**Harnessing ChatGPT for Personalized Learning**

**in Vietnamese EFL Writing**

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**Abstract**

This study investigates university students’ perceptions of ChatGPT’s impact on personalized learning in English writing classes. Employing a mixed-methods design, the research integrates both quantitative and qualitative approaches to examine how ChatGPT supports students' writing development through adaptive feedback, self-regulated learning (SRL), and scaffolding. 164 non-English major students completed an established questionnaire, while 13 were involved in in-depth interviews. Quantitative results indicated high internal consistency among key constructs with students reporting that ChatGPT provided helpful lexical suggestions, grammatical corrections, and writing organization support. Qualitative results revealed that while ChatGPT stimulated idea generation and revision, students expressed concerns over tone incongruity, over-dependence, and variable trust in feedback authenticity. Specifically, students still sought feedback from teachers and classmates due to a culturally normed teacher-dominant learning culture. The research suggests ChatGPT was an effective tool in the performance phase of writing, but was less helpful in facilitating forethought and reflection. For optimal learning, the study recommends a balance between AI resources and pedagogical guidance to foster autonomy and critical thinking in learning to write.

***Keywords:*** *ChatGPT, personalized learning, student engagement, self-regulated learning, English writing instruction, scaffolding, higher education*

**1. Introduction**

In recent years, personalized learning, an instructional approach that tailors content, pace, and feedback to individual learner profiles, has been shown to enhance motivation, engagement, and learning outcomes in language education (Pane et al., 2017). Shemshack and Spector (2020) found that personalized learning can enhance motivation, engagement, and understanding, as well as maximize learner satisfaction and efficiency, by placing the learner at the center of the process. Linking these insights directly to writing instruction, personalized learning mechanisms have been shown to improve EFL writing outcomes in multiple ways.

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With writing skill learning, personalized learning leverages adaptive, data-driven feedback to target each student’s specific linguistic difficulties, scaffolds strategic self-regulatory processes (planning, monitoring, and reflection), and gradually withdraws support as learners gain proficiency, thereby enhancing metacognitive awareness, autonomy, and long-term writing quality (Anggraeni, Mujiyanto, Rustipa, & Widhiyanto, 2025; Rahimi, Fathi, & Zou, 2025). ChatGPT, a generative large language model developed by OpenAI, offers unprecedented affordances for personalization in writing instruction. Empirical studies report that its adaptive writing support can refine lexical choice and grammatical accuracy (Imran & Almusharraf, 2023) while its conversational interface encourages learners to set goals, seek explanations, and engage in iterative revision cycles, which are the key processes of self-regulated learning (Chan & Hu, 2023). Moreover, ChatGPT enhances personalized learning by tailoring explanations to individual needs and supports academic writing through error detection and content refinement (Naznin, Al Mahmud, Nguyen, & Chua, 2025).

Despite promising global evidence, Vietnamese EFL writing research has yet to examine in an integrated way how ChatGPT can support the personalized learning process in writing skills. Hoang and Storch (2024) found that form-focused precision improvements led to higher revision accuracy among Vietnamese undergraduates, but did not explore adaptive pacing or the gradual withdrawal of support. Tran and Ma’s (2025) technology-enhanced self-regulation training produced significant gains in students’ metacognitive writing strategies, such as goal setting, monitoring, and reflection, but stopped short of assessing how real-time adaptive prompts or scaffold fading influence these SRL processes. Likewise, Hua and Le (2024) documented Vietnamese EFL teachers’ overwhelmingly positive perceptions of ChatGPT as an on-demand “more knowledgeable other” in fairy-tale retelling tasks; however, the authors did not empirically link these AI-mediated scaffolds to measurable writing outcomes. In light of Vietnam’s rapidly evolving higher-education landscape and growing AI integration in EFL programs, a cohesive mixed-methods study that holistically investigates adaptive writing support, SRL facilitation, and scaffolding effectiveness is both necessary and timely to inform pedagogy and policy. Addressing these gaps, the research aims to answer the following research question:

