

## An investigation into EFL Students' Perceptions of AI-Assisted Academic Writing tools

Anwaar Omar Alashab \*

Department of English Language , Faculty of Languages, Al-Mergib University, Libya

\*Email: [aoalashab@elmergib.edu.ly](mailto:aoalashab@elmergib.edu.ly)

### استقصاء حول آراء طلاب اللغة الإنجليزية كلغة أجنبية حول استخدام أدوات الكتابة المدعومة بالذكاء الاصطناعي في مجال الكتابة الأكاديمية

أنوار عمر الأشهب \*

قسم اللغة الإنجليزية ، كلية اللغات، جامعة المرقب، ليبيا

Received: 18-11-2025	Accepted: 20-01-2026	Published: 04-02-2026
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#### Abstract

The fast advancement of artificial intelligence (AI) technologies has made a considerable impact on language acquisition, especially within the field of academic writing. EFL students are increasingly utilizing AI-assisted writing tools, including ChatGPT and Grammarly, to enhance their writing abilities. This investigation examines the perspectives of EFL university students regarding the utilization of AI-assisted writing tools in academic contexts. A mixed-methods methodology was adopted, incorporating both questionnaires and semi-structured interviews with undergraduate EFL students. The results indicate that the majority of students view AI tools as beneficial for improving grammatical accuracy, vocabulary implementation, and the organizing of their ideas. However, concerns related to overuse dependence, reduced critical thinking skills, and academic reliability were also observed. Consequently, the study highlights the necessity of a guided integration of AI tools within academic writing instruction to maximize advantages while minimizing possible risks.

**Keywords:** AI writing tools, academic writing, EFL students, perceptions, ChatGPT, Grammarly.

#### الملخص

التطور السريع لتقنيات الذكاء الاصطناعي قد أثر بشكل ملحوظ في تطور اللغات وخاصة في مجال الكتابة الأكاديمية، وتستخدم أدوات الكتابة المدعومة بالذكاء الاصطناعي مثل Chat GPT, Grammarly

بشكل متزايد من قبل طلاب اللغة الإنجليزية كلغة أجنبية لتحسين أدائهم في الكتابة. تستكشف هذه الدراسة تصورات طلاب الجامعة من متعلمي اللغة الإنجليزية كلغة أجنبية حول استخدام الأدوات المدعومة بالذكاء الاصطناعي في الكتابة الأكademie. وقد تم تطبيق منهجه بحثية تجمع بين الأساليب الكمية والنوعية وذلك من خال استخدام الاستبيانات والمقابلات الشب منظمه مع طلاب المرحلة الجامعية. وتبين النتائج ان معظم الطلاب يرون ان أدوات الذكاء الاصطناعي تساعد في تحسين دقة القواعد اللغوية واستخدام المفردات وتنظيم الأفكار ومع ذلك تم الإبلاغ أيضا عن مخاوف تتعلق بالاعتماد المفرط على هذه الأدوات. وتراجع مهارات التفكير الناقد وقضايا النزاهة الأكاديمية. وتبين الدراسة الحاجة الى استخدام الموجه لأدوات الذكاء الاصطناعي في تدريس الكتابة الأكاديمية بما يساعدهم في تعزيز الفوائد وتقليل المخاطر المحتملة من سوء استخدام هذه الأدوات.

**الكلمات المفتاحية:** أدوات الكتابة بالذكاء الاصطناعي، الكتابة الأكاديمية، طلاب اللغة الإنجليزية كلغة أجنبية، التصورات.

### 1. Introduction

Academic writing is widely regarded as one of the most challenging skills for learners of English as a Foreign Language (EFL), particularly within university contexts where high levels of linguistic accuracy, coherence, and critical thinking are expected. In Libyan universities, first-year EFL students often experience considerable difficulties in producing academically acceptable written texts. These difficulties commonly include limited vocabulary range, inappropriate lexical choices, grammatical inaccuracies, weak sentence structure, and problems related to coherence and logical organization of ideas. Such challenges negatively affect students' academic performance and may hinder their ability to express knowledge and arguments effectively in written form.

Academic writing requires more than basic language proficiency; it demands the ability to construct well-organized texts, employ discipline-appropriate vocabulary, maintain grammatical accuracy, and present ideas logically and cohesively. For many Libyan EFL students, the transition from secondary education to university-level academic writing represents a significant shift, as they are expected to produce essays, reports, and research-based assignments in English with limited prior exposure to academic discourse conventions. Consequently, many students struggle to meet these expectations and often lack confidence in their writing abilities.

In recent years, the rapid development of artificial intelligence (AI) technologies has led to the widespread availability of AI-assisted writing tools that aim to support learners in various aspects of writing. These tools offer features such as grammar and spelling correction, vocabulary enhancement, sentence rephrasing, and content organization. As a result, they have become increasingly popular among university students, including EFL learners, who use them as supplementary resources to improve the quality of their academic writing. The accessibility and user-friendly nature of these tools have made them an attractive option for students seeking immediate feedback and assistance during the writing process.

