively (Mohamed, 2023). However, successful implementation requires careful consideration of potential challenges, including concerns about overreliance and the impact on students' independent writing abilities (Farrokhnia et al., 2023). Studies emphasize the importance of balancing AI support with human instruction, suggesting that these tools should serve as complementary resources rather than primary instructional methods (Yeh, 2025). This understanding has led to the emergence of hybrid approaches that combine AI-powered feedback with traditional teacher guidance to optimize writing instruction in EFL contexts.

Impact of AI Writing Tools on Writing Content and Organization

Recent research has demonstrated that AI writing tools significantly influence students' writing development, particularly in content creation and organizational aspects. Regarding content development, these tools have shown promise in stimulating creativity and expanding initial ideas when students face writing challenges (Dergaa et al., 2023). AI writing assistants can suggest extensions to preliminary findings and discussion sections, helping students articulate complex ideas more comprehensibly (Huang, 2023). This capability is particularly beneficial for EFL learners, as it helps bridge the gap between their linguistic abilities and intended messages, enabling clearer articulation of complex ideas (Alharbi, 2023).

However, the effectiveness of AI tools in content development comes with important caveats. While these tools can provide starting points for idea generation, researchers have observed that AI-generated ideas may lack personalization and depth (Khalifa & Albadawy, 2024). This observation raises concerns about potential impacts on students' critical thinking abilities and their capacity to generate original ideas. The ease of generating coherent and sophisticated text using AI has prompted discussions about maintaining the balance between technological assistance and authentic learning (Adel et al., 2024).

Regarding organizational aspects, AI writing tools have demonstrated effectiveness in helping students develop more logically structured and coherent written work (Tseng & Lin, 2024). Research by Moussa and Belhiah (2024) revealed that 70% of students showed improved organizational skills when using AI tools,

particularly in developing well-structured introductions, coherent body paragraphs, and effective conclusions. These tools assist students in creating clear organizational frameworks, from outlining initial ideas to ensuring proper paragraph sequencing and transitions between sections (Li et al., 2024).

Teachers play important mediating roles in implementing AI writing tools effectively. Studies emphasize that teachers must carefully scaffold the use of AI tools to ensure they enhance rather than replace students' cognitive processes in content development (Gašević et al., 2023). This involves guiding students to use AI tools as supplementary aids rather than primary content generators, encouraging critical evaluation and refinement of AI-generated content (Pritts, 2025). Teachers need to help students understand how to interpret and apply AI suggestions for improving text structure and coherence while maintaining their authentic voice (Tseng & Lin, 2024). Furthermore, teachers must establish clear guidelines and ethical frameworks for AI tool usage, ensuring these tools enhance rather than replace student thinking and creativity (Airaj, 2024).

AI Writing Tools in Vietnamese EFL Context

The integration of AI writing tools in Vietnamese EFL education has gained significant attention, particularly with the emergence of advanced generative AI technologies. Vietnamese EFL learners face substantial challenges in managing differences between Vietnamese and English language systems, leading to persistent problems with grammar, structure, and cohesion (Meniado et al., 2024). In response to these challenges, Vietnamese EFL teachers have increasingly adopted various AI writing tools, including Grammarly, ChatGPT, and so on, as supplementary resources in their writing instruction (Hang, 2023). Research indicates that technology-based approaches in writing classes have led to increased student self-assurance and created opportunities for more personalized learning experiences and immediate feedback, which is particularly valuable in the Vietnamese context where large class sizes often limit individual attention (Pham, 2024).

The implementation of AI writing tools in Vietnamese EFL contexts is significantly influenced by cultural and educational factors. The traditional teacher-centered approach and grade-oriented culture in Vietnamese education shape how these tools are perceived and utilized. Vietnamese students tend to adopt tools that effectively and efficiently help them achieve good grades, sometimes at the expense of deeper learning objectives (Meniado et al., 2024). This cultural emphasis on academic achievement has raised concerns about potential overreliance on AI tools, which could compromise students' critical thinking and problem-solving abilities (Hang, 2023). Additionally, Vietnamese EFL teachers face several challenges in effectively integrating AI writing tools, including limited institutional support, unclear guidelines for ethical use, and insufficient training in AI tool integration (Meniado et al., 2024).

