

Using ChatGPT for Research Writing: Perspectives of Jordanian EFL Learners

DOI: <https://doi.org/10.33806/ijaes1243>

Raeda Ammari
Amman Arab University, Jordan

Esraa Hantouleh
The University of Jordan, Jordan

Received: 29.11.2025

Accepted: 5.10.2026

Published Online: 7.10.2026

Abstract This study investigates the extent to which EFL learners employ ChatGPT in research writing. Using simple random sampling, a total of 64 undergraduates enrolled in a Research Writing course at Amman Arab University were surveyed with a questionnaire. The students were asked about the section in which they used ChatGPT most and the reasons behind this. Moreover, the paper explains how their educators can help them overcome the difficulties in writing. The questionnaire included 14 items, and the data collected were analyzed in terms of frequencies and percentages. Results show that the majority of students find writing a research problem challenging, with a lack of English fluency being a prominent reason. Students suggest that their instructors should hold workshops or training sessions on how to write this specific section so that they can improve their writing. Next, a focus group discussion with 15 students was held to reflect on these results. The focus group partially agreed with the results, but they found the literature review more challenging for the same reason, as students had never been taught how to write it properly. This study provides valuable insights from Jordanian learners themselves for educators seeking to improve their students' research writing skills.

Keywords: AI, ChatGPT, EFL learners, Jordanian EFL students, research writing

1. Introduction

In today's digital world, teaching and learning English have increasingly incorporated various technologies over the last decade. AI tools, especially ChatGPT, an extraordinary emerging technology, have gained attention for their potential to enhance language learning through advanced natural language processing that simulates human conversation and offers personalized practice (D. Ginting and Barella 2022; George and Wooden 2023).

Jordanian students seek academic success in English proficiency, which is crucial for global trade, education, and communication (Al Ahmad et al. 2025; Malkawi et al. 2025; Tarawneh et al. 2026). Therefore, students want to improve their English proficiency through new learning styles, such as activities and class engagement rather than traditional teaching. Over time, conventional teaching has depended on memorization and monotonous exercises; however, it has proven ineffective and insufficient. Consequently, students prefer personalized learning experiences (D. Ginting and Barella 2022; Teng, Wu and Yang 2022; Yu et al. 2025). Typically, most writing courses focus on strategies to improve students' ability to write

research papers, use academic language, and reference correctly (Alajalein and Almahameed 2021; Zhao, Sbaffi and Cox 2025). In addition, research skills courses concentrate on critical thinking and avoiding plagiarism (Mendoza et al. 2022; Cheong et al. 2023; Schillings et al. 2023).

In our dynamic world, students tend to enjoy learning through ChatGPT more than lessons and reading books. The traditional method cannot catch their attention, encourage learning, or improve class engagement. On the other hand, ChatGPT can be used creatively to provide various teaching styles and techniques, such as gamification, interactive exercises, and virtual conversations (Omar et al. 2024). However, the most challenging skill in learning any given language is writing. Writing is the summative knowledge of all students' linguistic repertoire, beliefs, and feelings combined in a piece of writing. In the process of learning writing skills, students require a lot of correction, guidance, and continuous assessment (Alsmari 2021). Unfortunately, a vast gap exists in this regard, where beginners face a great challenge in writing an academic paper. Eventually, students rely heavily on AI-powered tools like ChatGPT, Grammarly, and QuillBot to correct, enhance, or paraphrase their work and feel confident (Bhatia 2023; Cheong et al. 2023).

Although students may improve their writing ability, teachers are concerned about ethical issues: authorship, originality, and plagiarism. Various studies highlight the benefits of using AI tools in learning, while others reveal the need for human supervision and citation precision (Malik et al. 2024). Moreover, students should learn how to provide correct citations to avoid any plagiarism and maintain academic integrity. By adhering to citation guidelines, students may confirm the benefits of ChatGPT's effective use (Jarrah, Wardat and Fidalgo 2023). Further advantages of ChatGPT for higher education: Baskara and Mukarto (2023) highlighted the exaggeration of its potential by advocating for large-scale adoption without effectively addressing the technical and educational challenges; such integration may help students to be more involved in the learning process.

Integrating technology into teaching and learning English made it easy for educators to design materials and challenging tasks (Cope, Kalantzis and Sears-Smith 2021; Alsariera and Alsarairih 2024). With the increasing prevalence of technology in language education, educators must adapt accordingly. ChatGPT demonstrates the potential of AI in this field due to its advanced, sophisticated natural language processing. Božić and Poola (2023) described ChatGPT as a type of generative pre-trained transformer language model that has been specifically trained to generate text in response to natural language inputs. The program helps learners to practice human-like conversation in diverse applications, such as chatbots, language translation tools, and virtual assistants. Furthermore, ChatGPT can aid in material development and assessment, highlighting its potential to improve EFL education where a large number of instructors have a positive attitude towards using AI tools in teaching (Al-Sofi 2024; Chukwuere 2024; Mudawy 2024).