*RQ: How does ChatGPT impact university students’ personalized learning in academic writing classes?*

**2. Literature review**

***2.1. Writing skills in EFL education***

Writing in an EFL context is a complex, multifaceted ability that cannot be acquired intuitively but must be explicitly taught and practiced through iterative stages of planning, drafting, and revision (Manipatruni, Kumar, Karim, & Banu, 2024). Because EFL learners must master not only linguistic accuracy but also discourse‐level coherence, content development, and rhetorical organization, writing has consistently been identified as one of the most demanding language skills in both research and pedagogy (Al-Wasy, 2020). In the process of learning EFL writing skills, learners can encounter a range of external barriers, including difficulty in structuring ideas, limited vocabulary breadth, persistent grammar and mechanics errors, and internal constraints such as low motivation, writing anxiety, and lack of self-confidence (Bitchener & Ferris, 2012; Dang, 2024; Putra, Padmadewi, & Ratminingsih, 2024). These challenges often lead to uneven proficiency across key sub-skills and can result in negative affective responses that further impede writing development.

Analytic rating studies confirm these uneven profiles: advanced EFL students frequently underperform on measures of content elaboration, organizational coherence, and language mechanics, even when basic sentence-level accuracy is achieved (Keller, Lohmann, Trüb, Fleckenstein, Meyer, Jansen, & Möller, 2024). Within Vietnam, genre-based writing research similarly reveals significant discourse-level deficits: Nguyen, Bui, and Ha (2025) found that undergraduates often failed to employ appropriate scaffolding strategies, resulting in underdeveloped arguments and limited cohesion. Likewise, Bui (2022) document pervasive misconceptions of cohesive devices among final-year English-major students, leading to disjointed rhetorical flow. At lower levels, Ngo and Truong (2023) report that secondary learners attribute their writing struggles to insufficient practice time and low confidence, which exacerbate weaknesses in organization and expression. However, these investigations address isolated facets like scaffolding beliefs, cohesion errors, or learner perceptions, without examining how adaptive feedback, self-regulated learning supports, and scaffold fading interact to promote writing development. This gap underscores the necessity of a comprehensive, mixed-methods study that holistically investigates all three personalized-learning domains to inform context-sensitive EFL writing pedagogies in Vietnam.

***2.2. Personalized learning in EFL education***

Personalized learning in language classrooms is defined as the systematic adaptation of content, pacing, and feedback to the unique needs, interests, and prior knowledge of each learner (Hughey, 2020). Drawing on constructivist, sociocultural, and motivational frameworks, personalized learning reconceives the classroom as a learner-centered ecosystem in which instruction adapts to individual goals, abilities, and preferences (Ryan & Deci, 2000; Vygotsky, 1978; Wood, Bruner, & Ross, 1976). Redding (2014) contrasts this approach with the traditional “one-size-fits-all” model, highlighting how personalized pathways, shaped by learner choice and data-driven feedback, promote deeper engagement and ownership.

In EFL writing contexts, this translates into customized prompts, individualized feedback on drafts, and learner choice over goals and strategies. These practices are shown to enhance motivation and performance by granting students greater ownership of their learning trajectory (Bataineh & Bataineh, 2024). Moreover, technologies such as Google Classroom and mobile-assisted language learning (MALL) facilitate personalization by delivering tailored prompts, pacing, and corrective feedback anytime, anywhere (Alamri, Lowell, Watson, & Watson, 2020; Fonseca & Peralta, 2019).

However, in the Vietnamese higher-education context, where writing instruction often remains dominated by teacher-led, formulaic tasks, few studies have explored how embedding adaptive feedback, scaffolded support, and self-regulation prompts into digital platforms can transform writing outcomes Nguyen et al. (2025). Addressing this gap is critical, a context-sensitive investigation will inform how personalized learning theories can be operationalized in Vietnamese EFL writing classrooms to enhance both linguistic proficiency and learner autonomy.