While existing research has documented the adoption patterns and implementation challenges of AI writing tools in Vietnamese universities, a significant gap remains in understanding their specific impact on students' writing content and organization. Current studies have primarily focused on general perceptions and technological acceptance (Maheshwari, 2023), leaving questions about the tools' influence on specific aspects of writing largely unexplored. Furthermore, while research has highlighted the importance of cultural and institutional factors in AI tool implementation, understanding is limited about how these factors specifically influence teachers' pedagogical decisions regarding AI writing tools in the Vietnamese EFL context.

Methods

Research Design

This study employed an exploratory sequential mixed-methods design to investigate EFL teachers' perspectives on AI writing tools' influence on students' writing content and organization. This design was

selected because it enables researchers to first explore a phenomenon through qualitative inquiry before developing and implementing quantitative measures based on the qualitative findings (Creswell & Clark, 2017). The exploratory nature of this design aligns with the study's aim to understand the complex integration of AI tools in EFL writing instruction, particularly given the nascent state of research in this area (Zhou et al., 2023). The sequential structure allows for the development of more targeted quantitative instruments informed by rich qualitative insights, enhancing the validity and relevance of the subsequent quantitative phase (Riazi & Candlin, 2014). This approach is particularly valuable in educational technology research where new tools and methodologies are constantly emerging, requiring both deep understanding and broader validation of findings. Moreover, this design facilitates methodological triangulation, allowing researchers to corroborate findings across different data types and strengthen the overall validity of the research conclusions (Morgan, 2018). The combination of qualitative and quantitative approaches provides a more comprehensive understanding of how EFL teachers perceive and implement AI writing tools in their pedagogical practice.

Participants

Using purposive sampling with four specific eligibility criteria, the qualitative phase involved six EFL writing teachers from three universities (one public and two private) in Vietnam. Participants were required to demonstrate a minimum of 3 years of EFL teaching experience, verified through official employment records; current integration of AI writing tools in teaching practice, confirmed through lesson plans and classroom materials from the preceding semester; active involvement in advanced writing courses at an intermediate level or above, documented through course syllabi and enrollment records; and willingness to participate in both interview and observation phases, established through signed informed consent. The vetting process employed a two-stage verification approach: an initial online screening questionnaire, assessing basic eligibility, followed by document submission, requiring participants to provide teaching portfolios; recent lesson plans, demonstrating AI tool integration; and official transcripts, confirming course assignments. Sample size determination of six participants aligns with Creswell and Clark's (2017) recommendation for exploratory sequential designs where four to eight participants provide sufficient depth for qualitative exploration while maintaining analytical feasibility and enabling theoretical saturation (Cohen et al., 2017).

For the quantitative phase, 52 EFL writing teachers from various Vietnamese universities participated through professional networks and educational forums, meeting identical eligibility criteria and undergoing the same two-stage vetting process to ensure methodological consistency across phases. This quantitative sample size was determined based on Hair et al.'s (2019) minimum requirement of 50 participants for correlation and regression analyses addressing the study's quantitative research components, providing sufficient statistical power of 80% for detecting medium effect sizes (Cohen's $d = 0.5$) at $\alpha = 0.05$ significance level (Maxwell, 2013). The 52 participants exceeded this threshold, enabling robust validation of qualitative findings across a broader population while supporting the mixed-methods integration planned for data analysis. Table 1 presents demographic characteristics of qualitative participants.

Table 1. *Demographic Information of the Qualitative Phase Participants*

Participant	Gender	Age	Teaching Experience	Qualification	AI Tools Experience	Institution Type
P1	Female	33	7 years	Master's	2 years	Public
P2	Male	40	11 years	Master's	3 years	Private
P3	Female	36	9 years	Doctorate	3 years	Private
P4	Male	35	7 years	Master's	4 years	Public
P5	Female	38	10 years	Doctorate	2 years	Private
P6	Male	34	8 years	Master's	3 years	Private

Instruments

The study employed multiple instruments across its two phases to ensure comprehensive data collection. In the qualitative phase, semi-structured interviews and classroom observations were conducted. The interview protocol, developed based on the research questions and literature review, comprised three main sections: teachers' selection and implementation of AI writing tools, perceived impacts on students' writing content, and influences on writing organization. The protocol was validated by two experts in EFL teaching and educational technology and pilot tested with two EFL teachers who were not part of the main study (Dörnyei & Dewaele, 2022). The structured classroom observation form focused on documenting teachers' integration of AI tools, student–teacher interactions during tool usage, and specific aspects of writing being addressed. This observation protocol was adapted from Gong and Lai's (2018) classroom technology integration framework.