Despite the potential benefits of AI-assisted writing tools, their increasing use in academic contexts has raised several pedagogical and ethical concerns. One major concern relates to students' overreliance on these technologies, which may negatively affect the development of independent writing skills. Excessive dependence on AI tools could limit students' opportunities to practice language production, problem-solving, and critical thinking—skills that are essential for long-term language development. Additionally, the use of AI-generated

content has generated debates regarding academic integrity, authorship, and originality, particularly when students rely on these tools beyond supportive functions.

Within the context of EFL instruction, the integration of AI tools into academic writing pedagogy presents both opportunities and challenges. On the one hand, these tools can serve as valuable learning aids by providing immediate feedback, modeling accurate language use, and supporting learners in revising their texts. On the other hand, without proper guidance and pedagogical frameworks, their use may lead to superficial learning and reduced learner autonomy. Therefore, it is essential for educators to understand how students perceive these tools, how they use them, and what impact they believe these technologies have on their writing skills.

Although international research has begun to explore the role of AI in language learning, there remains a noticeable lack of empirical studies focusing on EFL students' perceptions of AI-assisted writing tools in the Libyan higher education context. In particular, limited attention has been given to first-year university students, who represent a critical stage in academic skill development. Understanding students' attitudes, perceived benefits, and concerns is crucial for informing pedagogical decisions and ensuring that AI tools are integrated in ways that enhance, rather than replace, the learning process.

Accordingly, the present study seeks to explore EFL first-year students' perceptions of AI-assisted writing tools in academic writing contexts. It aims to examine how students evaluate the usefulness of these tools, identify the perceived advantages they offer, and investigate the challenges and concerns associated with their use. Furthermore, the study aims to provide practical guidance for educators on how AI tools can be effectively incorporated into academic writing instruction while promoting independent learning and academic integrity.

By addressing these issues, this research contributes to the growing body of knowledge on technology-enhanced language learning and provides insights into the role of AI tools in supporting academic writing development. The findings of this study are expected to benefit EFL instructors, curriculum designers, and policymakers by offering evidence-based recommendations for the pedagogical integration of AI-assisted writing tools. Additionally, the study offers EFL students a clearer understanding of how to use these tools responsibly and effectively, while opening avenues for future research in the field of artificial intelligence and language education.

## 2. Literature Review

### 2.1 Academic Writing Challenges among EFL Students

According to Hyland (2002), successful academic writing requires not only grammatical accuracy but also the knowledge of idea organization and argument development. In addition, Hyland emphasized the struggles that EFL learners face with coherence, cohesion, and unity in academic contexts. Similarly, Osman (2025), who has written in the Arab World English Journal, declared that EFL learners suffer from negative writing quality that may appear because of weakness in grammar, vocabulary selection, and idea organization. Consequently, students seek to improve their writing performance by using AI tools as a support.

### 2.2 AI-Assisted Writing Tools in Language Learning

According to Karaty (2024), automated writing evaluation systems can support writing development by providing learners with immediate feedback on grammar, vocabulary, and writing structures. Dizon (2024), in a systematic review published in Cogent Education, analyzed studies including Grammarly and concluded that the effectiveness of AI tools depends on how students engage with feedback.

Ramilli (2021) examined learners' engagement and found that learners benefit from AI-generated feedback only when they revise their writing tasks rather than simply accepting suggestions without understanding them.

### **2.3 Benefits of AI Writing Tools in Academic Writing**

AlKamel (2024) reported in *Heliyon* that Yemeni EFL students declared that ChatGPT helped them in developing their grammar accuracy, writing fluency, and idea generation. Additionally, students noted that AI writing tools assisted them particularly in editing and revising drafts.

Similarly, Putri (2025) examined Indonesian EFL learners and found that AI can increase students' confidence when writing their assignments since they check their grammatical mistakes and expand their vocabulary and paraphrase their writing.

### **2.4 Concerns and Ethical Issues in AI-Assisted Writing**

Despite the benefits of AI-writing tools, concerns have been raised about their ethical implications. UNESCO (2023) reported Guidance on Generative AI in Education and highlights risks such as plagiarism, reduced originality, and misuse of AI-generated content. UNESCO emphasizes the importance of developing policies and promoting AI literacy among EFL learners.

Similarly, Lund et al. (2025) declared that students appreciate the support provided by AI tools, but they still worry about the excessive reliance, which could weaken their writing abilities. Moreover, Nelson (2024) reported that university students acknowledged the usefulness of AI tools but also recognized the ethical concerns regarding authorship and originality and suggested clear academic guidelines.

