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HIGHER EDUCATION STUDENTS' PERCEPTION OF CHATBOTS' USE IN WRITING ENGLISH FINAL PAPERS

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Abstract

The Artificial Intelligence's (AI) quick development has had a growing impact on academic writing techniques, especially through the use of chatbots by higher education students in writing final papers. However, concerns remain regarding their impact on students' creativity, originality, and writing quality. Using the purposive sampling technique, the study looked into the perceptions of 53 higher education students who were writing their thesis from four different universities toward the use of chatbots in writing English final papers. Using a quantitative survey design, data were collected through a questionnaire covering five aspects: clarity, evidence-based writing, structure, cohesion and coherence, and referencing. The collected data were then analyzed using descriptive statistical techniques. The result of the data analysis showed a Mean score of 80.55, indicating positive perceptions of chatbot use. Students reported that chatbots helped improve clarity by reducing ambiguity and enhancing vocabulary choice. They also supported better organization, logical idea development, and stronger cohesion and coherence through grammar correction and improved argument flow. Students, however, had concerns about the accuracy and credibility of AI-generated references and evidence-based content. Overall, chatbots were perceived as useful supplementary tools that can enhance academic writing when used responsibly. The study emphasizes the crucial need for AI literacy and critical evaluation skills in higher education.

Keywords: *Academic Writing, Chatbot, Final Paper, Perception*

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Introduction

In the increasingly digital age, incorporating technology into instruction is unavoidable in higher education. Higher education is an educational institution that plays a significant role in forming and enhancing students' intellectual abilities. However, this has a massive effect on learning. Through increased engagement and relevance, technology could enhance the learning experience. Eventhough technology makes it easier to obtain information and provides Artificial Intelligence (AI) to help humans do effective and efficient learning activities. In the past few years, AI has become more common in a variety of educational situations, such as curriculum development, online tutoring, and teacher training (Ngo, 2023).

AI is a technology that can mimic intelligence in humans by analyzing data, identifying patterns, and solving problems using computer systems. As stated by Kingchang et al. (2024) AI is a set of technologies that are utilized extensively in a variety of industries and are meant to address problems. It has been utilised in many fields, especially to facilitate work and learning. In an educational context, those technologies can help students feel more confident by giving them the chance to participate in an interactive, self-directed language learning environment (Rintaningrum, 2023; Waziana et al., 2024). Through an extensive variety of tools and resources that can aid in the learning process, it stimulates students toward a more effective learning environment. These AI tools represent a significant breakthrough in the domains of AI and language processing because they can complete tasks in a matter of seconds and respond in a language that is pertinent and understandable (Lund & Ting, 2023; Schei et al., 2024).

One area in the integration of AI technology that has been growing rapidly in the area of instruction is the use of conversational agents, or chatbots. A Chatbot is a kind of software that communicates with users by having written or spoken conversations that resemble normal human exchanges (Kingchang et al., 2024). By simulating natural interactions, such as human-to-human communication, a Chatbot could offer students a more immersive and engaging experience. The software can understand and process human language, enabling it to provide automatic, fast responses to user input or questions. Chatbots like Perplexity, Gemini, and ChatGPT are frequently used by students to improve their writing. (Handley, 2024; Waziana et al., 2024).

Chatbots provide a variety of features useful for English language learners. Chatbots assist students' understanding of grammar rules, clarify vocabulary, and improve phrasing (N.-Y. Kim, 2019). It provides opportunities to enhance students' competence in the English language,

including written communication skills (Fitria, 2021). The features of Chatbots are necessary for composing or writing in English as a productive skill, which requires careful understanding of the language components. Writing is the act of expressing ideas, thoughts, or information on paper using a collection of symbols, such as words, letters, or characters (Hawanti & Zubaydulloevna, 2023). By offering organized advice and responses referring to their needs, a Chatbot can help students improve their writing.

When it comes to academic writing, the capacity to understand and convey information in scientific writing is equally essential. Information gathered from different sources must be carefully analysed and presented in accordance with applicable academic standards. As a result, using a Chatbot can assist in discovering references, summarizing content, and improving language organization in academic writing (Wardani et al., 2024). However, students must still establish academic literacy, ensuring the accuracy and validity of the material delivered by the Chatbot. Thus, university students must understand the ethical issues, standards, and criteria of academic writing. Since students hold a substantial amount of responsibility for improving the quality of academic writing by employing a variety of complex practices and principles that act as the basis for communication and research distribution (Malik et al., 2023).