***2.3. AI-mediated in personalized learning***

AI-mediated technologies have rapidly emerged as powerful vehicles for enacting personalized learning in EFL writing classrooms. A systematic review of 22 empirical studies by Kundu and Bej (2024) demonstrates that AI-driven tools, from automated error-correction platforms to conversational agents, consistently enhance writing accuracy, lexical variety, and depth of revision by adapting feedback to individual learner profiles. Complementing this, Woo and Choi’s (2021) synthesis of AI-based language-learning systems highlights how intelligent tutoring systems (ITS) and automated feedback loops scaffold key writing processes, including planning, drafting, and self-evaluation, thereby promoting greater learner autonomy and self-regulation.

More focused analyses of AI chatbots underscore their role as on-demand “more knowledgeable others.” A recent systematic review of AI-driven chatbots in second-language acquisition finds that dialogic interfaces prompt metacognitive questioning and strategic revision, yielding moderate to large gains in organization and coherence. Experimental work with generative-AI feedback tools further corroborates these benefits: in a randomized study, Mekheimer (2025) reports that postgraduate EFL students using Grammarly’s AI-enhanced feedback achieved significantly higher post-test writing scores, engaged in more frequent revisions, and expressed greater writing confidence than peers receiving traditional teacher feedback.

Despite this converging evidence, most investigations isolate single facets like error correction, learner engagement, or SRL prompting without assessing how these AI-mediated supports interrelate across the domains of adaptive writing feedback, SRL facilitation, and scaffolded guidance. Addressing this gap demands a holistic, mixed-methods inquiry into AI’s combined effects on personalized writing development, particularly in contexts like Vietnam where EFL pedagogy is only beginning to integrate such technologies.

**3. Methodology**

***3.1. Research Design***

 This study utilized a mixed-method approach to investigate how incorporating ChatGPT influences individualized learning and engagement in academic writing tasks. Adopted in a Vietnamese public university's English 2 course, the study targeted students' academic writing ability in terms of logical organization, critical thinking, and vocabulary development. A pilot with 30 students was carried out to tune the questionnaire for validity and reliability. The last questionnaire also had great reliability (>0.72) on test-retest with 164 students. Questionnaire and interview questions were taken from an earlier study of Shen, Chen, Backes and Zhang (2023), Murtaza, Ahmed, Shamsi, Sherwani and Usman (2022) , Holmes, Bialik and Fadel (2019), Zawacki-Richter, Marín, Bond and Gouverneur (2019), Niemiec and Ryan (2009), and Kukulska-Hulme and Shield (2008).

***3.2. Context and Participants***

The research enlisted 164 students who were non-English majors in a 10-week English 2 class at a Vietnamese public university. They were required to complete the questionnaire after the course. The pilot study also had 30 students, and 13 students (4 males, 9 females) joined the follow-up interviews. Participants had pre-intermediate to intermediate English levels and prior experience using ChatGPT. Lecturers provided methodical support, emphasizing personal learning habits, including generation of ideas, logical organization, and overcoming writing challenges. These instructions for using ChaGPT particularly emphasized their personalized learning experiences and student engagement in writing tasks. The demographic information of the responses in the questionnaire was demonstrated as follows:

**Table 1**

*Demographic information of participants responding to the questionnaire*

|  |  |  |
| --- | --- | --- |
|  | **Category** | **Percentage (%)** |
| **Age** | 18-20 | 89.6% |
| 21-23 | 10.4% |
| **Gender** | Male | 21.3% |
| Female | 77.4% |
| Other | 1.3% |
| **English proficiency** | Intermediate | 39.6% |
| Upper-intermediate | 53.7% |
| Advanced | 6.7% |
| **Prior experience of using ChatGPT for writing tasks** | Yes | 100% |
| No | 0% |
| **Frequency of ChatGPT use** | Rarely (less than once/month) | 7.3% |
| Sometimes (1-2 times/month) | 19.5% |
| Often (3-4 times/month) | 33.5% |
| Usually (over 4 times/month) | 39.7% |