For the quantitative phase, a survey instrument was developed to address RQ2 quantitatively and RQ3, measuring the statistical relationships between AI tool usage patterns, institutional factors, and effectiveness ratings. The survey consisted of 25 items using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), addressing three main dimensions: AI tool selection and usage patterns, impact on writing content measured through effectiveness ratings, and impact on organizational aspects quantified through teacher rating scales. The survey underwent rigorous validation through expert review ($n = 3$) and pilot testing with 15 EFL teachers. Reliability analysis yielded a Cronbach's alpha of .87, indicating high internal consistency (Brown, 2014). The final version was administered online using Qualtrics, allowing for efficient data collection and management while ensuring participant confidentiality.

Data Collection Procedure

Data collection proceeded in two sequential phases following ethical approval from the participating institutions. The qualitative phase was conducted from September to October 2024, beginning with semi-structured interviews. Each interview lasted 45–60 minutes and was conducted in Vietnamese to ensure participants could express their perspectives fully and naturally. The interviews were audio recorded with participant consent and conducted at participants' institutions. After transcription, the Vietnamese transcripts were translated into English by two independent translators, and any discrepancies were resolved through discussion to ensure translation accuracy. The interviews were followed by classroom observations, with three 90-minute sessions observed for each teacher over a 4-week period. Field notes were taken using the structured observation protocol to document AI tool integration and its impacts on student writing.

The quantitative phase occurred from November to December 2024. The survey, developed based on qualitative findings, was provided in both Vietnamese and English to ensure clarity. After pilot testing with 15 EFL teachers not involved in the main study, the final questionnaire was distributed online using Qualtrics to EFL writing teachers across Vietnam through professional networks and educational forums. Two follow-up emails were sent at 1-week intervals to encourage participation. The survey remained open for 4 weeks, resulting in 52 complete responses from a total of 65 distributed questionnaires, representing an 80% response rate.

Data Analysis

Following the exploratory sequential design, data analysis occurred in two distinct phases: the qualitative phase and the quantitative phase.

Qualitative Phase

In the qualitative phase, the Vietnamese interview transcripts underwent thematic analysis using Braun and Clarke's (2022) six-step framework. Two researchers independently coded the translated transcripts using

MAXQDA 2024, focusing on themes related to AI tool usage, perceived impacts on writing content, and organizational aspects. The initial coding achieved an inter-rater reliability of 0.87 using Cohen's kappa coefficient. Discrepancies were resolved through discussion until consensus was reached. Observation field notes were analyzed similarly, with emergent themes cross-referenced with interview findings to ensure comprehensive understanding of the phenomenon (Maxwell, 2013).

Quantitative Phase

For the quantitative phase, survey data were analyzed using SPSS (Version 28.0). Descriptive statistics, including means, standard deviations, and frequencies, were calculated to understand patterns in AI tool usage and perceived effectiveness. Cronbach's alpha was computed to assess the internal consistency of the survey scales, yielding coefficients ranging from .83 to .89 across different dimensions. Open-ended responses were analyzed using content analysis, with responses coded and categorized to complement the quantitative findings (Dörnyei & Dewaele, 2022).

The integration of qualitative and quantitative findings followed Creswell and Clark's (2017) guidelines for mixed-methods analysis, with quantitative results used to validate and extend qualitative insights. Member checking was conducted with interview participants to verify the accuracy of interpretations and enhance the trustworthiness of the findings.

Ethical Considerations

This study adhered to the ethical guidelines outlined in the American Psychological Association Ethics Code (2017) to ensure participants' rights and well-being were protected throughout the research process. Prior to data collection, all participants received detailed information about the study's purpose, procedures, and their right to withdraw at any time without consequences. Written informed consent was obtained from each participant before interviews and observations, and survey participants indicated their consent electronically. To maintain confidentiality, participants were assigned pseudonyms (P1–P6 for interviewees), and all identifying information was removed from the data. Interview recordings, transcripts, and survey responses were stored securely in password-protected files accessible only to the researchers. Participants were also offered the opportunity to review their interview transcripts and were assured that their involvement would not affect their professional standing.