In light of the rapid technological developments in our modern world and the increased reliance on AI models, with ChatGPT being the most popular, this paper aims to investigate how university students majoring in the English language employ ChatGPT in research writing. In addition, the paper explores which sections of a

research paper students mostly use ChatGPT for writing and the reasons behind using it to write these sections. Finally, the paper takes the students' opinions on suggested practices that may help them improve their research writing skills and, therefore, start to rely more on themselves while writing research papers. The paper seeks to achieve these objectives by adopting the Technology Acceptance Model (TAM3) introduced by Venkatesh and Bala (2008). This model was built on Davis's (1986) foundational TAM model. More specifically, the paper aims to answer the following research questions:

- (1) Which is the most challenging section of the research paper for students?
- (2) What is the reason behind using ChatGPT while writing a research paper?
- (3) What is the most effective way to help students overcome the obstacles faced in a written research paper?

While research done in this area primarily focuses on investigating the usage of AI in education, there are no studies that have investigated the usage of AI, ChatGPT in particular, as a research writing tool. In addition, no studies have focused on exploring the reasons that Jordanian students learning English as a foreign language employ ChatGPT in their research projects and why they have to resort to using AI rather than depending on their own understanding of the research topic. Therefore, a significant gap in the current literature will be filled by investigating these aspects, drawing special attention to the solutions that the students provide so that they will be able to write research papers independently. The following section provides a general background on the negative aspects of using ChatGPT, TAM, and previous related studies.

2. General background

2.1 Technology acceptance model (TAM)

Davis (1986) introduced TAM to measure how likely people are to adopt a particular technology. The model relies on five main factors. First, perceived usefulness (PU), which is the degree to which an individual perceives a technology as beneficial for improving their work. Second, perceived ease of use (PEOU), referring to the extent to which a person expects that the technology can be employed in their work without requiring extra effort. Third, the attitude toward using that technology (ATU) indicates whether a potential user of that particular technology has positive or negative feelings toward it. Fourth, behavioral intention (BI), which describes the extent to which a user plans to use the technology in the future. Fifth, the actual system usage. This is the stage where a person adopts the technology. In 2000, Venkatesh and Davis abandoned ATU and extended the model to include two groups of factors that affect PU. First, social influence factors. These are subjective norm, image, and voluntariness. Second, cognitive instrumental factors. These include job relevance, output quality, and results demonstrability.

Venkatesh and Bala (2008) introduced the third version of the Technology Acceptance Model, TAM3. This version provides four key groups of factors that influence the acceptance of a technology. First, Individual differences such as computer self-efficacy, which is an individual's confidence in using the technology.

Individual differences also include perceived external control, which is the extent to which individuals perceive external factors to affect the usage of technology positively or negatively.

Additionally, it includes computer anxiety and playfulness, referring to the user's feelings about interacting with technology. Second, system characteristics. This factor includes the observed enjoyment and usability, where usability is the actual use of a system, depending on its performance. Third, social influence and organizational factors. This includes factors such as the influence of peers and superiors on an individual's decision to use the technology and the image, which is the assumption that using technology enhances their status. Lastly, it includes the facilitating factors, such as the availability of resources and support. Fourth, cognitive instrumental processes, including job relevance, output quality, and result demonstrability, where benefits are clearly noticeable after using the technology.

This paper adopts Venkatesh and Bala's (2008) TAM3 to investigate the extent to which undergraduate students use ChatGPT in research writing. In addition, this study explores which sections of research papers students most often use ChatGPT to write and the reasons they use it for these sections. Finally, the paper takes the students' opinions on suggested practices that may help them improve their research writing skills and, therefore, start to rely more on themselves while writing research papers.

2.2 Previous related studies

Examining the effect of various technologies has become a new trend among researchers aiming to adopt innovative teaching methods to enhance students' language proficiency, particularly in writing.