Academic writing is the style of formal writing commonly used in scientific discourse of higher education. According to Dergaa et al., (2023) academic writing is a type of written communication utilized in academia to convey information in a systematic, analytical, and evidence-based manner. In other words, academic writing is also referred to as scientific writing since it demands creative writing skills to organise ideas (Juniarti, 2019). There are several types of academic writing, such as essays, scientific articles, research reports, and thesis or final paper, each of which has a different format and purpose (Shayakhmetova et al., 2020). In academic writing, standards include using formal language, presenting data-based arguments, and following citation and reference guidelines such as APA, MLA, or Chicago Style (Olatunde & Olenik, 2021). To avoid plagiarism, academic writing must also meet requirements such as clarity of ideas, cohesiveness, consistency in structure, and originality (Gamage et al., 2020).

Given the complex requirements in academic writing, many students use a chatbot to assist with their writing. Several studies have examined the use of Chatbots in academic writing. For instance, a study conducted by Bibi & Atta Aqsa (2024) aimed to find out the role of ChatGPT as an English writing assistant. The results revealed that ChatGPT was a credible and trustworthy tool for assisting students in writing more quickly, effectively,

and artistically. Similarly, Medina et al. (2024) examine and describe the implications of using ChatGPT, with particular emphasis on how this tool affects the quality, authenticity, and truthfulness of academic writing. According to the study, students' writing abilities, including fluency, coherence, organization, and grammatical accuracy, have been demonstrated to be improved by ChatGPT, particularly for those for whom English is not their mother tongue.

Chatbots offer advantages to provide personalised and adaptive learning. Students thought the Chatbot was a helpful resource for providing them with prompt feedback, answering their questions, and providing support (Limna et al., 2023). A common way for measuring students' technology acceptance during their learning process is to find out how they perceive it (Toar et al., 2022). An innovative strategy of using a chatbot to guide writing can help students become more proficient in this useful skill. The Chatbot is able to offer assistance when writing texts by fixing grammar mistakes, choosing suitable words, and offering better sentence patterns (Angga et al., 2024). In addition, this technology not only encourages self-directed learning but also boosts students' confidence in their capacity for proficient English communication (Toar et al., 2022).

In fact, there is still debate over the benefits as well as the efficacy of chatbots in enhancing English learning outcomes. Numerous research have examined the utilization of Chatbots as a tool, and students frequently argued that chatbots significantly improved their language skills, especially in terms of grammar and vocabulary while writing (Waziana et al., 2024). Further, other studies have shown that the use of ChatGPT in the classroom is generally viewed favorably by teachers and students. By responding to the questions, it can be a useful tool for helping students and could ease the workload of teachers (Limna et al., 2023). A recent study by (Kim et al., 2024) stated that Generative AI-assisted academic writing might be beneficial to students in three areas, which are their affective domain, performance, and writing process. Whereas another study had shown the contribution of Argumate Chatbot in assisting students during the argumentative writing process in a collaborative and effective way (Guo et al., 2024). They investigated students' perceptions based on the use of Chatbots to help in the writing process.

Despite the advantages of Chatbots in assisting students in the process of writing, there are still challenges and risks, such as plagiarism or answer accuracy. In addition, the Chatbot has limitations in human communication, namely difficulty in correctly recognising natural language, inability to control repetitive sentences, and difficulty in handling unknown sentences (Gond et al., 2024). Another limitation is that Chatbots often fail to answer

complex or unexpected questions; as a result, they misinterpret students' instructions or questions and generate inappropriate information (Limna et al., 2023). In addition, the Chatbot's language is easily guessed by the lecturer, which can limit students' creativity and originality in the final paper or thesis (Ningrum, 2023). However, Chatbots' application to English language instruction has received various responses (Waziana et al., 2024). Students may view the chatbot as an untrustworthy learning tool due to its limitated interactivity and lack of human instruction, as they are not guided by a lecturer when completing their final paper (Limna et al., 2023). Therefore, students have doubts about the Chatbot's accuracy based on the results of inputting text-based questions or instructions.

Reviewing some studies above, most of them have examined how students' general English competence was affected by chatbots, particularly their academic writing proficiency (Limna et al., 2023; Bibi & Atta, 2024; Fitria, 2024; Gond et al., 2024; Guo et al., 2024; Kim et al., 2024; Medina et al., 2024; Waziana et al., 2024). However, a limited number of studies investigate how English language learners utilize Chatbots to enhance their writing, particularly in the setting of final paper writing (Rababah et al., 2024; Amer et al., 2025). In order to fill the gap, the present study aimed to examine the use of Chatbots in higher-education academic writing, with an emphasis on their effects on clarity, evidence-based writing, structure, cohesion, coherence, and referencing in academic writing, particularly in final papers, from students' perspectives. The research question needs to be answered:
How do higher education students perceive the use of Chatbots in writing their final papers?

