

*Research Article***An Investigation into the Usage of ChatGPT in Academic Writing by EFL University Students in North and East Syria: A Cross-Sectional Study**Noman Ali Othman ^{1,*} ¹ Translation Department, Faculty of Language and Literature, Rojava University, Qamishli, 47300, Syria

*Corresponding Author: Noman Ali Othman, E-mail: nomanothman99@gmail.com

Article Info	Abstract
Article History	This study investigates the role of ChatGPT in enhancing academic writing skills among EFL university students in North and East Syria (NES). With limited access to resources and timely feedback in traditional educational settings, EFL students frequently encounter difficulties in developing effective writing proficiency. Through a quantitative approach involving 350 third- and fourth-year students from Rojava University, this research reports students' perceptions of ChatGPT, the perceived advantages, and the linguistics and pedagogical challenges of using ChatGPT. The findings reveal that students perceive ChatGPT as a highly supportive tool in various aspects of writing, including idea generation, grammar correction, vocabulary enrichment, and overall clarity. Despite these positive perceptions, concerns were noted regarding the tool's potential to affect students' originality, writing style, and ability to evaluate AI-generated content critically. The study concludes with recommendations for educators to integrate ChatGPT in academic writing instruction while encouraging reflection and critical engagement. Limitations and future research directions are discussed in the article.
Received Apr 22, 2025	
Revised Jun 09, 2025	
Accepted Jun 11, 2025	
Keywords	
Academic writing	
ChatGPT	
EFL students	
North and East Syria	
Cross-sectional study	

**Copyright:** © 2025 Noman Ali Othman. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY 4.0) license.**1. Introduction**

The integration of Artificial Intelligence (AI) tools in education has gained remarkable momentum, especially in English as a Foreign Language (EFL) context (AbdAlgané & Othman, 2023). Among these, ChatGPT, a powerful AI language model developed by OpenAI, has been increasingly adopted in EFL classrooms due to its potentials to provide immediate feedback and real-time assistance in improving students' writing skills (Marzuki et al., 2023). As Baskara (2023) points out, ChatGPT's capacity to generate human-like texts can serve as a source of motivation for students, guiding them in areas such as vocabulary, grammar, and syntax. In addition, Haleem et al. (2022) emphasize that the incorporation of digital utilities in education offers a more creative pedagogical experience, improving students' engagement and writing quality. Similarly, Mahapatra (2024) noted the significant positive effect of using ChatGPT as a feedback tool on students' writing skills. Moreover, Barrot (2023) further argues that ChatGPT, equipped with a vast

amount of information drawn from diverse sources, can generate human-like responses on various topics. As a result, learners can benefit from it by correcting grammar errors and using appropriate vocabulary in writing tasks. Likewise, Aljohani, (2021) affirmed that artificial intelligence is an effective tool for developing English language skills. Song and Song (2023) also highlighted that the use of AI tools, including ChatGPT, in academic writing significantly improves the quality of written texts by providing academic writing ideas, grammatically accurate sentences, and appropriate linguistic resources.

Furthermore, Alkamel and Alwagieh (2024) observed that the majority of EFL students showed positive opinions towards using ChatGPT in academic writing. Many participants found ChatGPT easy to use due to its features of being accessible anytime and anywhere. Teng (2024) found that EFL students perceived ChatGPT as beneficial in several aspects of their writing experience. Many of them reported increased self-efficacy and confidence in their writing skills. In line with this, Ali et al. (2023) stated that ChatGPT fosters EFL students' autonomous learning, allowing them to take control of their language development. Similarly, Chukwuere (2024) emphasized ChatGPT's advantages in language generation and interactive learning. Its ability to produce linguistically coherent responses similar to human communication makes it a valuable tool for writing support. Likewise, Song and Song (2023) expressed students' overwhelmingly positive attitudes towards AI- assisted writing instruction, highlighting its innovative nature and practical assistance. Many participants linked ChatGPT to improvement in grammar, vocabulary, and overall writing proficiency.