Al Mukhallafi (2020) investigated various strategies for effectively implementing AI in English language education from the perspective of university students. Employing an analytical descriptive approach, the research analyzes existing literature and describes AI's role and strategies in teaching and learning English. A 40-item questionnaire was administered to 44 male students to investigate various aspects, including AI strategies, applications, effectiveness, and requirements for English language teaching. The findings showed a very low level of actual employment of these AI strategies. Students highlighted the need for training sessions on how to employ AI in the learning process to understand the correct way of using such tools. Similarly, P. Ginting, Batubara and Hasnah (2023) investigated the use of AI tools by EFL learners in writing their final projects. Data were collected from fourth-year undergraduate students using convenience sampling procedures. The participants were asked to answer an open-ended questionnaire and to participate in interviews at public and private colleges in Sumatra, Indonesia. The findings revealed that students perceived AI-powered writing tools as useful tools that could help them improve their writing skills and quality.

In the same way, Hatmanto and Sari (2023) investigated the use of ChatGPT in English language teaching to enhance teaching strategies like communicative language teaching and task-based learning. The results show that using technology in the learning process enhances students' learning experience. It improves their fluency and problem-solving skills as the process becomes interactive and automated.

Although this study is creative as it employed ChatGPT to align with modern educational methods, it neglects the fact that over-reliance on such models may de-emphasize human interaction, which is one of the communicative language teaching key elements. With more than 100 million users of ChatGPT within the first two months of its launch (Kim, Shim and Shim 2023), the model can also be employed to teach business English writing within the framework of task-based learning. This is because the model showed promising potential for enhancing the overall learning experience. In addition, Bin-Hady et al. (2023) attempted to establish a foundation for using ChatGPT to assist English language learners by collecting data from 20 ResearchGate discussions and analyzing them by topics. The results eliminated the possibility of using ChatGPT as a tool to enhance feedback on their language use and mistakes in learning. Thus, the teachers explained the instructions for implementing the artificial intelligence-assisted language learning (AIAL) model, which provided several advantages, such as the teacher's role as a facilitator, the student's experience of an amusing learning style, and the encouragement of modern discoveries in the future.

Likewise, Baskara and Mukarto (2023) investigated the probability of employing ChatGPT in teaching higher education students. The researchers believe that integrating ChatGPT into language courses would help students find fluent and authentic texts where they can be involved in various language tasks. The suggestions emphasized the large-scale use of ChatGPT in higher education to teach language courses. With regard to the implementation of ChatGPT among English learners, a study by Omar et al. (2024) was conducted to assess the effectiveness of using AI in learning. An exam was given to 150 second-year students from different faculties at the University of Jordan before and after using ChatGPT. The results revealed that the students' performance improved significantly after using the model. This might be explained by the advanced logical reasoning and the use of contextual information that Dao et al. (2023) noticed. When tested, their results showed that the model answered 40 out of 50 questions correctly. The tested questions varied in their difficulty level and language skills. The model excelled in all types of questions, like reading, grammar, and writing, but struggled with questions in phonetics. Although the study highlights ChatGPT's advantages and its role in improving students' work, it raises concerns about the academic integrity that might be at risk when using such models in teaching and testing. In the same vein, Al Attar and Ashour's (2025) study underscored the possibility of employing AI in education for seventh-grade school students. The study was a Quasi-experimental one. The results showed that English as a foreign language (EFL) students' creative writing has improved.

In a more global setting, the Hong Kong study by Woo et al. (2024) was conducted in a Secondary school to evaluate the story writing of the students. A Mixed quantitative analysis was used. The study was performed in a technologically advanced educational environment. The students had the freedom to use AI-generated text due to their continuous autonomy in teaching. Božić and Poola (2023) investigated the use of ChatGPT in education. Having a language model that helps produce text in response to natural language inputs, providing feedback on grammar, pronunciation, and vocabulary, improves students' writing ability as they will have immediate

feedback (Chen et al., 2023). From the teachers' point of view, they found it easier to grade their students' essays using such models. Large language models are not only used to assist education but also to customize language learning. Amin et al. (2024) explored how ChatGPT can be utilized to cater to the language needs of students and enhance their comprehension. Mahapatra (2024) adopted a mixed-methods approach to investigate the effect of ChatGPT on writing. Samples were taken from three tests of higher education ESL students and discussion groups. The results showed that ChatGPT improved the students' writing quality significantly, especially in large classes.

Reviewing the studies on using AI in English language learning reveals several critical points. First, while Al Mukhallafi (2020) employed an analytical framework to identify AI strategies, relying on self-reported data from students might have caused bias. In addition, while Božić and Poola (2023) defined ChatGPT's role in language learning, their representation is overly optimistic and fails to acknowledge the model's limitations, such as struggling to understand context-specific terms. Also, the study did not examine how educators can address such limitations. Second, Kim et al.'s (2023) study underestimated the difficulty of adapting AI-powered tools to specific linguistic registers, one of which is formal business English. Similarly, while Bin-Hady et al. (2023) took a broader approach, focusing on using ChatGPT in various language learning contexts, the study's reliance on discussions from ResearchGate may limit the generalizability of their insights. This means that ChatGPT might not have been the best choice for providing feedback that contrasts with other studies. Third, while Mahapatra (2024) investigated how ChatGPT can assist students in writing, their study does not stress the fact that AI tools still have many limitations that make replacing human judgment impossible.