***3.3 Data Collection***

 The study employed a mixed-method design, beginning with a 5-point Likert scale questionnaire, from 1 (strongly disagree) to 5 (strongly agree). The questionnaire items were adopted from previous studies (Chan & Hu, 2023; Holmes et al., 2019; Murtaza et al., 2022; Shen et al., 2023; Zawacki-Richter et al., 2019). Pilot testing with 30 students was conducted to establish the reliability and validity of the questionnaire. After an initial reliability of below 0.70, it was revised and further tried on a second sample of 29 students, with a satisfactory reliability being attained. The questionnaire was then administered to a total of 164 students to find out how the use of ChatGPT influenced their own learning in academic writing.

 At the second phase, 13 Vietnamese students were interviewed further in Vietnamese about their experience with ChatGPT. Interviews focused on limitations, impacts of ChatGPT on writing activities, personalized learning assistance, and dependency factors related to using ChatGPT. Responses of interviewees were transcribed, translated, and theme-coded.

 Throughout the research, explicit permissions were obtained from the vice dean of the Faculty of Foreign Language, lecturers of the surveyed classes, and all English-majored participating individuals, ensuring informed consent. All of the responses were held in confidence for research purposes only.

***3.4 Data Analysis***

 This study employed deductive thematic analysis for the qualitative and quantitative data gathered from questionnaires and in-depth interviews, relying on predetermined thematic codes. The questionnaire items were grouped into the following categories which were adaptive writing support, self-regulated learning, and the effectiveness of scaffolding in using ChatGPT for writing tasks.

 The data analysis involved two essential phases. In the first phase, for the qualitative data, the researchers used SPSS 27 to analyze it. Firstly, 30 participants joined a Google Form link to click on the Likert Scale before using SPSS 27 to calculate the reliability. As the Cronbach Alpha of the pilot items was lower than 0.70, the researchers made some adaptations to the questionnaire before delivering its second version to 29 other participants in a different class. Afterward, the reliability was calculated one more time, and the Cronbach Alpha was acceptable, with over 0.70 for research purposes (Hair Jr, Hult, Ringle, Sarstedt, Danks, & Ray, 2021), indicating acceptable internal consistency. Therefore, the researchers decided to send the second version of the questionnaire to three more classes and asked participants to complete it. After ensuring the reliability was over 0.70, the researchers calculated the mean and standard deviation of each item before interpreting the numeric data based on the Likert scale. The reliability statistics are shown in Table 2.

**Table 2**

*Reliability statistics of adaptive writing support, self-regulated learning, and scaffolding effectiveness*

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Themes** | **Cronbach’s Alpha** | **Number of items** |
| 1 | Adaptive writing support | .76 | 5 |
| 2 | Self-regulated learning (SRL) | .85 | 5 |
| 3 | Scaffolding effectiveness | .83 | 5 |

 For the second phase, the researchers prepared seven interview questions based on the thematic codes to gain deeper insight into students’ experiences and perceptions toward the integration of ChatGPT in the writing process. The participants’ quotes from the interview transcripts were selected and labeled explicitly as "interview" (int.) excerpts. Afterward, the researchers synthesized and presented the findings systematically according to these thematic categories. Additionally, a comparative analysis was carried out, contrasting and comparing student perspectives from questionnaire responses and interviews to identify commonalities and differences in how ChatGPT influenced their personalized learning experiences and engagement in academic writing tasks. This detailed and rigorous analysis ensured that the study's findings were both credible and valid, providing comprehensive insights into the integration of ChatGPT within university-level academic writing courses.