Results

AI Writing Tools Used by Vietnamese EFL Teachers

The qualitative phase revealed distinct patterns in AI writing tool adoption among Vietnamese EFL teachers. Initial interviews with six participants identified ChatGPT, Grammarly, and QuillBot as the predominant tools in their instructional practices, with teachers emphasizing these platforms' complementary capabilities in supporting different aspects of writing development. As P2 explained, "I strategically combine these tools—ChatGPT for initial content generation, Grammarly for language accuracy, and QuillBot for paraphrasing. This combination helps address different writing challenges my students face." All interviewed teachers reported using ChatGPT for content generation and organization, while five incorporated Grammarly for language refinement, and four utilized QuillBot for paraphrasing and vocabulary enhancement. These qualitative findings informed the development of the survey instrument, which was subsequently administered to a broader sample of 52 EFL teachers.

The interviews revealed six key roles associated with individuals involved in graduate students' research article reading, reflecting role-based relationships. These roles include peers in the same field, senior or junior colleagues, peers from other fields, individuals from different faculties or institutions, lecturers, and

researchers or academics. Social participation in collaborative reading among these individuals was categorized into three main forms. Firstly, exchanging reading topics involves discussing the content, answering related questions, and sharing additional information. This form of interaction facilitates a deeper understanding of the material through dialogue and shared insights. The quantitative phase validated and extended these initial findings, as shown in Table 2.

Table 2. *AI Writing Tools Usage Patterns and Implementation Across Qualitative and Quantitative Phases*

Qualitative Phase Theme	Interview Findings (n = 6)	Survey Validation (n = 52)
Primary Tools Used	ChatGPT (6/6)	ChatGPT (85%)
	Grammarly (5/6)	Grammarly (78%)
	QuillBot (4/6)	QuillBot (65%)
Implementation Strategy	Sequential use of tools	Combined use (72%)
	Tool combination by stages	Sequential use (68%)
	Contextual adaptation	Context adapt (55%)
Institutional Differences	Better private infrastructure	Private: $M = 4.2, SD = 0.68$
	Limited public connectivity	Public: $M = 3.4, SD = 0.72$
	Class size impact	$t(50) = 3.45, p < .01$
Future Implementation	Guideline needs	Usage increase (82%)
	Professional development	Training need (75%)
	Infrastructure needs	Infrastructure (62%)

Note. Qualitative findings from interviews informed the development of survey items for the quantitative phase.

Survey results confirmed the prevalence of the tools identified in the qualitative phase, with 85% of respondents regularly using ChatGPT, 78% using Grammarly, and 65% employing QuillBot. The implementation strategies that emerged from the interviews, particularly the sequential use of multiple tools throughout the writing process, were also substantiated by the survey data, with 72% of respondents reporting the systematic combination of at least two AI platforms in their teaching practice. P4 highlighted this systematic approach: “We start with broader content development using ChatGPT, then move to specific language improvements with Grammarly. This step-by-step process helps students understand how different tools contribute to their writing development.”

Institutional differences identified during the qualitative phase were quantitatively validated through significant variations between public and private universities ($t(50) = 3.45, p < .01$). Teachers in private institutions reported more frequent and diverse AI tool usage ($M = 4.2, SD = 0.68$) compared to their public institution counterparts ($M = 3.4, SD = 0.72$). The qualitative data provided context for these differences, revealing challenges related to infrastructure limitations and larger class sizes in public institutions. Both phases of the study highlighted the growing recognition of AI tools’ potential, with 82% of surveyed teachers planning to increase their use of these tools. However, the interviews revealed concerns about implementation guidelines and professional development needs, which were subsequently confirmed by the survey data, with 75% of respondents indicating a need for additional training in AI tool integration.