To summarize, while previous studies highlight AI's huge potential in the language learning process, they overlook its critical limitations in understanding complex linguistic terms and the ethical problems that result from over-reliance on AI in academic writing. Some studies, such as Al Attar and Ashour's (2025), worked on the advantages of AI in schools without considering the disadvantages, while other studies propose that the success of AI-supported writing instruction is shaped not only by the technology itself but also by cultural attitudes toward learning, digital readiness, and official support from organizations, as in Woo et al. (2024). The present study investigates the use of ChatGPT in research writing, which addresses a critical gap in understanding the sections of a research paper that this model is used for most by students. In addition, the study focuses on the reasons behind resorting to using ChatGPT and solutions to the problem of over-reliance on it in research writing, both provided by the students themselves. The focus on research writing courses among English major students ensures that the sample is relevant and provides valuable insights.

3. Methodology

3.1 Sample

The sample of this study included 64 English language students from Amman Arab University. Adopting simple random sampling procedures, the sample was collected from undergraduate students in the English Language and Translation course who studied Research Writing. Regarding ethical considerations, the students were informed about the general purpose of the study, and they were asked to sign an informed consent form prior to answering the questionnaire. In addition, 15 other students who have taken the same course at Amman Arab University participated in a focus-group discussion to reflect on the data collected through the questionnaire. The participants in both instruments were males and females from different academic years, all pursuing a bachelor's degree in English Language.

3.2 Instruments

In order to obtain the data for the current study, a questionnaire and a focus group discussion were utilized. The questionnaire includes 14 questions about using ChatGPT by students while writing different parts of research papers (see the Appendix). The questionnaire included three sections; each was designed to answer one of the three research questions. First, questions 1 to 9 were designed to investigate the part/parts of a research paper that students use ChatGPT the most to write. Second, question 10 was designed to gain insights from the students about the reasons that make them resort to using ChatGPT to write the section/sections they use the tool the most to write. In this particular question, the students were allowed to choose more than one option. This is in order to capture a comprehensive range of reasons for using ChatGPT in research paper writing. Third, questions 11 to 14 focused on students' perspectives on the ways in which their lecturers could help them so that their dependence on ChatGPT while writing research papers is reduced. The validity was ensured after sending it to three professors who are experts in the field. Some items were deleted or modified. In addition, a focus group discussion was held with 15 students also taking a research writing course, but from other sections, to reflect on the data collected by the 64 participants who answered the questionnaire. The participants in the discussion were students who were approached directly during their lecture and were told about the purpose of the discussion and the need for their insights regarding the data collected. The students who volunteered to participate in the focus group discussion were males and females studying English, and they were informed of the highest- and lowest-ranked answers in the questionnaire. This was to get more insights from them about what could be in between and their opinions on those answers. The focus-group discussion was held in a classroom at Amman Arab University and lasted for nearly 45 minutes, during which the participants discussed their opinions on the data collected.

3.3 Data analysis

Analyzing the data collected from the questionnaire included calculating descriptive statistics, including frequency and percentage, using Microsoft Excel. This method

helps obtain numerical data that determines the most and least challenging sections of a research paper in the students' opinion. In addition, it helps students to understand the reasons why they find that section challenging. Moreover, it provides new insights for students to find what really is going to help them overcome the obstacles they face while writing research papers. This approach is participant-centered and helps find the solutions that best fit them from their own point of view. Frequencies and percentages were calculated for all of the items of the questionnaire. As each item included five frequency options, means of the first and the third parts of the questionnaire were calculated, employing a 5-point Likert scale. The scale included 5 frequencies: always, often, sometimes, rarely, and never. They were numbered from 5 to 1, respectively. After collecting the responses using the questionnaire, the focus group discussion insights were used to reflect on the results of the data collected from the questionnaire and the statistics calculated from it.

4. Results and discussion

The data analysis shows that students rely on ChatGPT while writing research papers. The results of the first part of the questionnaire are presented in Table 1, revealing the use of ChatGPT in each section of a research paper.