**4. Findings**

***4.1. ChatGPT’s Adaptive Writing Support******for Students’ Personalized Learning in Academic Writing***

In line with Vygotsky’s zone of proximal development (Vygotsky, 1978), feedback that is calibrated to a learner’s current level of competence facilitates the internalization of new writing strategies. ChatGPT’s adaptive suggestions function as a proximal scaffold, guiding students through tasks just beyond their independent capabilities and thereby promoting skill acquisition, which contribute to the process of personalized learning. To examine students’ perceptions of ChatGPT’s immediate, proficiency-tailored feedback, we calculated mean scores for each item on the Adaptive Writing Support subscale which is shown in Table 3.

**Table 3**

*The average score of adaptive writing support*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Theme** | **No.** | **Items** | **Interpretation** | **N=164** |
| **M** | **SD** |
| Adaptive writing support | 1 | ChatGPT provides writing suggestions that match my current proficiency level. | Agree | 3.71 | .81 |
| 2 | ChatGPT-generated feedback helps me improve my writing performance. | Agree | 3.82 | .80 |
| 3 | ChatGPT adjusts its responses based on my specific writing needs and weaknesses. | Agree | 3.72 | .94 |
| 4 | I trust the recommendations given by ChatGPT for my writing. | Neutral | 3.29 | .98 |
| 5 | ChatGPT explanations help me understand grammar, vocabulary, and style improvements. | Agree | 3.82 | .92 |

 Students rated ChatGPT’s adaptive support favorably across four core items including proficiency‐matched suggestions (M = 3.71, SD = .81), improvement feedback (M = 3.82, SD = .80), needs‐based adjustments (M = 3.72, SD = .94), and explanatory comments (M = 3.82, SD = .92). By contrast, trust in these recommendations was only moderate (M = 3.29, SD = .98), pointing to a notable “trust gap” despite high perceived usefulness. Interview data illuminate this ambivalence. On the one hand, learners appreciated ChatGPT’s ability to delivered beneficial explanations to enhance their understanding of grammar, vocabulary, and style:

*The unfamiliar topics require me to obtain additional ideas for creating complete essays. I regularly request ChatGPT for several fundamental points which I transform into my original ideas.* (Student 4\_int)

*The vocabulary level that ChatGPT generates for assignments matches my specified requirement of B2 each time I ask.* (Student 1\_int)

 On the other hand, several students reported that overly sophisticated lexical and grammatical rewrites undermined their confidence:

*The advanced vocabulary along with complex grammar from ChatGPT exceeds the requirements for my work, so I need to perform detailed modifications to the original statement.* (Student 7\_int)

*ChatGPT delivers improper responses occasionally and also reacts to my queries by providing answers to alternative questions. It’s not always accurate.* (Student 3\_int)

*When ChatGPT presents confusing concepts, I simply decide to skip those points.* (Student 4\_int)

 In sum, there is the co‐existence of high utility and moderate trust that earners valued automated assistance but questioned its authenticity and accuracy. This suggests that transparent feedback rationales such as brief explanations of why a suggestion was made, could bridge the trust gap. Moreover, embedding teacher‐mediated validation alongside AI output may enhance learner agency, ensuring that adaptive scaffolds bolster both competence and confidence.

***4.2. ChatGPT’s Support for Self-Regulated Learning******for Students’ Personalized Learning in Academic Writing***

Zimmerman’s (2000) cyclical model of SRL, including forethought, performance, and self-reflection provides a process-oriented framework for personalized learning, in which students take active control over planning, executing, and evaluating their progress. Personalized learning emphasizes tailoring instruction to each learner’s goals and pacing; here, we investigate how ChatGPT’s adaptive feedback mechanisms personalize these SRL phases by (a) helping students set individualized writing goals (forethought), (b) providing moment-to-moment, proficiency-aligned suggestions during drafting (performance), and (c) prompting reflective evaluation of their drafts and strategies (self-reflection).