However, despite these advantages, concerns have emerged regarding ChatGPT's limitations in academic writing contexts. A growing body of research warned that ChatGPT, like other AI technologies, is susceptible to biased information, unintentional plagiarism, and diminished creativity. Baskara (2023) cautions that if the training data is not diverse or representative, the tool can produce biased outputs that affect both quality and reliability. Dergaa Ismail et al. (2023) similarly emphasized that ChatGPT's lack of source attribution may lead to accidental plagiarism or misattribution of ideas. Niloy et al. (2024) further highlighted the potential erosion of students' original thinking and elaboration, identifying a harmful connection between ChatGPT use and reduced creative writing skills. These issues, especially plagiarism, bias, and reduced creativity, formed the core concerns that triggered the present study. While such challenges have been noted globally, they remain underexplored in EFL-specific settings where writing development is already hindered by systemic constraints.

Fitria (2021) noted that technology was designed to enhance human activities and post productivity. In recent years, the rise of Artificial Intelligence (AI) tools such as ChatGPT has significantly influenced academic writing practices, offering learners instant feedback, Al Mahmud, (2023), idea generation, Imran and Almusharraf (2023), and grammar correction (Hoa & Khoa, 2024). These tools are increasingly integrated into educational environments, including English as a foreign language (EFL) context. However, concerns have emerged regarding student' over-reliance on AI-generated content, Huang and Tan (2023), reduced critical engagement, and potential declines in creativity and originality. For EFL university students in particular, these challenges are compounded by existing difficulties in mastering academic writing conventions. Issues such as misattribution ideas, accepting AI-generated content uncritically, and difficulty in maintaining personal writing style are especially pronounced in setting where writing instruction is limited. In the context of (NES), the challenges of academic writing are even more pronounced. EFL university students in the region face persistent limitations, including inadequate instructional resources, insufficient writing practice opportunities, and a lack of timely, detailed feedback due to instructor workload and infra-structural constraints. These contextual barriers have contributed to noticeable difficulties in developing coherence, organization, and linguistic accuracy in academic writing. Although ChatGPT holds promise as a supplemental writing aid, offering immediate and personalized feedback, its role in such under-resources contexts remains unclear.

Taken together, these conditions, both tool-specific and regional limitations, point to an urgent need for empirical inquiry. While global discourse tends to emphasize the general benefits of AI in education, there is limited evidence on how ChatGPT specifically affects EFL academic writing performance, particularly in underserved regions like NES. Moreover, the linguistic and pedagogical challenges tied to its use remain largely undocumented. Therefore, this study aimed to investigate the role of ChatGPT in EFL university students' academic writing and to identify the main challenges they encountered while using it in the context of NES. By focusing on both the potential benefits and limitations of ChatGPT in this setting, the study sought to offer practical insights for educators, policymakers, and students aiming to harness AI for writing development without compromising academic integrity or creativity. To this end, the following research questions were posed:

1. How does the use of ChatGPT affect EFL university students' academic writing in terms of coherence, originality, elaboration, and language accuracy?
2. What are the challenges encountered by EFL university students in using ChatGPT?

2. Materials and Methods

2.1. Research Design

The research design adopted in this study is a quantitative descriptive survey, selected for its suitability in capturing large-scale patterns and perceptions in a systematic and generalizable manner. Creswell (2015) defined quantitative research as a structured process of collecting and analyzing numerical data to understand variables of interest. This design enabled objectivity and control, allowing researchers to remain unbiased throughout data collection and interpretation. The rationale for employing a quantitative survey design was directly tied to the research objectives, which sought to examine students' usage patterns of ChatGPT and the challenges they encountered in academic writing. The use of structured Likert-scale questionnaire allowed the researcher to quantify perceptions related to specific aspects of writing, such as coherence, originality, elaboration, and language accuracy, as well as to capture consistent data on challenges like over-reliance or difficulties with critical engagement.

In the context of (NES), where the higher education system continues to recover from years of political instability, the use of this design was particularly relevant. EFL students in this region faced limited writing support, digital literacy constraints and increasing exposure to generative AI tools without institutional guidance. A descriptive survey design enabled broad participation and helped reflect the voices of students across different genders, academic levels, and social backgrounds. The large sample size ($n=350$) also ensured meaningful generalization within the local context. Ultimately, this research design enhanced the credibility, relevance, and local applicability of the findings, offering practical insights for educators, curriculum developers, and policymakers in under-resourced educational environments. It also provided a data-driven foundation for future research, including comparative or longitudinal studies exploring AI-assisted writing in similar post-conflict settings.