Impact of AI Writing Tools on Students’ Writing Content

The analysis of teachers’ perspectives on AI writing tools’ influence on writing content revealed significant patterns through both qualitative exploration and quantitative validation, addressing RQ2’s mixed-methods focus. Interview findings indicated that AI tools, particularly ChatGPT, enhanced students’ ability to brainstorm and expand their initial ideas, with P3 explaining: “ChatGPT helps my students overcome their initial writing anxiety by providing them with multiple perspectives on a topic. They can then evaluate these suggestions and develop their own ideas.” These qualitative observations were quantitatively substantiated through survey data, where 82% of respondents reported improvements in students’ idea generation

capabilities, supported by high effectiveness ratings across multiple content dimensions: detailed content development ($M = 4.3, SD = 0.65$), thesis statement formulation ($M = 4.0, SD = 0.78$), and supporting detail provision ($M = 3.9, SD = 0.70$). A strong correlation emerged between AI tool usage frequency and content quality improvements ($r = 0.72, p < .01$), validating the qualitative insights through quantitative measurement.

However, both qualitative and quantitative data revealed important limitations in content authenticity and depth. While teachers acknowledged AI tools' effectiveness in idea generation, 68% expressed concerns about potential overreliance on AI-generated content, reflected in survey concern ratings ($M = 3.8, SD = 0.85$). P4 articulated this tension: "While AI tools can generate impressive content, there's a risk of students becoming overly dependent. We need to teach them to balance AI assistance with their own independent thinking." This concern was quantitatively validated through differential effectiveness ratings, where structural elements like introductions ($M = 4.2, SD = 0.63$) and conclusions ($M = 4.1, SD = 0.67$) received higher ratings than complex argumentation ($M = 3.7, SD = 0.82$). The quantitative data thus confirmed qualitative observations that AI tools excel at supporting formulaic writing aspects while requiring additional scaffolding for sophisticated argument development.

Teachers' implementation strategies emerged as mediating factors in addressing these limitations, with both data sources demonstrating the importance of guided integration approaches. Interview participants described combining AI tool usage with peer reviews and individual consultations, with P2 noting: "I guide students to use AI as a collaborative tool rather than a content provider. They learn to question, modify, and expand upon AI suggestions rather than accepting them wholesale." This qualitative finding was quantitatively supported through survey data showing that 89% of teachers employed supplementary instructional strategies alongside AI tools. The convergence of qualitative insights and quantitative validation demonstrates that effective content development through AI tools depends not merely on tool availability but on pedagogical frameworks that balance technological assistance with authentic cognitive engagement, addressing the mixed-methods integration central to understanding AI tool impact on writing content.

Impact of AI Writing Tools on Students' Writing Organization

The quantitative analysis addressing RQ3 revealed significant relationships between AI tool usage patterns, institutional factors, and teachers' effectiveness ratings regarding organizational impact. Correlation analysis demonstrated strong positive associations between usage frequency and organizational effectiveness ratings ($r = 0.78, p < .001$), with "institutional type" serving as a moderating variable. Teachers in private institutions reported higher organizational effectiveness ratings ($M = 4.2, SD = 0.58$) compared to public institution counterparts ($M = 3.6, SD = 0.73$), $t(50) = 2.89, p < .01$. Regression analysis indicated that usage frequency ($\beta = 0.65, p < .001$) and institutional infrastructure ($\beta = 0.28, p < .05$) significantly predicted organizational effectiveness ratings, explaining 67% of the variance ($R^2 = .67, F(2,49) = 49.67, p < .001$). These statistical relationships validate qualitative observations where teachers like P1 noted: "AI tools, especially ChatGPT, help students visualize and implement proper essay structure. They can see how ideas should flow logically from introduction through to conclusion."

Further analysis revealed differential effectiveness across specific organizational elements, with paragraph transitions receiving the highest ratings ($M = 4.2, SD = 0.58$) followed by topic sentence construction ($M = 4.1, SD = 0.62$) and overall coherence ($M = 4.0, SD = 0.71$). However, sophisticated organizational patterns scored lower ($M = 3.5, SD = 0.82$), indicating tool limitations in supporting complex structural adaptations. Genre-specific analysis demonstrated higher effectiveness in argumentative essays ($M = 4.3, SD = 0.61$) compared to narrative writing ($M = 3.7, SD = 0.75$), $t(51) = 3.24, p < .01$. This quantitative pattern aligned with qualitative insights from P5: "While AI tools excel at providing standard organizational templates, students sometimes struggle to modify these structures for more complex writing tasks." Thus, the statistical

evidence confirms that AI tools effectively support conventional organizational patterns while requiring pedagogical intervention for genre-specific adaptations.