**Table 4**

*The average score of self-regulated learning*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Theme** | **No.** | **Items** | **Interpretation** | **N=164** |
| **M** | **SD** |
| Self-regulated learning (SRL) | 6 | ChatGPT helps me set clear writing goals and track my progress. | Agree | 3.41 | 1.14 |
| 7 | I reflect on my writing improvements based on ChatGPT’s feedback. | Agree | 3.62 | .99 |
| 8 | ChatGPT encourages me to revise my writing more frequently than before. | Agree | 3.49 | .96 |
| 9 | ChatGPT assists me in structuring my writing approach step by step. | Agree | 3.78 | 1.00 |
| 10 | I use ChatGPT’s feedback to develop long-term writing strategies. | Agree | 3.54 | 1.02 |

 Overall, the SRL subscale received a mean rating of M = 3.57 (SD = .81), lower than the other dimensions. Within this construct, “structuring my writing approach step by step” scored highest (M = 3.78, SD = 1.00), whereas “setting clear writing goals and tracking progress” scored lowest (M = 3.41, SD = 1.14), indicating that while ChatGPT is seen as useful during the performance phase, its contributions to forethought and long-term strategy are less pronounced. This indicates that ChatGPT could play a role as an assistance tool to enhance students’ idea organization, assess writing problems to create improvements over time, and be an effective, continuous learning aid. Qualitative data have shown some evidence based on this:

*ChatGPT enables me to start my writing process by generating both conceptual ideas and drafting organizational outlines.* (Student 2, Student 5, Student 9\_int)

*I finish writing and then paste the content into ChatGPT to request both grammar editing as well as high-level vocabulary suggestions for substitution.* (Student 3, Student 6\_int)

*I depend on it to check my writing while also seeking a review of my work results and requesting various modifications.* (Student 4\_int)

*ChatGPT scores the writing sections and presents an aggregate score afterward for my assessment. My performance track records from ChatGPT let me understand my ongoing weaknesses. After a week, I can ask again whether my writing ability has improved.* (Student 11\_int)

 While some students saw potential benefits, they might not fully trust or rely on ChatGPT for sustained writing development without additional support. As many students noted that they still strongly rely on teachers or peers for goal-setting and progress evaluation:

*My writing essay often undergoes another revision by my teacher after ChatGPT made changes to it. When she said it was okay, I would accept it.* (Student 1\_int)

*I always seek to proofread from both my teacher and my friends who attained high English levels, with IELTS scores reaching 8.5 whenever I complete the writing task. They alerted me that I used AI to generate the content.* (Student 6\_int)

 In addition, students may view goal setting and progress monitoring as deeply personal and reflective processes that require critical thinking, self-awareness, and individualized guidance, and they believe AI tools like ChatGPT cannot fully replicate. Students asserted:

*My writing planning along with its monitoring remains unaffected whether there is a presence of ChatGPT in my procedure. I, myself, stand as the primary factor because I design both the plan and everything depending on my responsibilities.* (Student 8\_int)

*The planning of my writing normally occurs independently of ChatGPT. When given a prompt, I choose to design my own outline without assistance to evaluate my natural response.* (Student 1, Student 3\_int)

 These findings suggest that ChatGPT’s algorithmic prompts effectively scaffold the performance phase of SRL but offer limited support for forethought and reflection. Without explicit metacognitive cues such as prompts to articulate goals or reflect on outcomes, learners may underuse ChatGPT in these critical phases.

***4.3. ChatGPT’s Scaffolding Effectiveness for Students’ Personalized Learning in Academic Writing***

For personalized learning, supports must be tailored to each student’s prior knowledge, pace, and individual needs, and well-designed scaffolds reduce extraneous load so learners can focus on the intrinsic demands of a task. ChatGPT’s step-by-step explanations and alternative examples act as dynamic, on-demand scaffolds that automatically adjust to each learner’s writing proficiency and query history. By calibrating the complexity, pacing, and format of its feedback in real time, ChatGPT delivers “just-right” support that aligns with personalized learning principles that free students’ working memory for meaningful sense-making and promoting deeper, self-directed engagement with academic writing.