### **2.5 Research Gap**

Much of the literature focuses on writing performance improvement, neglecting students' own experience and perceptions. As noted in AlKamel (2025) and Putri (2024). However, this study investigates university EFL students' perceptions from their own experience with AI. Moreover, this study addresses, in particular, first-year students in the faculty of languages at Elmergib University on the assessed AI tools in academic writing.

## **3. Methodology**

### **3.1 Research Design**

This study employed quantitative and qualitative approaches such as questionnaires and semi-structured interviews to obtain a comprehensive understanding and deeper insights into how students perceive the benefits and challenges of using AI writing tools in the academic writing context.

### **3.2 Participants**

The participants were 40 students studying in the faculty of languages at Elmergib University. They are enrolled in the first-year English specialization. They are all native Arabic speakers who speak English as a foreign language. They all have experience with using AI tools in an academic writing context.

### **3.3 Instruments**

A questionnaire and a semi-structured interview have been used in this study to collect quantitative and qualitative data. All data obtained were analyzed using SPSS version 23 and thematic coding description.

### 3.3.1 Students' Perceptions Questionnaire

The questionnaire was developed based on relevant literature concerning automated writing evaluation and AI-assisted learning tools (Hyland, 2004; Ranalli, 2021; Dizon, 2024) and the researcher's interest in exploring AI integration in the Libyan EFL context.

The questionnaire consisted of 10 items measured on a five-point Likert scale as follows:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

The questionnaire aimed to assess students' perceptions regarding the usefulness of AI writing tools in improving grammar, vocabulary, idea organization, writing confidence, and overall writing performance, as well as concerns related to dependence on AI tools.

After collecting responses, data were analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations.

The Likert-scale questionnaire was chosen due to its effectiveness in collecting attitudes and perceptions of using AI writing tools in language learning contexts.

### 3.3.2 Semi-Structured Interviews

The interviews explored eight students' experiences using AI-assisted writing tools, the extent to which they rely on these tools, their perceived benefits and limitations, and the influence of AI tools on their writing confidence and learning process.

### 3.3 Methods of Data Analysis

The semi-structured interviews were transcribed and analyzed thematically to identify key themes related to students' perceived advantages and challenges when using AI writing tools. Qualitative findings were used to support and clarify quantitative results.

The discussion section integrates findings from both quantitative and qualitative data, leading to comprehensive conclusions and recommendations.

### 3.4 Ethical Considerations

Participants were informed about the purpose of the research, and participation was voluntary. They were also assured that their responses would remain confidential and used only for academic purposes. Participants were informed, and consent was obtained before data collection.

## 4. Data Analysis and Results

This chapter presents a detailed analysis of data collected from the students' responses to the questionnaire and semi-structured interview.

The study involved 40 students who completed a ten-item Likert-scale questionnaire. The data were analyzed descriptively to identify trends, levels of agreement, and students' attitudes regarding AI writing tools.

**Table 1: Students' Perceptions Questionnaire**

**4.1 Descriptive Statistics of Students' Responses to AI Writing Tools Questionnaire (N = 40)**

Item No.	Questionnaire Statement (Short Form)	N	Mean	Std. Deviation
Item 1	AI tools help correct grammar mistakes	40	4.05	0.96

Item No.	Questionnaire Statement (Short Form)	N	Mean	Std. Deviation
Item 2	Students should not depend completely on AI tools	40	3.83	1.11
Item 3	AI tools help organize ideas	40	4.03	0.97
Item 4	Overuse reduces writing practice	40	3.78	1.12
Item 5	AI tools reduce writing anxiety	40	3.65	1.23
Item 6	AI tools should mainly edit drafts	40	3.93	1.00
Item 7	AI tools increase writing confidence	40	3.70	1.20
Item 8	AI use should be limited to avoid dependence	40	3.83	1.08
Item 9	AI tools help complete writing tasks faster	40	3.90	1.01
Item 10	Preference for responsible AI use	40	4.15	0.92
<b>Overall Mean</b>	Overall perception score	40	<b>3.89</b>	0.78

Table 1 presents the descriptive statistics of students' responses regarding the use of AI-assisted writing tools in academic writing. The mean scores range from **3.65** to **4.15**, suggesting generally positive perceptions of AI tool usage among students. Meanwhile, relatively lower means were observed for anxiety reduction (Item 5,  $M = 3.65$ ), indicating moderate agreement. The highest mean score was recorded for Item 10 ( $M = 4.15$ ), indicating strong agreement regarding responsible and purposeful AI use. Overall, the findings demonstrate that students perceive AI writing tools as supportive resources while emphasizing the importance of responsible usage.