Implementation strategy analysis revealed that teachers combining AI tools with explicit organizational instruction achieved significantly higher effectiveness ratings ($M = 4.4$, $SD = 0.59$) compared to those using AI tools independently ($M = 3.8$, $SD = 0.73$), $t(50) = 2.67$, $p < .05$. This 0.6-point difference represents a meaningful practical impact, supported by effect size calculations (Cohen's $d = 0.89$). The statistical relationship validates qualitative findings where P4 described integrated approaches: "I use AI-generated examples to teach organizational concepts, but then guide students in developing their own organizational strategies." Multiple regression analysis confirmed that the interaction between usage frequency and instructional integration significantly predicted organizational effectiveness ($\beta = 0.34$, $p < .01$), demonstrating that technological adoption alone is insufficient for optimal outcomes. These quantitative relationships establish that organizational improvements through AI tools depend fundamentally on pedagogical mediation rather than mere technological access.

Discussion

AI Writing Tools Used by Vietnamese EFL Teachers

Based on the comprehensive data from both qualitative and quantitative phases, the findings reveal distinct patterns in AI writing tool adoption among Vietnamese EFL teachers, with ChatGPT, Grammarly, and QuillBot emerging as the predominant tools. This preference aligns with recent studies highlighting the increasing integration of these specific tools in EFL contexts worldwide (Tseng & Warschauer, 2023; Eragamreddy, 2024). The sequential implementation strategy reported by Vietnamese teachers, where different tools are systematically combined throughout the writing process, reflects a sophisticated understanding of each tool's strengths and limitations. This approach resonates with Mohamed's (2023) assertion that AI writing tools are most effective when integrated as part of a comprehensive pedagogical framework rather than used in isolation.

The significant variation in AI tool usage between private and public institutions highlights the persistent digital divide in Vietnamese higher education. The higher frequency and diversity of AI tool implementation in private institutions can be attributed to better technological infrastructure and smaller class sizes, supporting Meniado et al.'s (2024) findings regarding the influence of institutional resources on technology integration in Vietnamese EFL contexts. This disparity raises important questions about educational equity and the need for systematic support in public institutions to ensure equal access to technological innovations in writing instruction.

The teachers' strategic combination of multiple AI platforms demonstrates an evolution in pedagogical approaches that aligns with recent theoretical frameworks for technology integration in language education. The systematic use of ChatGPT for content generation, followed by Grammarly for language refinement and QuillBot for paraphrasing, reflects what Sok and Heng (2023) describe as a "layered approach" to writing development. This methodology allows teachers to address different aspects of writing competence while maintaining pedagogical control over the learning process. However, the high percentage of teachers indicating a need for additional training (75%) suggests a gap between technological availability and pedagogical readiness, echoing Hang's (2023) observations about the challenges of implementing AI tools in Vietnamese educational contexts.

The findings also reveal a complex interplay between traditional Vietnamese pedagogical values and innovative technological integration. The teachers' emphasis on guided tool usage rather than unrestricted application aligns with Pham's (2024) analysis of how cultural factors influence technology adoption in

Vietnamese education. This cautious yet progressive approach reflects a broader trend in Asian EFL contexts, where educators strive to balance technological innovation with established pedagogical traditions (Maheshwari, 2023). The high percentage of teachers planning to increase their use of AI tools (82%) suggests a growing recognition of these tools' potential, while their concerns about implementation guidelines indicate an awareness of the need for structured integration frameworks that respect local educational contexts and cultural values.

Impact of AI Writing Tools on Students' Writing Content

The findings demonstrate how AI writing tools influence students' writing content development, with quantitative validation strengthening qualitative insights about tool effectiveness in facilitating idea generation and content expansion. The strong correlation between AI tool usage frequency and content quality improvements ($r = 0.72, p < .01$) provides empirical support for Dergaa et al.'s (2023) assertion that AI tools serve as effective cognitive scaffolds in writing development. This statistical relationship validates teachers' qualitative observations about enhanced brainstorming capabilities, while the high effectiveness ratings for detailed content development ($M = 4.3, SD = 0.65$) align with Huang's (2023) findings on the developmental benefits of sustained AI tool integration. The convergence of qualitative insights and quantitative evidence establishes that consistent AI tool exposure helps students internalize sophisticated content development patterns, extending beyond immediate assistance to create lasting pedagogical impact.