**Table 5**

*The average score of scaffolding effectiveness*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Theme** | **No.** | **Items** | **Interpretation** | **N=164** |
|  **M** |  **SD** |
| Scaffolding effectiveness | 11 | ChatGPT provides step-by-step guidance that helps me improve writing gradually. | Agree | 3.54 | .96 |
| 12 | I find ChatGPT helpful in guiding me through difficult writing challenges. | Agree | 3.60 | .94 |
| 13 | ChatGPT offers alternative explanations when I struggle with certain aspects of writing. | Agree | 3.82 | .83 |
| 14 | ChatGPT adapts its support as I progress in writing. | Agree | 3.60 | .90 |
| 15 | ChatGPT’s explanations make writing concepts clearer and more accessible to me. | Agree | 3.73 | .94 |

 Table 5 indicates that students found ChatGPT useful in difficult assignments (M=3.60, SD=.94) and adapting its support when they learned writing (M=3.60, SD=.90). Also, the participants rated fairly highly the manner in which ChatGPT provides guidance for gradual skill advancement (M=3.54, SD=.96). This positive sentiment was supported by qualitative feedback:

*I usually send my essay to ChatGPT for review, and it identifies replacement content before assisting me with rewriting it. I review the suggestions ChatGPT offers since they enhance the writing flow which guides me in performing necessary revisions.* (Student 2\_int)

*I write down new grammar points that the teacher presented, but I struggle to understand them during limited one-on-one sessions, so I ask ChatGPT to explain both grammar applications and usage explanations in detail. The explanations from ChatGPT enable me to enhance my grammatical skills.* (Student 13\_int)

 Besides, students perceive ChatGPT as a thinking aid that supports them in their educational pursuits when processing difficult assignments and language elements (M=3.82, SD=.83) and (M=3.73, SD=.94). The evidence is from qualitative data that corroborate as well:

*I usually request ChatGPT to create 10 to 15 ideas each time I have difficult academic writing topics. Among the provided suggestions, I select the ones that possess more potential expansion.* (Student 4\_int)

*The key points produced by ChatGPT enabled me to create a full essay by combining the ideas into a coherent structure. After composing the whole text, I request it to reexamine my whole writing.* (Student 1\_int)

 However, some students had concerns about the clarity of ChatGPT’s explanation. They noted that ChatGPT serves as a helpful tool, yet its outputs might fail to satisfy student requirements for accurate, relevant information. Also, they stated that using ChatGPT effectively for writing development necessitates regular usage, during which the tool learns individual preferences through “training” sessions:

*The responses from ChatGPT usually take an indirect route, whereas, at other times, the answers provide direct information.* (Student 7\_int)

*The training process of ChatGPT for my writing learning is necessary if it want to personalize my writing learning. I have to use it frequently so that it can give me better responses which serve my needs. It takes time.* (Student 8\_int)

 In sum, while ChatGPT’s dynamic scaffolds undoubtedly reduce extraneous cognitive load and streamline complex writing tasks, our data reveal a critical tension that sustained reliance on its uniform, step‐by‐step guidance can foster over‐scaffolding and inhibit the internalization of metacognitive and generative strategies. Learners frequently defer essential cognitive processes such as goal‐setting, original idea framing, and in‐depth grammar analysis to the AI, thereby bypassing opportunities to develop autonomy and strategic self‐regulation.

**5. Discussion**

 This study investigated how ChatGPT supports personalized learning in EFL business writing by examining adaptive feedback, self-regulated learning (SRL), and scaffolding effectiveness. Our mixed-methods data reveal three interrelated insights that ChatGPT functions as a potent proximal scaffold for writing tasks, it preferentially bolsters the performance phase of SRL while under-supporting forethought and self-reflection, and finally its highly adaptive guidance carries the risk of over-scaffolding and diminished learner autonomy in a teacher-centered context.