#### 4.2 Descriptive of Questionnaire Results

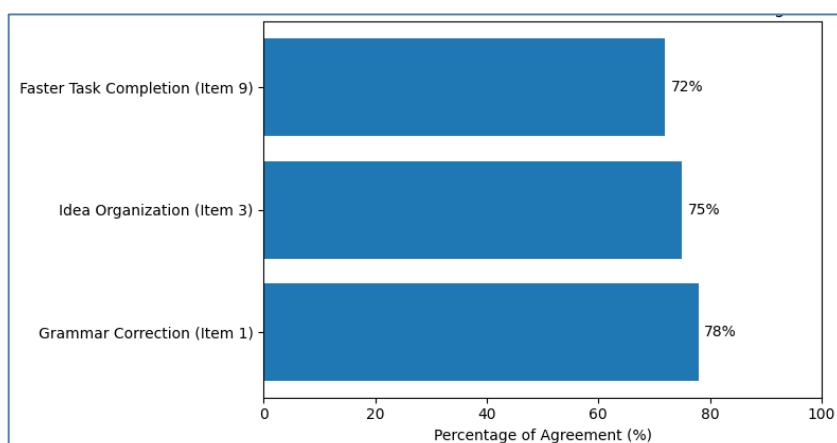
##### Descriptive Analysis of Perceived Benefits of AI Writing Tools

Items 1, 3, and 9 examined students' perceptions of how AI tools support writing improvement.

##### AI Tools for Grammar and Idea Development

Results indicate strong agreement that AI tools improve writing quality. In Item 1 ("AI writing tools help me correct grammar mistakes"), approximately 78% of students agreed or strongly agreed. Similarly, Item 3 showed that about 75% of respondents believed AI tools help organize ideas effectively. In Item 9, around 72% indicated that AI tools assist them in completing academic writing tasks faster.

These findings suggest AI tools function as useful writing support systems.



**Figure 1.** Perceived Effectiveness of AI Tools in Academic Writing

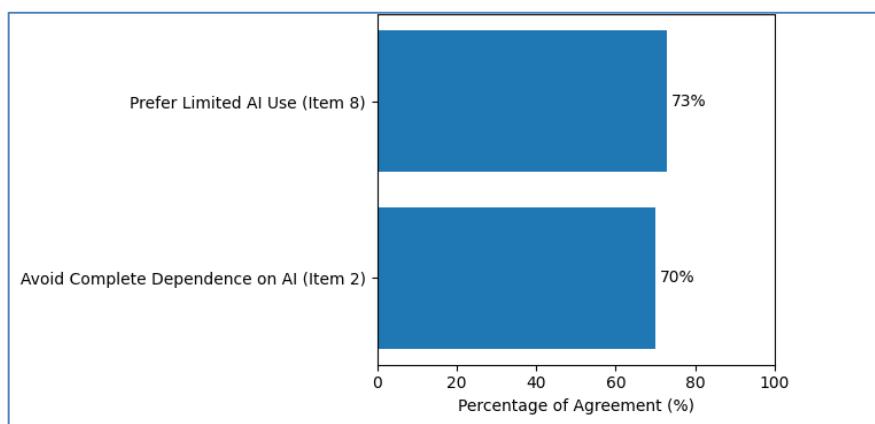
The figure illustrates students' perceptions of the effectiveness of AI tools in academic writing. The highest level of agreement was reported for grammar correction (Item 1), with 78% of students agreeing or strongly agreeing. This was followed by idea organization (Item 3) at 75%, indicating that most students perceive AI tools as helpful in structuring their ideas. Additionally, 72% of respondents agreed that AI tools enable faster completion of academic writing tasks (Item 9).

### Descriptive Analysis of Students' Preference for Independent Writing

Items 2 and 8 examined whether students prefer relying on AI tools or developing independent writing skills.

In Item 2 ("Students should not depend completely on AI tools"), about 70% agreed, showing awareness that AI should not replace personal writing effort.

Similarly, Item 8 indicated that 73% preferred limited AI use during writing assignments to encourage independent learning.



**Figure 2.** Students' Attitudes Toward Independent Writing Vs AI Reliance.

The figure demonstrates students' awareness of the importance of maintaining independent writing skills despite the availability of AI tools. Approximately 70% of respondents agreed that students should not depend completely on AI tools (Item 2), indicating a clear recognition that AI should function as a support rather than a replacement for personal effort. Furthermore, 73% of students expressed a preference for limited use of AI tools during writing assignments (Item 8), highlighting their inclination toward fostering independent learning and skill development.

### Descriptive Analysis of Negative Effects of Overreliance on AI Tools

Item 4 focused on risks of excessive AI use.

#### Reduced Writing Skill Development

In Item 4 ("Too much use of AI tools reduces my writing practice"), nearly 69% agreed, suggesting students believe overuse may slow skill development.

This highlight concerns regarding dependency.