However, the differential effectiveness ratings across content aspects reveal important theoretical implications about the nature of AI-assisted learning. The significantly higher ratings for structural elements like introductions ($M = 4.2, SD = 0.63$) compared to complex argumentation ($M = 3.7, SD = 0.82$) support Alharbi's (2023) distinction between formulaic and analytical writing tasks. This quantitative pattern validates qualitative concerns about content authenticity, with 68% of teachers expressing apprehension about overreliance, reflected in moderate concern ratings ($M = 3.8, SD = 0.85$). The statistical evidence thus confirms Khalifa and Albadawy's (2024) observations about the potential trade-off between technological assistance and authentic cognitive development, demonstrating that AI tools excel at supporting foundational writing skills while requiring additional scaffolding for higher-order thinking processes. This finding extends Adel et al.'s (2024) analysis by providing quantitative evidence of AI tools' differential impact on various cognitive levels in writing instruction.

Implementation strategies, revealed through mixed-methods analysis, illuminate how pedagogical mediation influences AI tool effectiveness in content development. The finding that 89% of teachers employed supplementary instructional strategies validates Pritts' (2025) "hybrid mentorship model," where technological support requires deliberate balance with human guidance. The quantitative validation of qualitative implementation approaches demonstrates that effective content development through AI tools depends on pedagogical frameworks rather than technological capabilities alone. This mixed-methods evidence supports the theoretical expansion of Vygotsky's sociocultural framework, where AI tools function as dynamic mediators requiring teacher guidance to achieve optimal scaffolding within students' ZPD. The convergence of qualitative and quantitative findings thus establishes that content enhancement through AI tools represents a fundamentally social rather than purely technological phenomenon, with effectiveness determined by the quality of pedagogical integration rather than tool sophistication.

Impact of AI Writing Tools on Students' Writing Organization

The statistical relationships revealed in RQ3 illuminate important theoretical dimensions of AI-mediated organizational development in EFL writing instruction. The strong correlation between usage frequency and organizational effectiveness ratings ($r = 0.78, p < .001$) provides empirical validation for Moussa and Belhiah's (2024) framework of scaffolded organizational learning, demonstrating that consistent AI tool exposure creates measurable improvements in students' structural capabilities. The regression analysis,

revealing that usage frequency and institutional infrastructure predict 67% of variance in organizational effectiveness ($R^2 = .67$), extends existing theoretical understanding by quantifying the relationship between technological access and pedagogical outcomes. This statistical evidence supports Vygotsky's sociocultural theory while establishing concrete parameters for effective AI integration, where frequency of interaction within supportive institutional contexts determines scaffolding effectiveness.

The institutional differences in organizational effectiveness ratings between private ($M = 4.2$, $SD = 0.58$) and public institutions ($M = 3.6$, $SD = 0.73$) reveal important equity implications that extend beyond technological access to structural pedagogical support. This 0.6-point difference, representing a large effect size (Cohen's $d = 0.89$), aligns with Meniado et al.'s (2024) observations about infrastructure influences on technology integration but provides quantitative evidence of actual impact on learning outcomes. The statistical relationship demonstrates that organizational improvements through AI tools depend fundamentally on institutional capacity rather than individual teacher initiative, challenging assumptions about technology as an equalizing force in education. This finding extends Li et al.'s (2024) genre-specific effectiveness research by establishing that institutional context mediates tool effectiveness across different organizational tasks.

The significant interaction effect between implementation strategy and organizational effectiveness ($\beta = 0.34$, $p < .01$) validates Gašević et al.'s (2023) complementary integration model while providing statistical evidence of its practical importance. The 0.6-point effectiveness difference between guided instruction ($M = 4.4$, $SD = 0.59$) and independent AI tool usage ($M = 3.8$, $SD = 0.73$) represents meaningful practical significance, demonstrating that pedagogical mediation determines technological impact rather than tool capabilities alone. This quantitative relationship supports Tseng and Lin's (2024) observations about the necessity of teacher guidance while establishing concrete evidence that organizational development through AI tools requires deliberate instructional design. The statistical validation thus confirms that effective AI integration represents a fundamentally pedagogical rather than technological challenge, where organizational improvements depend on teacher expertise in mediating between technological capabilities and student developmental needs.