 First, by situating ChatGPT within Vygotsky’s ZPD framework to support students’ personalized learning, the current study extends prior work on AI “more knowledgeable others” (Hua & Le, 2024; Woo & Choi, 2021) to show that generative-AI can deliver just-right lexical, structural, and stylistic suggestions that align with each learner’s proximal needs confirming Imran and Almusharraf’s (2023) findings on lexical refinement. However, consistent with Tran and Ma’s (2025) observation that technology-enhanced SRL training must address all phases of Zimmerman’s cycle, our data demonstrate that ChatGPT’s algorithmic prompts excel during performance (drafting/revision) but leave forethought (goal-setting) and self-reflection (strategic evaluation) under-scaffolded. This bifurcation advances personalized learning theory (Alamri et al., 2020; Hughey, 2020; Shemshack & Spector, 2020) by highlighting the necessity of pairing AI affordances with metacognitive prompts to fully realize learner autonomy.

 Second, the current study illuminates a critical paradox. Although students rate adaptive support and scaffolding highly, their trust in AI feedback remains only moderate. This ambivalence mirrors Glahn’s (2024) caution about “mental restrictions” of over-reliance and resonates with Çela, Fonkam and Potluri (2024) warning that prescriptive systems can erode learner agency. In the Vietnamese context, where deference to teacher authority remains deeply ingrained (Le, 2024; Nguyen & Habók, 2021), learners continually seek human confirmation, revealing that personalized AI assistance alone cannot displace the social and cultural anchors of feedback. Instead, our findings call for critical AI literacy training (Alfredo, Echeverria, Jin, Yan, Swiecki, Gašević, & Martinez-Maldonado, 2024) to equip students with the evaluative skills needed to discern when and how to integrate AI suggestions.

 Practically, EFL teachers should adopt a blended scaffolding model whereby ChatGPT’s micro-scaffolds are deliberately phased out as learners progress, and are complemented by teacher-led workshops on goal-setting and reflective revision (Rahimi et al., 2025). Institutions must similarly develop balanced AI-use policies that preserve academic integrity while promoting ethical, strategic engagement with generative tools(Baskara & Mukarto, 2023; Naznin et al., 2025). At the policy level, Vietnamese universities should invest in faculty development on AI pedagogy and critical literacies, thereby aligning institutional practice with emerging standards in AI-mediated language education (Kundu & Bej, 2024).

 Despite the contribution, the present study’s reliance on self-report and a single‐semester intervention warrants caution in generalizing to other contexts or proficiency levels. Future research should integrate learning analytics (Alamri et al., 2020) to capture real-time ChatGPT usage patterns and longitudinal designs to assess whether scaffold fade‐out fosters durable SRL competencies. Comparative studies across disciplines and cultural settings would also clarify how socio-cultural norms mediate AI acceptance and autonomy.

**6. Conclusion**

The current research explored how ChatGPT facilitates personalized learning in academic writing for Vietnamese university students in three main aspects: adaptive writing support, self-regulated learning, and scaffolding effectiveness. Students responded positively overall, with general appreciation of ChatGPT's help with vocabulary, grammar, and idea generation. Quantitative results supported high internal consistency within thematic constructions, and qualitative results indicated that students valued the responsiveness and flexibility of the feedback provided by ChatGPT. Although ChatGPT facilitated greater motivation and self-confidence in most, over-reliance, tone mismatch, and confidence in feedback accuracy were concerns—especially for non-English majors under the influence of teacher-centered education. In conclusion, fostering a balanced synergy between AI tools like ChatGPT and pedagogical guidance is essential to empower students as autonomous, reflective, and competent academic writers.

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