Table 1. Students' usage of ChatGPT across different sections of a research paper (frequencies and percentages)

No.	Question	Always	Often	Sometimes	Rarely	Never	Mean	Rank
1.	I use ChatGPT for writing the literature review section.	5 7.81%	11 17.19%	20 31.25%	11 17.19%	17 26.56%	2.63	2
2.	I use ChatGPT for writing the introduction section.	6 9.38%	6 9.38%	19 29.69%	12 18.75%	21 32.81%	2.44	4
3.	I use ChatGPT for writing the conclusion section.	4 6.25%	6 9.38%	18 28.13%	14 21.88%	22 34.38%	2.31	8
4.	I use ChatGPT for writing the research problem section.	5 7.81%	10 15.63%	21 32.81%	15 23.44%	13 20.31%	2.67	1
5.	I use ChatGPT for writing the research questions /objectives section.	6 9.38%	8 12.5%	13 20.31%	15 23.44%	22 34.38%	2.39	6
6.	I use ChatGPT for writing the abstract section.	6 9.38%	7 10.94%	18 28.13%	11 17.19%	22 34.38%	2.44	4
7.	I use ChatGPT for writing the results section.	4 6.25%	10 15.63%	15 23.44%	12 18.75%	23 35.94%	2.38	7
8.	I use ChatGPT for writing the methodology section.	8 12.5%	5 7.81%	19 29.69%	11 17.19%	21 32.81%	2.50	3
9.	I use ChatGPT for writing the discussion section.	6 9.38%	8 12.5%	14 21.88%	15 23.44%	21 32.81%	2.42	5

Table 1 shows that students mostly used ChatGPT to write the research problem section, ranking the highest overall (mean = 2.67, Rank 1). Following this, the literature review (mean = 2.63, Rank 2), methodology (mean = 2.50, Rank 3), and introduction (mean = 2.44, Rank 4) form a prominent secondary tier of high usage, reflecting substantial academic reliance on ChatGPT for writing core components of the study. Conversely, sections such as the discussion, research questions/objectives, results, and conclusion show lower mean scores and higher proportions of rare or negative responses, indicating that students are significantly less inclined to depend on AI for writing research questions, analyzing outcomes, or writing discussions and final closures. To gain deeper insight into why students used ChatGPT in research writing, question 10 asked what led them to depend on AI for different parts of a research paper. In this question, students were allowed to choose more than one of the seven reasons listed as options to them. This was to discover the range of possibilities that caused them to resort to using ChatGPT in research writing rather than trusting

their own abilities to write their papers. Table 2 shows the students' answers on the factors that led them to use ChatGPT.

Table 2. Reasons for using ChatGPT in research writing (question 10)

Reason	Frequency	Percentage	Rank
I am not fluent enough in English and can't write independently	24	37.5%	1
I do not know how to search for information elsewhere	11	17.2%	4
I face a problem finding ideas to write about	19	29.7%	2
I feel too lazy to search for information myself, although I know where to search	12	18.8%	3
I feel that this tool saves a lot of time, unlike others that are slower	11	17.2%	4
I trust that this tool will give me the correct answers	11	17.2%	4
I use it because I do not know how to write a research paper at all	6	9.4%	5
Total number of responses	94		

A close look at Table 2 reveals that the frequencies represent the number of participants who selected each response option, and the total frequency of 94 represents the combined number of selections across the seven options. For each option, the percentage was calculated by dividing the frequency of participants who selected that option by the total number of participants (64), and multiplying this by 100. The table shows that the most critical reason for using ChatGPT, according to the students, is that they are not fluent enough in English, so they cannot write a research paper independently, scoring 37.5%. The second most chosen reason was that students struggle to find ideas and thoughts of their own, where they are unable to express themselves accurately in English (29.7%). On the other hand, being inexperienced with the format of writing a research paper is the least common reason, accounting for 9.4% of the responses. Other reasons like laziness to search for information (18.8%) and not knowing how to search, saving time, and trusting that ChatGPT will provide accurate answers represented 17.2% of the responses each. To help overcome these obstacles that caused students to depend on AI to write various sections of research papers, students were asked about the most effective ways that their instructor could support them to help reduce their reliance on AI. Table 3 presents suggestions that may help them use AI less when writing a research paper.