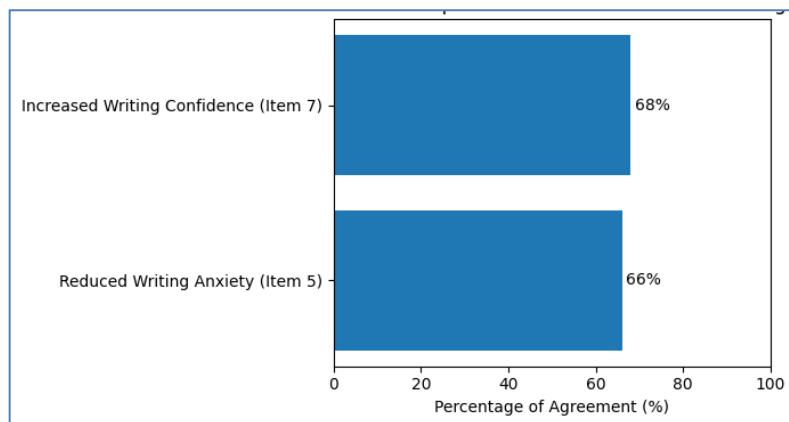
#### Descriptive Analysis of Affective Factors (Confidence and Anxiety)

Items 5 and 7 examined emotional effects of AI tool use.

#### Increased Confidence and Reduced Anxiety

In Item 5, approximately 66% agreed that AI tools reduce anxiety when writing assignments. Item 7 showed that about 68% felt more confident when using AI support.

Thus, AI tools appear to create emotional comfort, especially among less confident writers.



**Figure 3.** Emotional Impact of AI Tools On Academic Writing.

The figure illustrates the emotional impact of AI-assisted writing tools on students' academic writing experiences. In Item 5, approximately 66% of the participants agreed that AI tools help reduce anxiety during writing assignments. Similarly, 68% of respondents in Item 7 reported increased confidence when using AI support.

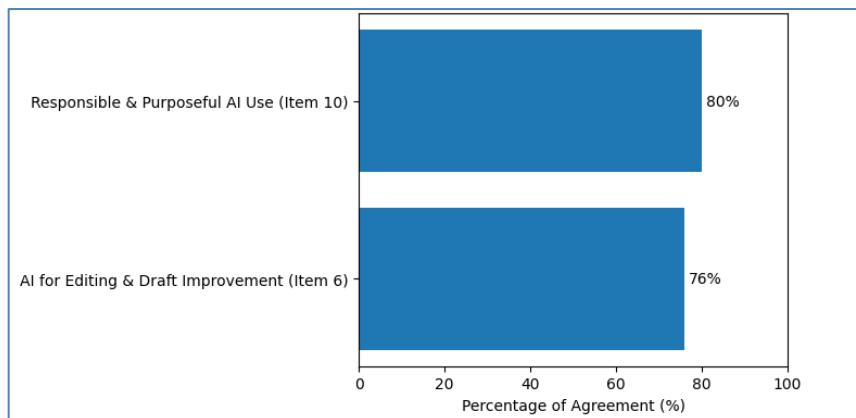
These findings indicate that AI tools play an important affective role by providing emotional comfort and reassurance, particularly for students who experience low confidence or writing-related anxiety. Such emotional support may encourage greater engagement with writing tasks and reduce apprehension toward academic writing.

#### Descriptive Analysis of Purposeful Use of AI Tools

Items 6 and 10 measured students' preferred conditions for AI use.

In Item 6, about 76% agreed that AI tools should be used mainly for editing and improving drafts rather than producing full essays.

Item 10 received the highest support, with around 80% agreeing that AI tools should be used responsibly and purposefully.



**Figure 3.** Purposeful And Responsible Use of AI Tools In Academic Writing

The figure presents students' views regarding the purposeful and responsible use of AI tools in academic writing. In Item 6, approximately 76% of respondents agreed that AI tools should be used primarily for editing and improving drafts rather than generating complete essays, indicating a preference for supportive rather than substitutive use of AI. Notably, Item 10

received the highest level of agreement, with around 80% of students emphasizing that AI tools should be used responsibly and purposefully.

These findings suggest that students demonstrate a high level of awareness regarding ethical and pedagogically appropriate AI use. Rather than perceiving AI as a replacement for human authorship, students largely view it as a complementary tool that enhances revision quality while preserving academic integrity and learner responsibility.

### **Summary of Main Trends**

Three main trends emerged:

1. Strong support for AI tools in improving grammar and organization.
2. Awareness of risks related to overreliance.
3. Preference for limited and responsible AI use.

Overall, students support AI tools as learning aids but not as replacements for writing skills.

### **4.3 Qualitative Themes Description from Interview Data**

#### **Theme 1: AI as Writing Support, Not Replacement**

Students emphasized that AI tools help improve writing but should not replace personal effort.

#### **Theme 2: AI for Editing and Idea Development**

Participants frequently used AI for grammar correction and idea expansion.

#### **Theme 3: Confidence Improvement**

Some students felt more comfortable writing when AI tools assisted them.

#### **Theme Codes from Interviews**

##### **Theme Code 1: General Attitudes Toward AI Tools**

Most students viewed AI positively but warned against dependency.