2.2. Participants

The study targeted all undergraduate EFL students at Rojava University in Qamishli, with an estimated population of 3,000. A representative sample of 350 students was selected using Krejcie and Morgan's (1970) table to ensure statistical reliability. The details of the participants are shown in Table 1 below.

The target population of this study comprised all undergraduate EFL students enrolled at Rojava University, located in Qamishli city, within NES region. Based on recent institutional records, the total number of EFL students at the university was estimated at approximately 3,000. To ensure representativeness and

statistical reliability, a sample size of 350 students was determined using Krejcie and Morgan's (1970) sample size table, as cited by Bukhari (2021). This sample was considered appropriate for a population of this size and allowed generalization insights into students' use of ChatGPT in academic writing.

Table 1. Distribution of Participants by Academic Year and Gender

	Category	Frequency	Percent	Cumulative Percent
Academic Year	Third year	226	64.6%	64.6%
	Fourth year	124	35.4%	100.0%
	Total	350	100.0%	
Gender	Male	105	30.0%	30.0%
	Female	245	70.0%	100.0%
	Total	350	100.0%	

2.3. Research Instrument

In order to collect quantitative data regarding EFL students' experiences with ChatGPT-assisted writing, a structured questionnaire was employed, consisting of 20 Likert-scale items adopted from Alkamel and Alwagieh (2024). The instrument systematically measured key constructs related to the use of ChatGPT in academic writing, including students' confidence, motivation, perceived ease of use, and perceived benefits and challenges associated with the tool. The questionnaire was organized into three thematic dimensions: items 1 to 10 explored students' general perceptions and attitudes towards using ChatGPT in academic writing; items 11 to 16 examined perceived benefits, while items 17 to 20 addressed challenges encountered during the use of the tool. Responses were recorded on a five-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1). This structure facilitated the quantifications of subjective experiences and enabled statistical analysis aligned with the research's objectives.

2.4. Data Collection Procedures

The data for this study were collected from Rojava University in Qamishli city, located in NES region. Prior to data collection, ethical approval was obtained from the Ethical Committee of the University of Kobane. To facilitate the distribution process, a digital questionnaire was created using Google Forms and shared with students through official university WhatsApp groups managed by department coordinators and class representatives. A general invitation was sent to all third and fourth-year students, briefly outlining the study's purpose and emphasizing that participation was entirely voluntary. The questionnaire included a consent section at the beginning, assuring participants of the anonymity and confidentiality of their responses. Recruitment relied on both broad outreach and follow-up reminders shared over 10-day data collection period. This multi-step approach helped ensure a sufficient number of responses, ultimately reaching

a final sample size of 350 participants, considered statistically appropriate for a population of approximately 3000 as determined by Krejcie and Morgan's table.

2.5. Data Analysis

The quantitative data collected from the structured questionnaire were analyzed using SPSS version 25. Responses, recorded on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), were subjected to descriptive statistical analysis, including frequencies, means, and standard deviations. These statistical techniques were chosen to summarize student perceptions and experiences regarding the use of ChatGPT in academic writing. The analysis addressed both research questions: the first concerning how students perceived the effect of ChatGPT on various aspects of academic writing such as coherence, originality, elaboration, and language accuracy. It also addressed the second research question focusing on the types of challenges students encountered during the tool's use. The descriptive findings provided empirical insights into these areas, particularly within the underexplored context of EFL university education in NES.

3. Results

This section presented the quantitative findings from the structured questionnaire administrated to 350 EFL university students. The results were organized around the study's two primary research questions. The first subsection explored students' perceptions of ChatGPT's role in improving academic writing, while the second highlighted specific challenges encountered during its use. Each subsection included descriptive statistics displayed in tables, followed by interpretation and discussion of key trends.

3.1. Perceptions of ChatGPT's Influence on EFL University Students' Academic Writing

Table 2. Participants' Views on the Effectiveness of ChatGPT in Academic Writing

	N	Mean	Std. Deviation
ChatGPT accurately understood and responded to my writing prompts and requirements.	350	3.77	.843
The features contained in ChatGPT are very easy for students to understand.	350	3.76	.864
ChatGPT is very easy to access and use anywhere and anytime.	350	3.87	.956
The use of ChatGPT makes me more comfortable in academic writing.	350	3.81	.891
ChatGPT saved my time and effort in the academic writing process.	350	3.97	.889
ChatGPT helps in generating creative ideas for academic writing.	350	3.93	.853
ChatGPT improves the efficiency and productivity of academic writing.	350	3.77	.844
Using ChatGPT as an AI-based tool in my academic writing improves the quality of the writing.	350	3.66	.912
ChatGPT provided valuable insights and suggestions for enhancing the content of my academic writing.	350	3.76	.843
ChatGPT is a good tool to improve my language usage and grammar in writing.	350	3.85	.798