Research Methods

Design

The design employed in this present study was quantitative. Quantitative research was implemented because it enables researchers to examine relationships among variables and obtain numerical descriptions of trends, attitudes, and opinions within a defined population. Specifically, the study used a survey design to investigate higher education students' perceptions of using chatbots in write their final papers.

Participants

The targeted participants in this study were higher-education students at four universities in Jombang: University 1, University 2, University 3, and University 4, who were engaged in writing their final

papers and using chatbots to do in. Using purposive sampling, 53 participants who met the requirements were willing to respond.

Table 1. Demographic and Characteristics of the Participants

University	Semester	Σ	Gender	Σ	Chatbot AI	Σ
University 1	8th Semester	21	Male	6	ChatGPT	5
					Poe	1
			Female	14	ChatGPT	13
					Black Box AI	2
University 2	6th Semester	10	Male	2	ChatGPT	1
					Copilot	1
			Female	8	ChatGPT	7
					Perplexity	1
	8th Semester	6	Male	3	ChatGPT	2
					Perplexity	1
			Female	3	ChatGPT	2
					Gemini	1
University 3	6th Semester	3	Male	1	ChatGPT	1
			Female	2	ChatGPT	2
	8th Semester	8	Male	4	ChatGPT	1
					Gemini	1
					Perplexity	2
			Female	4	ChatGPT	1
					Gemini	2
					Perplexity	1
University 4	8th Semester	5	Male	1	Perplexity	1
			Female	4	ChatGPT	2
					Gemini	1
					Perplexity	1
TOTAL				**53**		**53**

Table 1 presents the demographic and background characteristics of the 53 participants in this study. The participants were selected from four universities in Jombang, with the largest group coming from University 1 (n=21), followed by University 2 (n=5), University 3 (n=11), and University 4 (n=5). Most participants were in the 8th semester (n=40) and were female (n=37). Regarding AI chatbot use, ChatGPT was the most frequently used chatbot (n=37), followed by Perplexity (n=7), Gemini (n=5), Blackbox AI (n=2), while Poe and Copilot were each used by one participant.

Instrument

The instrument used to collect the data in this study was in the form of a closed-ended questionnaire adapted from several studies: Ngo (2023), Rababah et al. (2024), and Amer et al. (2025). The closed-ended questionnaire used in this study comprises 15 items, developed from five aspects of how Chatbots affect clarity (3 items), evidence-based writing (3 items), structure (2 items), cohesion and coherence (4 items), and

referencing (3 items). Table 2 presents the summary of the questionnaire blueprint.

Table 2. The Summary of Questionnaire Blueprint

Variable	Aspect	Item Number
Higher education students' perceptions of the use of Chatbots in writing their final papers.	Students' perception of how Chatbots affect the clarity of the final papers.	1, 2, 3
	Students' perception of how Chatbots affect the evidence-based nature of the final papers.	4, 5, 6
	Students' perception of how Chatbots affect the structure of the final papers.	7, 8
	Students' perception of how Chatbots affect the cohesion and coherence of the final papers.	9, 10, 11, 12
	Students' perception of how Chatbots affect referencing of the final papers.	13, 14, 15

The questionnaire used a four-point Likert scale that ranged from strongly agree (4), agree (3), disagree (2), and strongly disagree (1) to capture students' responses. Prior to distribution, the instrument underwent expert validation to ensure content accuracy and appropriateness, and was tested for validity and reliability. The results showed that all 15 items were valid, with significance values below .05. The instrument also demonstrated acceptable reliability, resulting in a Cronbach's Alpha coefficient of .695, indicating a satisfactory internal consistency for use in this study.

Data Collection

The closed-ended questionnaire was prepared and distributed online using Google Form to reach a broader range of participants. The responses for each closed item were available in the Google Form, so participants could choose the answer directly. The questionnaire was distributed online to the four targeted universities in Jombang.