##### **Theme Code 2: Situations Where AI Tools Are Most Helpful**

Students found AI useful in grammar correction and idea generation.

##### **Theme Code 3: AI in Improving Draft Quality**

Students reported improvements after revising drafts using AI suggestions.

##### **Theme Code 4: Risks of Overreliance**

Participants feared losing writing skills if AI is overused.

##### **Theme Code 5: AI Impact on Practice**

Some students reported practicing less writing when using AI frequently.

##### **Theme Code 6: Emotional Effects**

Students indicated reduced anxiety when supported by AI tools.

##### **Theme Code 7: Preferred Balance**

Most preferred using AI tools alongside personal writing.

##### **Theme Code 8: AI Use Over Time**

Students suggested beginners need more AI support, decreasing over time.

##### **Theme Code 9: Ideal Level of AI Support**

Students suggested AI tools assist mainly in revision stages.

##### **Theme Code 10: Pedagogical Recommendations**

Students recommended teachers guide responsible AI use.

## **5. Discussion**

The present study investigated EFL first-year university students' perceptions of AI-assisted writing tools in academic writing, focusing on perceived benefits, concerns, emotional effects, and preferred conditions of use. Overall, the findings reveal a nuanced and balanced perspective, in which students acknowledge the substantial pedagogical value of AI tools while

simultaneously expressing awareness of the risks associated with overreliance and unethical use.

### **5.1 Perceived Benefits of AI Tools in Academic Writing**

The quantitative results demonstrated strong student agreement regarding the usefulness of AI tools in improving grammatical accuracy, idea organization, and writing efficiency. High levels of agreement for grammar correction (Item 1), idea organization (Item 3), and faster task completion (Item 9) indicate that students perceive AI tools as effective writing support systems. These findings are consistent with previous studies suggesting that AI-assisted tools such as ChatGPT and Grammarly provide immediate feedback that helps learners identify linguistic errors and improve textual clarity (Dizon, 2024; Ranalli, 2021).

From a pedagogical perspective, the emphasis on grammar and organization is particularly significant for first-year EFL students, who often struggle with surface-level linguistic accuracy and coherence when transitioning to academic writing. The results support Hyland's (2004) assertion that novice academic writers benefit from scaffolding mechanisms that reduce cognitive load during the writing process. AI tools appear to function as such scaffolds, enabling students to focus more on content development while receiving support for language accuracy.

The interview data further reinforced these findings, as students reported frequent use of AI tools during drafting and revision stages, particularly for correcting grammar and refining ideas. This convergence between quantitative and qualitative data strengthens the validity of the findings and confirms that AI tools are largely perceived as facilitative rather than disruptive.

### **5.2 Independence, Overreliance, and Writing Skill Development**

Despite the positive evaluation of AI tools, students demonstrated a clear awareness of the risks associated with excessive dependence. Items 2, 4, and 8 revealed that a substantial proportion of participants believed that complete reliance on AI tools could reduce writing practice and weaken skill development. This concern aligns with earlier research warning that uncritical acceptance of automated feedback may limit opportunities for language production and reflective learning (Ranalli, 2021; Lund et al., 2023).

Importantly, students did not reject AI use altogether; rather, they advocated for controlled and limited use. This finding suggests a relatively high level of learner metacognition, as students recognize the distinction between supportive assistance and substitutive reliance. The interview themes further highlighted students' belief that overuse might lead to reduced effort and diminished engagement with the writing process, particularly in idea generation and argument development.

These results echo UNESCO's (2023) emphasis on promoting AI literacy and responsible use in educational contexts. When learners are not guided, AI tools may shift from learning aids to shortcuts, potentially undermining the development of independent academic writing skills. Therefore, the findings underscore the importance of pedagogical mediation rather than unrestricted access.

### **5.3 Affective Impact: Confidence and Anxiety Reduction**

Another important contribution of this study lies in its examination of affective factors. Items 5 and 7 revealed that AI tools help reduce writing anxiety and increase confidence among EFL learners. This emotional support function is particularly relevant for students who experience apprehension toward academic writing due to limited linguistic proficiency.

These findings can be interpreted through the lens of affective learning theories, which emphasize the role of confidence and reduced anxiety in facilitating language acquisition. By

providing immediate feedback and reassurance, AI tools may lower students' affective filter, encouraging greater engagement with writing tasks. Similar conclusions were reported by Putri (2025), who found that AI-assisted feedback enhanced students' self-confidence in EFL writing classrooms.

However, while emotional comfort is beneficial, it must be balanced with opportunities for productive struggle. Excessive reliance on AI for reassurance may reduce learners' tolerance for ambiguity and challenge, which are essential components of academic development. The students' expressed preference for balanced use suggests awareness of this tension.