The item “ChatGPT saved my time and effort in the academic writing process” ($M = 3.97$, $SD = 0.889$), received the highest mean score, suggesting that a significant number of students viewed ChatGPT as an efficient and time-saving writing aid. This was closely followed by “ChatGPT helps in generating creative ideas for academic writing” ($M = 3.93$, $SD = 0.853$), and “ChatGPT is very easy to access and use anywhere and anytime” ($M = 3.87$, $SD = 0.956$). In addition, the statement “ChatGPT is a good tool to improve my language usage and grammar in writing” ($M = 3.85$, $SD = 0.798$), received strong agreement with the lowest standard deviation among all the items, indicating a high level of consensus among students. The remaining items received mean scores ranging between 3.76 and 3.81, reflecting moderate to strong agreement. For instance, the item “The use of ChatGPT makes me more comfortable in academic writing” ($M = 3.81$, $SD = 0.891$), and “ChatGPT accurately understood and responded to my writing prompts and requirements” ($M = 3.77$, $SD = 0.843$) also received favorable evaluations. However, the item “Using ChatGPT as an AI-based tool in my academic writing improves the quality of the writing” recorded the lowest mean score ($M = 3.66$, $SD = 0.912$). Although the overall perceptions remained positive, the relatively lower mean and higher standard deviation for this item suggested variation in how students evaluated ChatGPT’s direct contribution to writing quality.

The study revealed that EFL university students generally held positive perceptions of ChatGPT’s role in their academic writing. All questionnaire items scored above the neutral midpoint, with the highest ratings given to ChatGPT’s ability to save time and effort, generate creative ideas, and offer easy access. Students also strongly agreed that it helped improve language use and grammar, showing high consensus. While most items reflected moderate to strong agreement, the statement about ChatGPT improving overall writing quality received the lowest mean, indicating some variation in students’ views on its effectiveness in enhancing writing outcomes.

3.2. ChatGPT’s Role in Enhancing Specific Aspects of Academic Writing

Table 3. Students’ Perceptions of ChatGPT’s Impact on Academic Writing Skills

	N	Mean	Std. Deviation
ChatGPT has helped me enhance my paraphrasing skills in my academic writing.	350	3.74	.891
ChatGPT effectively assisted me in getting ideas and information for my writing.	350	3.99	.732
Using ChatGPT enhances my ability to express complex ideas in my academic writing.	350	3.88	.819
Using ChatGPT has improved my overall writing style and language usage.	350	3.65	.898
ChatGPT has provided me with new perspectives and insights that I hadn’t considered in my academic writing.	350	3.78	.853
Using ChatGPT improves the clarity and coherence of my academic writing.	350	3.75	.800

Table 3 summarized the responses of six items that examined students' perceptions of ChatGPT's role in enhancing specific aspects of academic writing, including paraphrasing, content development, idea expression, writing style, and coherence. Among these, the item "ChatGPT effectively assisted me in getting ideas and information for my writing" ($M = 3.99$, $SD = 0.732$) received the highest mean score, followed by "Using ChatGPT enhances my ability to express complex ideas in my academic writing" ($M = 3.88$, $SD = 0.819$). These findings suggested that many students perceived a clear improvement in their ability to communicate more sophisticated concepts with the help of ChatGPT. Furthermore, other items received similarly positive ratings. For instance, "ChatGPT has provided me with new perspectives and insights that I hadn't considered in my academic writing" recorded a mean of 3.78 ($SD = 0.853$), while "ChatGPT has helped me enhance my paraphrasing skills in my academic writing" received a mean of 3.74 ($SD = 0.891$). In addition, the item "Using ChatGPT improves the clarity and coherence of my academic writing" received a moderately strong mean ($M = 3.75$, $SD = 0.800$). However, the item "Using ChatGPT has improved my overall writing style and language usage" ($M = 3.65$, $SD = 0.898$), received the lowest mean score. This result suggested that some variability in students' experiences regarding the extent to which ChatGPT contributed to broader stylistic development.