Table 3. Students' perceptions of lecturers' support for research paper writing (frequencies and percentages)

No.	Question	Always	Often	Sometimes	Rarely	Never	Mean	Rank
11.	How frequently do you think your lecturer should recommend helpful YouTube videos/channels explaining the section/sections you face difficulties with while writing to reduce or eliminate your dependence on using ChatGPT?	11 17.19%	11 17.19%	24 37.50%	9 14.06%	9 14.06%	3.09	4
12.	How frequently do you think your lecturer should follow up with you step by step while writing to reduce or eliminate your dependence on using ChatGPT?	21 32.81%	9 14.06%	18 28.13%	10 15.63%	6 9.38%	3.45	3
13.	How frequently do you think your lecturer should explain how to write each section of a research paper in depth to reduce or eliminate your dependence on using ChatGPT?	18 28.13%	16 25.00%	17 26.56%	8 12.50%	5 7.81%	3.53	2
14	How frequently do you think your lecturer should hold workshops/training sessions that concentrate on the section/sections you face difficulties while writing to reduce or eliminate your dependence on using ChatGPT?	23 35.94%	9 14.06%	21 32.81%	9 14.06%	2 3.13%	3.66	1

As shown in Table 3, it can be noticed that the majority of students believe lecturers should hold workshops/training sessions focusing on the sections where they face difficulties during writing, as seen in Q14 (Mean= 3.66). Through this approach, teachers would help students use these technologies less or even not use them at all. The second rank Q13 (Mean = 3.53), emphasizes that lecturers should explain how to write each section of a research paper in depth to reduce students' reliance on AI tools, ChatGPT in particular. Moreover, Q12 ranked third (Mean = 3.45) and highlighted that students believed that teachers should follow up with them step by step while writing due to the valuable human lecturing exhortation in teaching. Furthermore, Q11, ranking lowest (Mean = 3.09), displayed that students thought that recommending helpful YouTube videos/channels that explain the section/sections students face difficulties while writing by their instructors does not help much. They thought that the significance of the lecturer or a human instructor more than that of YouTube videos explaining specific areas. It can be said that they consider lecturers as the main providers of the necessary and sufficient information. Consequently,

students may, in fact, depend less on AI if they receive more help from their teachers with writing research papers and particularly research problems.

Regarding the focus group discussion, participants agreed that the research problem is a critical section to write, but perhaps not the most challenging section. They all agreed that the literature review section is the most challenging one for them and suggested that, although language fluency and competency are part of the reason why it is the most challenging, they find this section hard to write for other reasons. They stated that the main reason, in addition to English fluency, is that they were not taught how to properly write a literature review in detail. They said that most of their lecturers used to tell them to collect a certain number of papers, write a paragraph about each, and then criticize all papers in one paragraph and explain why their paper is important, making use of the weaknesses they mentioned about other papers. Consequently, they strongly agreed with the suggestion provided by the rest of the sample regarding the need for more lectures and detailed training on how to properly write research papers. Students added that they would like to learn from their educators everything about research writing, starting from how to write a title and ending with how to properly cite and list references. They have also suggested that their instructors provide them with guidance on how to benefit ethically from AI while writing research papers. They believe that if educators do so, the quality of their writing would increase substantially, whether they use ChatGPT or not.

4.1 Language barrier

Students' competency challenges may be attributed to the fact that they are non-native speakers of English, which creates a language barrier when they try to express topics in English. Moreover, they are not speakers of English as a second language, but they are learners of it as a foreign language. This may be a major factor affecting their use of ChatGPT in research writing. Venkatesh and Bala (2008) focus on the role of external factors, such as English language proficiency, which affect technology adoption. Participants feel the urge to use ChatGPT because this external factor facilitates and motivates the decision to use technology, as fluency is the chief obstacle to completing research writing tasks.

In relation to these findings, Baskara and Mukarto (2023) noted that ChatGPT provides learners with adaptive language practice. In addition, Bin-Hady et al. (2023) stressed the function of this AI-powered tool in improving language learning to the point that it could potentially automate learning and engagement. Similarly, Kim et al. (2023) suggested that ChatGPT effectively enhances SLA by offering contextualized learning features. Moreover, Dao et al. (2023) distinguished that ChatGPT can be considered a competent and proficient tool that helps students with exams. These findings support the idea that using ChatGPT in academic writing may increase students' proficiency and fluency. Students could learn to write better by imitating the generated answers over time. However, to become proficient and fluent enough to write papers independently, ChatGPT's assistance is not enough; students need professional instructional strategies to overcome these obstacles.

These results align with P. Ginting et al.'s (2023) findings that highlight the role that ChatGPT plays in assisting EFL learners in academic writing tasks. Similarly, Mahapatra (2024) concluded that ChatGPT affects ESL students' academic writing skills positively. It was noted that this occurred through enhancing coherence and argumentation skills. In addition, Wu (2024) provided a very important feature that AI provided, which was feedback. Wu (2024) found that the feedback that AI tools generate improved the students' discursive writing skills substantially in the context of EAP classrooms. These findings mean that students find ChatGPT a valuable tool that helps them in Academic writing. This can be linked to the factor of self-efficacy in the TAM3, where users are confident enough to use this tool (Venkatesh and Bala, 2008). Additionally, this is strongly related to the fourth determinant in TAM3, cognitive instrumental processes, as the students clearly believe that ChatGPT is relevant to the task, provides a great quality of output, and that the benefits of using it are clear and visible (Venkatesh and Bala, 2008).