Theoretical and Practice Implications

The findings extend current theoretical understandings of AI tool integration in EFL contexts while offering evidence-based insights for educators and policymakers. From a theoretical perspective, the strong correlations between usage frequency and effectiveness ratings ($r = 0.72$ for content; $r = 0.78$ for organization) expand Vygotsky's sociocultural framework by demonstrating how AI tools function as quantifiably effective mediators in writing development, providing measurable scaffolding that adapts to students' varying needs. The regression analysis revealing that usage patterns and institutional factors predict 67% of variance in organizational effectiveness extends the TAM by establishing concrete parameters for successful implementation rather than general acceptance patterns. These statistical relationships illuminate how cultural and institutional factors influence AI-mediated scaffolding effectiveness in Vietnamese educational contexts, providing empirical validation for theoretical frameworks while establishing measurable benchmarks for effective integration.

From a practical standpoint, the quantitative evidence offers specific guidance for EFL writing instruction that transcends general recommendations. The significant effectiveness difference between guided instruction ($M = 4.4$) and independent usage ($M = 3.8$) establishes that teachers should implement structured integration protocols rather than allowing unrestricted AI tool access. The institutional differences between private ($M = 4.2$) and public institutions ($M = 3.6$) highlight the necessity of targeted policy interventions to address infrastructure disparities, with effect size calculations (Cohen's $d = 0.89$) indicating that these differences represent meaningful educational inequities requiring immediate attention. The statistical validation of sequential tool implementation strategies provides concrete evidence that educators should strategically

combine different AI platforms to address specific writing aspects rather than relying on single-tool approaches, with effectiveness ratings demonstrating optimal sequencing patterns.

The implications for educational policy emerge directly from the quantitative relationships established in this study, particularly the institutional variance in AI tool effectiveness that demands immediate intervention. The regression analysis, indicating that institutional infrastructure significantly predicts effectiveness ($\beta = 0.28, p < .05$), establishes that policy frameworks must address technological capacity alongside pedagogical training to achieve equitable outcomes. These statistical findings inform the development of evidence-based integration approaches that combine technological support with traditional pedagogy, while the interaction effects between implementation strategies and effectiveness provide concrete guidance for professional development programs. The quantitative evidence thus offers educational systems transitioning from traditional to technology-enhanced teaching methods specific benchmarks for measuring implementation success, establishing measurable criteria for balancing technological innovation with established pedagogical practices rather than relying on subjective assessments of integration quality.

Conclusion

This study investigated Vietnamese EFL teachers' perspectives on AI writing tools' influence on students' writing content and organization, revealing significant effectiveness patterns through both qualitative exploration and quantitative validation. Teachers strategically combine multiple AI platforms—primarily ChatGPT, Grammarly, and QuillBot—with implementation strategies that demonstrate strong relationships between usage frequency and effectiveness outcomes. The findings demonstrate enhanced idea generation and organizational coherence while identifying limitations in sophisticated argument development, establishing that pedagogical mediation rather than technological sophistication determines AI tool effectiveness in EFL writing instruction.

The research contributes empirical validation of AI tools as effective scaffolding mechanisms within structured pedagogical frameworks, with meaningful differences between guided instruction and independent usage approaches. The study establishes quantitative evidence of institutional disparities between private and public universities, highlighting immediate policy intervention needs for equitable AI integration. These findings provide concrete benchmarks for measuring implementation effectiveness rather than relying on subjective assessments, advancing theoretical understanding of technology-mediated writing development in culturally specific educational contexts.

Despite these contributions, limitations include sample size constraints and reliance—primarily on teacher perspectives rather than direct student outcome measures. Future research should examine long-term effects on students' independent writing capabilities and investigate interventions addressing documented institutional disparities. The frameworks established offer measurable criteria for evaluating AI integration success, providing evidence-based guidance for educators navigating technology-enhanced writing instruction while maintaining pedagogical integrity in EFL contexts.

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