3.3. Challenges Encountered by EFL Students While Using ChatGPT

Table 4. Potential Difficulties Encountered by Students while Using ChatGPT

	N	Mean	Std. Deviation
One challenge I faced while using ChatGPT for academic writing was the generation of irrelevant or off-topic responses.	350	3.26	1.062
I find it challenging to adapt my writing style to suit the suggestions provided by ChatGPT.	350	3.51	.875
I faced challenges in distinguishing between accurate and inaccurate suggestions provided by ChatGPT for my academic writing.	350	3.54	.871
I found it challenging to maintain my own writing style and originality while using ChatGPT for academic writing.	350	3.48	.957

Despite the positive perceptions, several challenges related to the use of ChatGPT for academic writing were reported. As presented in Table (4), the descriptive statistics for four questionnaire items captured students' agreement with a set of predefined challenges. Mean scores ranged from 3.26 to 3.54, reflecting moderate recognition of these difficulties. The highest mean score was associated with the item "I faced challenges in distinguishing between accurate and inaccurate suggestions provided by ChatGPT for my academic writing" ($M = 3.54$, $SD = 0.871$), indicating concerns about evaluating the reliability of AI-generated content.

Similarly, students noted difficulties in aligning ChatGPT's suggestions with their own style: "I find it challenging to adapt my writing style to suit the suggestions provided by ChatGPT" ($M = 3.51$, $SD = 0.875$), and "I found it challenging to maintain my own writing style and originality while using ChatGPT for academic writing" ($M = 3.48$, $SD = 0.957$). The item "One challenge I faced while using ChatGPT for academic writing was the generation of irrelevant or off-topic responses." received the lowest ($M = 3.26$, $SD = 1.062$) yet still indicated notable concern.

In summary, the results revealed that most students perceived ChatGPT positively in terms of improving various aspects of academic writing, such as idea generation, grammar accuracy, and content development. However, concerns were also raised regarding the reliability of AI-generated content, difficulties in maintaining originality and style, and occasional off-topic responses. These findings provided foundational insights into both benefits and challenges of using ChatGPT in EFL academic context like NES, informing future pedagogical strategies and tool integration.

4. Discussion

This study aimed to explore EFL university students' perceptions of ChatGPT's influence on academic writing and challenges they faced while using this tool. The findings contributed to the growing discourse on AI integration in second language writing by offering context-specific insights from a lower-resources, post-conflict educational setting. The generally positive perception of ChatGPT's support in writing, particularly in grammar correction, idea generation, and coherence. Aligned with the findings of Song and Song (2023), Mahapatra (2024), and Barrot (2023), who observed that ChatGPT enhanced writing fluency and lexical richness. These improvements, as seen in this study, reflected a surface-level enhancement that might not necessarily equate to deeper academic development such as argumentation or critical synthesis.

Theoretically, these findings interpreted through Vygotsky's sociocultural theory, especially the concept of the Zone of Proximal Development (ZPD). ChatGPT served as a mediational tool, offering scaffolding that enabled students to produce texts slightly beyond their independent ability (Wibowo et al., 2024). This aligned with Chukwuere (2024), who identified AI as a dynamic peer-like support. However, without educator-guided mediation, this tool might create a false sense of proficiency, potentially hindering the internalization of academic convention. While the tool enhanced efficiency and confidence, its limitations became apparent in areas demanding creativity, critical thinking, and personal voice, concerns echoed

in Baskara (2023) and Niloy et al. (2024). Students reported difficulty in distinguishing between accurate and inaccurate content, and in maintaining originality and stylistic identity. These challenges were not merely technical but epistemological; AI-generated content lacked authorial intent, which was fundamental to academic integrity.

The presence of unintentional plagiarism, noted by Dergaa et al. (2023), reflected a broader dilemma in AI-mediated writing, how to balance generative convenience with responsible authorship. The NES context added urgency to this issue. In environments where qualified writing instruction and consistent feedback were lacking, students resorted to AI tools as substitutes rather than supplements. This raised pedagogical concerns, especially when digital literacy and evaluative judgment remained underdeveloped. Moreover, while prior studies like Teng (2024) and Ali et al. (2023) emphasized the motivational effects of ChatGPT, the present study nuanced this view. Motivation was present, but it was intertwined with dependency. If students were not taught to critically engage with AI feedback, they risked becoming passive recipient rather than active writers, undermining one of the core items of higher education.