4.2 The role of training in research writing development

The results strongly confirm Venkatesh and Bala's (2008) key aspect of TAM3, stating that interventions, especially training, mitigate the negative effect and enhance the positive influence of using technology. This means that students are aware that if they are taught and trained well to write papers and may use ChatGPT as a supporting tool, they will be able to write original papers. These results are similar to Hatmanto and Sari's (2023) and Amin et al.'s (2024) findings, which focused on teachers' instructional support in classes and employing ChatGPT together to enhance the learning process in a classroom setting. Furthermore, Popescu and Dobre's (2024) findings do not support the current study's results. They focus on ChatGPT's potential to provide students with a tailored educational experience, personalized support, and immediate feedback, while the questionnaire outcomes underscore how instructors should approach it.

Conversely, Božić and Poola's (2023) outcomes explicitly state the benefits of ChatGPT, such as improving interaction and learning as a complementary learning source, and they did not suggest replacing human teachers. While Yu et al. (2025) recognized the role ChatGPT plays in learning, it is noted that ethical concerns remain evident when using such tools. Cribben and Zeinali (2023) highlighted that we cannot conceal humans' role in teaching, as students need constant guidance and support from their human instructors who can recognize individual student needs. The findings of the questionnaire demonstrate students' preference for lecturer guidance.

Taking into consideration all of the advantages and the vast assistance that ChatGPT has provided to English language learners, it can be stated that students use this tool for writing research papers due to substantial benefits such as immediate feedback and self-learning. Regarding writing the research problem in particular, it is possible that the most important aspects that assisted students in writing this section were instant feedback (Wu 2024) and coherence enhancement (Mahapatra 2024). The research questions of the current study provide us with more comprehensive findings on the reasons behind the common usage of AI tools in academic writing from the students' point of view.

5. Conclusion and recommendations

The findings indicated that students occasionally use ChatGPT for their research papers, especially in sections that require expressing their thoughts in writing, mainly the research problem and the literature review. Students revealed that the main reason was insufficient language proficiency. Moreover, the students' perspective demonstrated the significant role of lecturers in teaching them the proper steps for writing professional research papers. They stressed that, in addition to normal lectures, holding workshops/ training sessions on research writing would be of great help. Moreover, TAM3 theory helps explain students' acceptance of using technology such as ChatGPT because they perceive it as a tool that is easy to use.

While AI offers valuable support for students in research writing, it is essential to acknowledge the potential risks associated with overusing AI-powered tools. Effective integration of AI in research writing requires active instructor involvement. While AI can improve the quality of students' research writing, it must be used to supplement, not replace, students' roles. Instructors should help students enhance their language proficiency so they do not need to resort to ChatGPT; instead, students should try to write independently. For these reasons, using ChatGPT in the learning process, especially in learning research writing, requires active teacher involvement to ensure the effective use of the tool.

In conclusion, if AI models are used properly, then they can serve as a valuable tool to support research writing skills. Looking ahead, more research is needed to understand the long-term effects of AI-powered tools on students' roles while writing research papers and how such tools may assist students or hinder them from becoming good researchers in the future. Educators play a prominent role in helping students enhance their writing ability through instruction and extracurricular explanations, namely specialized training sessions and workshops.

Raeda Ammari (Associate Professor) – Corresponding Author
Department of English Language and Translation
Amman Arab University, Jordan
ORCID Number: 0000-0003-1173-4395
Email: raedaammari@yahoo.com

Esraa Hantouleh (English Language Instructor)
Language Center
The University of Jordan, Jordan
ORCID Number: 0009-0009-7349-8325
Email: e.hantouleh@ju.edu.jo