Data analysis

The data collected in this study were analyzed using descriptive statistical techniques, including frequency distributions to show the number of participants who chose each answer category on the Likert scale and to assess data accuracy. Second, using measures of central tendency, the mean is calculated by summing all scores for each statement and providing a quantitative value that represents the general perception of all participants on an aspect. Third, using measures of dispersion of variability, the Standard Deviation (SD), which is the square root of the variation of a set of scores. Standard deviation is used to measure the diversity or variation of participants' answers to each statement and to indicate whether participants'

perceptions are consistent (low SD) or diverse (high SD) in the questionnaire, which consists of four Likert-scale (closed-ended) items.

To classify the tendency of participants' perceptions, the positive and negative presentations were calculated from the mean and standard deviation of participants' responses using the formula proposed by Putra et al. (2021), as presented in Table 3.

Table 3. The Criteria Formula of Classification

Criteria Formula	Classification
X ≥ Mi + 1.5 SDi	Very Positive
Mi + 1.5 SDi > X ≥ Mi	Positive
Mi > X ≥ Mi - 1.5 SDi	Negative
X < Mi - 1.5 SDi	Very Negative

The results of calculating scores from the overall participant data, using the mean ideal (Mi), standard deviation ideal (SDi), and total score formulas to classify participants' perceptions of chatbot use in writing English final papers, are presented in Table 4.

Table 4. The Classification of Perception in this Study

Criteria Formula	Classification
X ≥ 88.94	Very Positive
88.94>X ≥ 79.81	Positive
79.81>X ≥ 70.67	Negative
X<70.67	Very Negative

Results and Discussion

Results

Overall Higher Education Students' Perception towards the Use of Chatbots in Writing English Final Papers

The findings of the study revealed that students demonstrated a positive perception toward the use of chatbots in writing their final papers. This result was proven by the total score distribution, mean values, and standard deviation analysis. The majority of students selected "agree" for most questionnaire items, indicating that they perceived chatbots as beneficial in enhancing clarity, evidence-based arguments, structure, cohesion, and coherence, as well as referencing. The low standard deviation further suggested that students' responses were relatively consistent, with little variation.

Table 5. Descriptive Statistics of Overall Perception

	N	Min.	Max.	Mean	SD	Classification
Overall Perception	53	66.67	98.33	80.79	7.17	Positive
Valid N (listwise)	53					

Based on Table 5, the descriptive statistics for overall perception, from the 53 participants analyzed, show that the minimum value was 66.67, while the maximum was 98.33. The mean of the participants' overall perception was 80.79, with a standard deviation of 7.17. The high mean value (80.79), which falls within the 88.94>X ≥ 79.81 range, indicated that students' perception is classified as positive (see Table 4). Furthermore, the relatively small standard deviation of 791.978 indicated that participants' responses were fairly consistent, reflecting a shared positive overall perception of the use of chatbots in writing their English final paper.

Following the overall analysis of perception, detailed analyses of each aspect were conducted, yielding the following results.

Higher Education Students' Perception of the Clarity Aspect

The findings in the clarity aspects showed a tendency toward a positive perception of using chatbots to support final paper writing.

Table 6. Descriptive Statistics of Clarity Aspects

	N	Min.	Max.	Mean	SD	Classification
Clarity	53	75.00	100.00	84.75	8.13	Positive
Valid N (listwise)	53					

Based on the descriptive statistics shown in Table 6 regarding clarity in the use of chatbots in writing the final papers, a mean value of 84.75 and a standard deviation of 8.13 were obtained. The high mean indicated that, in general, students' perceptions of chatbots' role in improving writing clarity were positive. This indicated that chatbots were perceived as capable of helping students express ideas clearly, use appropriate language, and structure sentences effectively. Meanwhile, the relatively small standard deviation of 8.13 reflected fairly consistent variation or dispersion in perceptions among participants. Thus, the data showed that most students acknowledged the contribution of chatbots in enhancing the clarity of academic expression.

Higher Education Students' Perception of the Evidence-Based Aspect

The data analysis in the evidence-based aspect showed different results regarding the tendency in students' perceptions.

Table 7. Descriptive Statistics Evidence-Based Aspect

	N	Min.	Max.	Mean	SD	Classification
Evidence-Based	53	50.00	100.00	73.27	12.59	Negative
Valid N (listwise)	53					

Table 7 presents descriptive statistics on the evidence-based aspects of using chatbots for writing final papers. The mean was 73.27, with a standard deviation of 12.59. According to the classification in Table 4, this mean value was classified as negative, indicating that students' average perception of the contribution of chatbots in supporting evidence-based writing remains suboptimal. Although it fell within the mid-to-high range, this negative classification indicated that chatbots have not fully met students' expectations in terms of helping them assess the quality, reliability, and relevance of sources used in academic writing. Additionally, a high standard deviation (12.59) indicated significant variation in perceptions among participants. This means that while some students might find the chatbot sufficiently helpful in this aspect, there was also a group of participants who gave lower ratings, resulting in an uneven distribution of perceptions.