The findings reinforced the value of ChatGPT as an assistive writing tool but also revealed its pedagogical risks. Theoretically grounded in sociocultural learning and informed by recent empirical studies, this discussion highlighted the need for guided AI use, particularly in vulnerable contexts like NES. Educators must move beyond mere tool adoption toward intentional, scaffolded integration that promotes learner agency, critical thinking, and ethical writing practices.

5. Pedagogical Recommendations

Considering the participants' positive perceptions of ChatGPT's role in enhancing coherence, clarity, and overall writing mechanics, it is recommended that instructors and curriculum designers in EFL contexts integrate ChatGPT into academic writing courses as a supportive tool. As ChatGPT was demonstrated to be helpful in idea generation, instructors are encouraged to promote its use during the pre-writing stage in the writing process. Additionally, participants appreciated the time and effort saved through ChatGPT, suggesting its value as a means of enhancing planning and efficiency in academic writing. ChatGPT's effectiveness in improving grammar, vocabulary, and paraphrasing supports its use as a grammar checking and vocabulary-enhancing resource. Nevertheless, instructors are recommended to guide students to critically evaluate and reflect on the ChatGPT's suggestions rather than accepting them as they are.

6. Conclusion

This study explored the perceptions and experiences of EFL university students in NES regarding the use of ChatGPT in academic writing. Drawing data from 350 participants, the findings indicated that students generally perceived ChatGPT as a valuable tool for enhancing idea generation, grammar accuracy, content development, and coherence. These insights confirmed the potential of AI-assisted writing in contexts where traditional writing support and instructor feedback are limited. However, the study also identified notable challenges. Students reported difficulties in critically evaluating AI-generated content, preserving originality, and alignment AI suggestions with their own style. These findings underscored the dual nature of AI tool; while offering surface-level improvement, they unintentionally hindered deeper cognitive engagement and independent authorship if not properly mediated.

Despite its contribution, this study was subject to several limitation: First, the reliance on self-reported survey data introduced social desirability or recall bias. Second, the study's cross-sectional designed captured perceptions at a single point in time and does not account for how students' use of ChatGPT evolved. Third, the sample was limited to one university in NES, which might restrict the generalizability of the results to other regions or institutions with different pedagogical, technological, or cultural contexts. Additionally, the absence of qualitative data limited the depth of understanding regarding students' lived experiences.

Future studies could explore several key areas. Longitudinal or experimental research might reveal how continued use of ChatGPT influences writing skills over time. Qualitative methods, such as interviews or focus groups could offer deeper insight into students' experiences and contextual challenges. Investigating the role of teacher support and classroom practices might help clarify how guided use could reduce overreliance. Additionally, cross-institutional or international comparisons could highlight cultural and educational differences in AI-assisted writing adoption and outcomes.

By reflecting on these limitations and future pathways, this study contributed a more nuanced understanding of AI's role in EFL writing instruction, particularly in under-resources, post-conflict contexts. Thoughtful, guided integration of tools like ChatGPT, grounded in pedagogical theory and tailored to local needs, could help bridge educational gaps while preserving academic integrity and fostering student agency.

Acknowledgements: I would like to express my sincere gratitude to the participants from the Rojava University in NES whose support and contributions made this study possible.

Data Availability Statement: Data are available upon request.

Funding: The author declares that no funding was received for this research.

Declaration of Competing Interest: The author declares that he has no known competing of interest.

Research Involving Human Participants: This study adhered to the ethical guidelines of the Declaration of Helsinki and National Laws. The study approved by Ethical Committee of the University of Kobani. Participants were informed about the research regulations. Written Informed consent was obtained from all participants.