#### **5.4 Purposeful and Ethical Use of AI Tools**

One of the most notable findings of the study is the strong agreement regarding responsible and purposeful AI use (Item 10), which received the highest mean score. Students overwhelmingly supported the idea that AI tools should be used primarily for editing and improving drafts rather than generating complete essays. This position reflects a mature understanding of academic integrity and authorship.

The qualitative findings further confirmed that students perceive AI as a complementary tool rather than a replacement for human writing. This aligns with Nelson's (2024) findings that students support AI use when clear academic guidelines are in place. It also supports the view that ethical concerns surrounding AI are not solely institutional issues but are increasingly recognized by learners themselves.

#### **5.5 Integration of Quantitative and Qualitative Findings**

The integration of questionnaire data and interview themes provides a comprehensive understanding of students' perceptions. Both data sources consistently highlight three dominant trends: strong appreciation of AI's linguistic support, awareness of dependency risks, and preference for guided, limited use. This convergence suggests that students are not passive consumers of AI technology but active evaluators of its role in their learning process.

Taken together, the findings suggest that AI-assisted writing tools can play a valuable role in EFL academic writing instruction when integrated within a structured pedagogical framework. Rather than viewing AI as a threat to academic writing, students perceive it as a tool whose effectiveness depends largely on how it is used.

### **6. Conclusion and Recommendations**

#### **Conclusion**

This study examined EFL first-year university students' perceptions of AI-assisted writing tools in academic writing contexts, with particular attention to perceived benefits, challenges, emotional effects, and preferred conditions of use. The findings indicate that students generally hold positive attitudes toward AI tools, viewing them as effective supportive resources rather than replacements for independent writing skills.

The quantitative results demonstrated that students highly value AI tools for improving grammatical accuracy, organizing ideas, and completing writing tasks more efficiently. These findings confirm that AI-assisted writing tools can play a significant role in addressing common academic writing difficulties faced by EFL learners, particularly at the early stages of university education. In addition, the qualitative interview data reinforced the view that students primarily use AI tools during revision and editing stages, which supports their role as learning aids rather than content generators.

At the same time, the study revealed a strong awareness among students of the risks associated with overreliance on AI tools. Many participants expressed concern that excessive use could reduce writing practice and weaken the development of independent writing skills. This

awareness reflects a balanced and critical perspective, suggesting that students recognize the importance of maintaining personal effort, critical thinking, and authorship in academic writing.

Another important conclusion relates to the affective impact of AI tools. The findings showed that AI-assisted writing tools help reduce writing anxiety and increase students' confidence, particularly among less proficient or less confident writers. This emotional support may encourage greater engagement with academic writing tasks and foster a more positive writing experience. However, students also emphasized the need for moderation to ensure that confidence development is accompanied by genuine skill growth.

Most notably, students strongly supported the responsible and purposeful use of AI tools in academic writing. They emphasized that AI should be used mainly for editing, revising, and improving drafts rather than generating complete academic texts. This finding highlights students' awareness of ethical considerations such as academic integrity, originality, and authorship, and underscores the importance of clear institutional and instructional guidelines. In conclusion, the study demonstrates that AI-assisted writing tools can enhance EFL students' academic writing when used responsibly and pedagogically. A balanced integration that combines AI support with independent writing practice is essential to maximize learning benefits while minimizing potential risks. These findings contribute to the growing body of research on AI in language education and provide practical insights for educators, curriculum designers, and policymakers seeking to integrate AI tools effectively into academic writing instruction.

## **Recommendations**

Based on the findings of the present study, which highlight both the benefits and challenges of using AI-assisted writing tools in academic writing, several pedagogical and institutional recommendations are proposed to ensure effective, ethical, and balanced integration of AI technologies in EFL contexts.

### **Institutional Recommendations**

Universities and higher education institutions should develop clear and comprehensive policies regulating the use of AI-assisted writing tools in academic writing. These policies should clearly define acceptable and unacceptable uses of AI tools, particularly with regard to authorship, originality, and academic integrity. Establishing institutional guidelines can help reduce ambiguity and prevent misuse while promoting responsible engagement with AI technologies.

In addition, universities are encouraged to organize training workshops and awareness programs for both students and instructors. Such initiatives should focus on AI literacy, ethical considerations, and practical strategies for integrating AI tools into learning without undermining academic skills. Institutional support is essential to ensure that AI technologies are used as learning enhancers rather than shortcuts.

### **Instructor Recommendations**

EFL instructors play a critical role in guiding students' use of AI tools. Teachers are encouraged to integrate AI-assisted writing tools into their instruction in a controlled and pedagogically informed manner. For example, instructors should encourage students to produce initial drafts independently before using AI tools for revision, editing, and language refinement.

Furthermore, instructors should explicitly discuss the limitations of AI tools in the classroom, emphasizing that these technologies cannot replace critical thinking, idea generation, or academic judgment. Incorporating reflective activities—such as asking students to explain or

justify AI-generated suggestions—may help promote deeper learning and reduce passive reliance on automated feedback.