Higher Education Students' Perception of the Structure Aspect

The results of the structure aspect indicated that students generally perceived chatbots as helpful in designing the structure of their final papers.

Table 8. Descriptive Statistics of Structure Aspect

	N	Min.	Max.	Mean	SD	Classification
Structure	53	25.00	100.00	83.02	14.73	Positive
Valid N (listwise)	53					

As presented in Table 8, the mean value of the structural aspects was 83.02, with a standard deviation of 14.73. This mean value indicated that, in general, participants' scores were in the high range. Meanwhile, the relatively large standard deviation indicated significant variation or dispersion in the data among participants, amounting to 14.73 from the mean. It suggested that while the average score was high, there was a considerable difference in scores between participants. Thus, this data suggested that perceptions of the

structural aspect tended to be positive, yet still exhibited relatively broad individual diversity.

Higher Education Students' Perception of the Cohesion and Coherence Aspect

The findings for the cohesion and coherence aspect also revealed positive responses from students.

Table 9. Descriptive Statistics of Cohesion and Coherence Aspect

	N	Min.	Max.	Mean	SD	Classification
Cohesion and Coherence	53	68.75	100.00	82.90	8.33	Positive
Valid N (listwise)	53					

The mean value obtained for Cohesion and Coherence was 82.90, with a standard deviation value of 8.33 (see Table 9). As indicated by the mean value, in general, participants' perceptions of cohesion and coherence were positive. The relatively small standard deviation (SD=8.33) indicates limited variability in participants' responses, demonstrating a consistent positive evaluation of the material's organization and flow. Further, the participants noted that chatbots help them present arguments effectively, correct logical errors, and improve grammatical accuracy.

Higher Education Students' Perception of the Referencing Aspect

The last aspect analyzed was referencing, which also received a positive perception from students.

Table 10. Descriptive Statistics of Referencing Aspect

	N	Min.	Max.	Mean	SD	Classification
Referencing	53	41.67	100.00	80.03	12.38	Positive
Valid N (listwise)	53					

Based on Table 10, which presents descriptive statistics for the referencing aspect, the mean of 80.03 indicates that, in general, participants' perceptions of the chatbot's ability to assist in the referencing process are relatively high. Meanwhile, the standard deviation of 12.38 indicates quite high variation among participants. This means that while most participants provided positive evaluations of this aspect, there were significant differences in perception, though not extreme, regarding the chatbot's effectiveness in supporting citation and referencing activities in academic writing. The results indicated that students acknowledged the usefulness of chatbots in guiding citation style and paraphrasing, yet remained cautious about relying on them for precise referencing. These mixed perceptions align with wider academic concerns about AI citation accuracy and the risk of fabricated sources.

Discussion

Regarding the overall higher education students' perception towards the use of chatbots in writing English final papers, the results showed that students agreed that chatbots helped enhance clarity in writing, supported the identification of evidence for arguments, assisted in structuring final paper sections, improved cohesion and coherence, and guided the referencing and paraphrasing process. Although a few students expressed concerns about overreliance or accuracy, these responses did not significantly affect the overall classification. Therefore, the results clearly demonstrated that students viewed chatbots as supportive tools in academic writing, particularly in completing their final papers. The strong acceptance of chatbots as effective academic writing tools shown in the results is consistent with previous research of Bibi & Atta (2024), Rababah et al. (2024), and Amer et al. (2025), which found that AI-based tools improve writing productivity, clarity, and access to information. The findings of this study reinforce those outcomes, demonstrating that students believe chatbots enhance the overall quality of their writing, especially in generating ideas, improving clarity, and supporting argumentative structure.

In general, the results of the study indicated that the majority of participants tended to have a positive perception of the use of chatbots in writing English final papers. It was reflected in the overall average score of 80.55, which fell within the positive category, as well as in the frequency of responses showing a dominance of the positive and very positive categories across almost all questionnaire items. These findings align with Bibi & Atta's (2024) study, which found that students view ChatGPT as a useful tool for enhancing productivity and writing skills, though concerns remain about authenticity. Similarly, Rababah et al. (2024) and Amer et al. (2025) found that ChatGPT improves writing quality, helps obtain information, and supports the general process of idea development in writing final papers.