References

- AbdAlgane, M., & Jabir Othman, K. A. (2023). Utilizing artificial intelligence technologies in Saudi EFL tertiary level classrooms. *Journal of Intercultural Communication*, 23(1), 92-99. <https://doi.org/10.36923/jicc.v23i1.124>
- Al Mahmud, F. (2023). Investigating EFL Students' Writing Skills Through Artificial Intelligence: Wordtune Application as a Tool. *Journal of Language Teaching & Research*, 14(5), 1395-1404. <https://doi.org/10.17507/jltr.1405.2>
- Ali, J. K., Shamsan, M.A., Hezam, T. A., & Mohammed, A. A. (2023). Impact of ChatGPT on learning motivation: Teachers and students' voices. *Journal of English Studies in Arabia Felix*. 2(1). 41-49. <http://dx.doi.org/10.56540/jesaf.v2i1.51>
- Aljohani, R. A. (2021). Teachers and students' perceptions on the impact of artificial intelligence on English language learning in Saudi Arabia. *Journal of Applied Linguistics and Language Research*, 8(1), 36-47. <https://jallr.com/index.php/JALLR/article/view/1156>
- Alkamel, M. A. A., & Alwagieh, N. A. S. (2024). Utilizing an adaptable artificial intelligence writing tool (ChatGPT) to enhance academic writing skills among Yemeni university EFL students. *Social Sciences & Humanities Open*, 10, 101095. <https://doi.org/10.1016/j.ssaho.2024.101095>
- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *ScienceDirect*, 57, 10075. <https://doi.org/10.1016/j.asw.2023.100745>
- Baskara, F. R. (2023). Integrating ChatGPT into EFL writing instruction: Benefits and challenges. *International Journal of Education and Learning*. 5(1), 44-55. <https://doi.org/10.31763/ijele.v5i1.858>
- Bukhari, A. R., (2021). Sample Size Determination Using Krejcie and Morgan Table. *Available online:* <http://dx.doi.org/10.13140/RG.2.2.11445.19687>
- Chukwuere, J. E. (2024). Today's academic research: The role of ChatGPT writing. *Journal of Information Systems and Informatics*, 6(1), 30-46. <https://doi.org/10.51519/journalisi.v6i1.639>
- Creswell, J. W. (2015). *Education research: Planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Pearson.
- Dergaa, I., Chamari, K., Zmijewski, P., & Saad, H. B. (2023). From human writing to artificial intelligence generated text: examining the prospects and potential threats of ChatGPT in academic writing. *Biology of Sport*, 40(2), 615-622. <https://doi.org/10.5114/biol sport.2023.125623>
- Fitria, T. N. (2023, March). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. In *ELT Forum: Journal of English Language Teaching*, 12(1), 44-58. <https://doi.org/10.15294/elt.v12i1.64069>
- Haleem, A., Javaid, M., & Singh, R. P. (2022). An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges. *Bench Council Translations on Benchmarks, Standards and Evaluations*, 2(4), 100089. <https://doi.org/10.1016/j.tbench.2023.100089>

- Hoa, V. X., & Khoa, N. H. (2024). English-majored students' perceptions of using ChatGPT in English writing. *International Journal of Science and Management Studies (IJSMS)*, 7(4), 71-78. <https://doi.org/10.51386/25815946/ijms-v7i4p109>
- Huang, J., & Tan, M. (2023). The role of ChatGPT in scientific communication: writing better scientific review articles. *American Journal of Cancer Research*, 13(4), 1148. <https://e-century.us/files/ajcr/13/4/ajcr0150104.pdf>
- Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. *Contemporary Educational Technology*, 15(4), ep464. <https://doi.org/10.30935/cedtech/13605>
- Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Springer Open*, 11(9), 259. <https://doi.org/10.1186/s40561-024-00295-9>
- Marzuki, Widiati, U., Rusdin, D., Indrawati, D., & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. *Cogent Education*, 10(2), 2236469. <https://doi.org/10.1080/2331186X.2023.2236469>
- Niloy, A. C., Akter, S., Sultana, N., Sultana, J., & Rahman, S. I. U. (2024). Is ChatGPT a menace for creative writing ability? An experiment. *Journal of Computer Assisted Learning*, 40(2), 919-930. <https://doi.org/10.1111/jcal.12929>
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, 14, 1260843. <https://doi.org/10.3389/fpsyg.2023.1260843>
- Teng, M. F. (2024). "ChatGPT is the companion, not enemies": EFL learners' perceptions and experiences in using ChatGPT for feedback in writing. *Computers and Education: Artificial Intelligence*, 7, 100270. <https://doi.org/10.1016/j.caeai.2024.100270>
- Wibowo, S., Wangid, M. N., & Firdaus, F. M. (2025). The relevance of Vygotsky's Constructivism Learning Theory with the differentiated learning primary schools. *Journal of Education and Learning (EduLearn)*, 19(1), 431-440. <https://doi.org/10.11591/edulearn.v19i1.21197>