### **Sudent-Oriented Recommendations**

Students should be encouraged to view AI-assisted writing tools as supportive resources rather than substitutes for their own writing efforts. Regular independent writing practice should remain a central component of academic writing development. Students are advised to use AI tools mainly for grammar checking, vocabulary refinement, and draft improvement, while maintaining responsibility for content creation and argumentation.

Additionally, students should be made aware of the long-term risks of excessive dependence on AI tools, particularly the potential reduction in writing practice and skill development. Developing self-regulation skills and critical awareness of AI feedback can help students benefit from these tools while maintaining academic autonomy.

### **Curriculum and Pedagogical Recommendations**

Curriculum designers are encouraged to integrate AI literacy into academic writing courses by including modules on ethical AI use, digital responsibility, and critical evaluation of AI-generated feedback. Writing tasks can be designed to require evidence of independent thinking, such as reflective commentaries or draft comparisons, to ensure meaningful learning.

Moreover, AI tools should be positioned as part of a blended writing pedagogy that combines technology-supported feedback with teacher guidance and peer review. Such an approach can maximize the benefits of AI tools while preserving the essential role of human interaction in language learning.

### **Recommendations for Future Research**

Future research is recommended to explore the long-term impact of AI-assisted writing tools on EFL students' writing proficiency and critical thinking skills. Studies involving larger samples, different academic levels, and comparative experimental designs would provide deeper insights into the effectiveness of AI integration. Additionally, future studies may examine instructors' perceptions and institutional readiness for AI adoption in higher education.

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## Appendix A

### 1. Students' Perceptions Questionnaire on AI-Assisted Writing Tools in Academic Writing

#### Research Title:

Exploring EFL Students' Perceptions of AI-Assisted Writing Tools in Academic Writing

#### Instructions:

This questionnaire aims to investigate students' perceptions of using AI-assisted writing tools such as ChatGPT and Grammarly in academic writing. Your participation is voluntary, and all responses will remain confidential. Please read each statement carefully and select the option that best represents your opinion.

#### 2. Section A: Personal Information

##### 3. Gender:

- Male
- Female

##### 2. Academic Level:

- First Year
- Second Year
- Third Year
- Fourth Year

##### 3. Do you use AI writing tools (ChatGPT, Grammarly, etc.)?

- Frequently
- Sometimes
- Rarely
- Never

#### 4. Section B: Students' Perceptions Statements

Please indicate your level of agreement with the following statements:

Scale:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

No.	Statement	1	2	3	4	5
1	AI writing tools help me correct grammar mistakes.	<input type="checkbox"/>				
2	Students should not depend completely on AI tools for writing tasks.	<input type="checkbox"/>				
3	AI tools help organize ideas and paragraphs.	<input type="checkbox"/>				
4	Too much use of AI tools reduces writing practice.	<input type="checkbox"/>				
5	Using AI tools reduces anxiety in academic writing.	<input type="checkbox"/>				
6	AI tools should mainly be used to revise and improve drafts.	<input type="checkbox"/>				
7	AI tools increase my confidence in academic writing.	<input type="checkbox"/>				
8	AI use should be limited to avoid dependence.	<input type="checkbox"/>				
9	AI tools help complete writing tasks faster.	<input type="checkbox"/>				
10	Overall, AI tools should be used responsibly in academic writing.	<input type="checkbox"/>				

#### Appendix B

#### Semi-Structured Interview Form

##### Research

**Title:**

Exploring EFL Students' Perceptions of AI-Assisted Writing Tools in Academic Writing

##### Purpose:

This interview explores students' experiences and opinions regarding AI-assisted writing tools in academic writing.

Participation is voluntary, and responses will be confidential.

##### Participant

##### Information

Gender:

\_\_\_\_\_

Academic

Level:

\_\_\_\_\_

Date: \_\_\_\_\_

#### Interview Questions

##### Section A: Experience with AI Writing Tools

1. How often do you use AI writing tools such as ChatGPT or Grammarly?
2. What is your general opinion about using AI tools in academic writing?

##### Section B: Benefits of AI Tools

3. How do AI tools help you improve your writing?
4. Which writing aspects improve most when using AI tools?

##### Section C: Challenges and Concerns

5. Do you think students may become dependent on AI tools? Why?
6. Have you faced any problems using AI tools?

**Section D: Impact on Learning**

7. Do AI tools reduce writing anxiety or difficulty?
8. Do AI tools help or reduce your writing practice?

**Section E: Preferred Use**

9. At which stage of writing should AI tools be used?
10. What balance should students maintain between personal writing and AI assistance?

**Section F: Recommendations**

11. How should teachers guide students in using AI tools responsibly?
12. Do you have suggestions for improving AI use in writing classes?

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**Compliance with ethical standards***Disclosure of conflict of interest*

The authors declare that they have no conflict of interest.

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