In terms of clarity, chatbots were considered very helpful in improving the clarity of language expression, especially in selecting diction and using appropriate sentence structures. All participants agreed or strongly agreed that chatbots could replace words and use idioms wisely, and help avoid ambiguity. These results are in line with the findings of Waziana et al. (2024), which highlight that chatbots contribute significantly to improving vocabulary accuracy and grammatical structure. This is also reinforced by Medina et al. (2024), who show that ChatGPT can clarify ideas and strengthen the overall quality of writing.

Although chatbots were considered quite useful in helping with information searches, the evidence-based aspect was the only aspect classified as negative, with an average score of 73.27. Students still expressed

doubts about chatbots' ability to accurately cite sources and evaluate the quality and credibility of information. This supports the findings of Kim et al. (2024) and Bibi & Atta (2024), which show that although AI can assist in the writing process, there are concerns about the validity of information and the need for a deeper academic understanding.

The structural aspect received very positive ratings, with most participants stating that chatbots helped them generate ideas and understand the writing framework. The average score of 83.02 supported the conclusion that chatbots were effective in supporting the systematic construction of scientific writing. Fitria (2024) states that chatbots (i.e, ChatGPT and Perplexity AI) provide useful guidance in constructing arguments and presenting writing structures logically, which is highly relevant to the findings in this study.

In terms of cohesion and coherence, students' perceptions were also positive, with an average score of 82.70. Students acknowledged that chatbots helped them in constructing arguments, correcting logical errors, and providing accurate feedback on grammar and syntax. This aligns with the findings of Guo et al. (2024), which show that the use of chatbots such as Argumate in an EFL context encourages students to engage more coherently and collaboratively in writing. Rababah et al. (2024) also emphasize ChatGPT's role in supporting the integrity and fluency of academic texts.

Perceptions of referencing were also positive, with an average score of 80.03. Most participants stated that the chatbot helped them create correct citations in accordance with the applicable format and supported paraphrasing to avoid plagiarism. These findings support studies by Amer et al. (2025) and Medina et al. (2024), which show that ChatGPT can enhance citation skills and the originality of written work. However, ethical frameworks and oversight remain necessary in its application.

Conclusion

The data analysis's findings to address the study question about how higher education students perceive the use of chatbots in writing final papers showed a positive tendency, particularly in the five main aspects: clarity, evidence-based, structure, cohesion and coherence, and referencing.

First, in terms of clarity, students assessed that chatbots play a significant role in helping them express ideas more clearly, choose appropriate language, and construct sentences effectively. This indicates that chatbots can support the process of communicating ideas in a structured, communicative manner. Secondly, in terms of evidence-based writing, students showed a generally negative perception. They believe that chatbots

are still unable to fully meet expectations regarding the quality, reliability, and relevance of sources used in academic writing. This aspect is also closely related to concerns about academic integrity and the chatbot's ability to assist in the scientific verification process. Third, in terms of structure, students gave positive assessments of chatbots' contributions in helping them organize their theses systematically and in accordance with academic standards. Chatbots are considered capable of facilitating idea development, clarifying thought flow, and designing a more organized writing framework. Fourth, in terms of cohesion and coherence, students' perceptions are also positive. They assessed that the chatbot has the ability to correct logical errors and contradictions in the text, as well as help structure arguments in a more organized and convincing manner. Fifth, regarding references, the majority of students reported that the chatbot helped improve their ability to format citations and bibliographies in accordance with established standards. Additionally, the chatbot was also deemed beneficial in the paraphrasing process to avoid plagiarism.

Despite providing valuable insights into higher education students' perceptions of chatbot use in writing their English final paper, this study focused primarily on students' perceptions through a quantitative survey design, which became a limitation that should be acknowledged. Although this approach provides a broad overview of students' attitudes, it did not fully capture the underlying reasons behind the participants' responses, particularly their concerns about the credibility of chatbot-generated information and their reluctance to rely on AI in academic writing. As a result, the findings cannot fully explain the factors that influence students' acceptance or resistance toward chatbot use.

Therefore, future researchers are encouraged to employ qualitative or mixed-methods approaches to gain a deeper understanding of students' experiences with chatbots. Methods such as interviews or reflective journals could provide richer insights into how students perceive the benefits and limitations of chatbots, the challenges they encounter when using the tools, and the factors that shape their trust, acceptance, and continued use of AI-assisted writing technologies. Such approaches would complement the quantitative findings and contribute to a more comprehensive understanding of students' interactions with chatbots.

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