References

- Al Ahmad, Wajed Rasmi, Raeda Ammari, Murad Al Kayed and Juhaina Maan Al-Issawi.** (2025). 'Critical discourse analysis of media discourse related to the impact of AI on jobs: Corpus-assisted'. *Studies in Media and Communication*, 13(3): 260–271. <https://doi.org/10.11114/smc.v13i3.7548>
- Al Attar, Rania Taha and Rasha Qasem Ashour.** (2025). 'The effect of an instructional program based on artificial intelligence applications in improving the creative writing skills of seventh grade female students in Jordan'. *Jordanian Educational Journal*, 10(3): 393–418. <https://doi.org/10.46515/jaes.v10i3.1623>
- Alajalein, Mohamad and Yazan Shaker Almahameed.** (2021). 'Difficulties faced by Jordanian undergraduate EFL students in writing research problem statement'. *International Journal of Humanities, Arts and Social Sciences*, 7(1): 13–22. <https://doi.org/10.20469/ijhss.7.20002-1>
- Al Mukhallafi, Turki Rabah.** (2020). 'Using artificial intelligence for developing English language teaching/learning: An analytical study from university students' perspective'. *International Journal of English Linguistics*, 10(6): 40–53. <https://doi.org/10.5539/ijel.v10n6p40>
- Al-Sofi, Bakr Bagash Mansour Ahmed.** (2024). 'Artificial intelligence-powered tools and academic writing: To use or not to use ChatGPT'. *Saudi Journal of Language Studies*, 4(3): 145–161. <https://doi.org/10.1108/SJLS-06-2024-0029>
- Alsariera, Anas Hashem and Mohammad Yousef Alsaraireh.** (2024). 'Advancing EFL writing proficiency in Jordan: Addressing challenges and embedding progressive strategies'. *International Journal of Arabic-English Studies*, 24(2): 267–290. <https://doi.org/10.33806/ijaes.v24i2.664>
- Alsmari, Nuha.** (2021). 'The relationship between language proficiency level and L2 digital literacy self-efficacy: A study of EFL university students'. *International Journal of Arabic-English Studies*, 21(2): 183–198. <https://doi.org/10.33806/ijaes2000.21.2.10>
- Amin, Mostafa Mahmoud, Rui Mao, Erik Cambria and Björn Wolfgang Schuller.** (2024). 'A wide evaluation of ChatGPT on affective computing tasks'. *IEEE Transactions on Affective Computing*, 15(4): 2204–2212. <https://doi.org/10.1109/TAFFC.2024.3419593>
- Baskara, FX. Risang and FX. Mukarto.** (2023). 'Exploring the implications of ChatGPT for language learning in higher education'. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(2): 343–358. <https://doi.org/10.21093/ijeltal.v7i2.1387>

- Bhatia, Pradeep.** (2023). 'ChatGPT for academic writing: A game changer or a disruptive tool?'. *Journal of Anaesthesiology Clinical Pharmacology*, 39(1): 1–2. https://doi.org/10.4103/joacp.joacp_84_23
- Bin-Hady, Wagdi Rashad Ali, Abdu T. Al-Kadi, Abduljalil Nasr Hazaea and Jamal Kaid Mohammed Ali.** (2023). 'Exploring the dimensions of ChatGPT in English language learning: A global perspective'. *Library Hi Tech*, 43(5/6): 1315–1328. <https://doi.org/10.1108/LHT-05-2023-0200>
- Božić, Velibor and Indrasen Poola.** (2023). 'ChatGPT and education'. *Working Paper*, ResearchGate. <https://doi.org/10.13140/RG.2.2.18837.40168/1>
- Chen, Yu, Scott Jensen, Leslie J. Albert, Sambhav Gupta and Terri Lee.** (2023). 'Artificial intelligence (AI) student assistants in the classroom: Designing chatbots to support student success'. *Information Systems Frontiers*, 25(1): 161–182. <https://doi.org/10.1007/s10796-022-10291-4>
- Cheong, Choo Mui, Na Luo, Xinhua Zhu, Qi Lu and Wei Wei.** (2023). 'Self-assessment complements peer assessment for undergraduate students in an academic writing task'. *Assessment and Evaluation in Higher Education*, 48(1): 135–148. <https://doi.org/10.1080/02602938.2022.2069225>
- Chukwuere, Joshua Ebere.** (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>
- Cope, Bill, Mary Kalantzis and David Sears Smith.** (2021). 'Artificial intelligence for education: Knowledge and its assessment in AI-enabled learning ecologies'. *Educational Philosophy and Theory*, 53(12): 1229–1245. <https://doi.org/10.1080/00131857.2020.1728732>
- Cribben, Ivor and Yasser Zeinali.** (2023). 'The benefits and limitations of ChatGPT in business education and research: A focus on management science, operations management, and data analytics'. *SSRN Working Paper*. <https://doi.org/10.2139/ssrn.4404276>
- Dao, Xuan-Quy, Ngoc-Bich Le, Xuan-Dung Phan and Bac-Bien Ngo.** (2023). 'An evaluation of ChatGPT's proficiency in English language testing of the Vietnamese National High School Graduation Examination'. *SSRN Working Paper*. <https://doi.org/10.2139/ssrn.4473369>
- Davis, Fred, Jr.** (1986). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results*. Unpublished PhD Dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts.
- George, Babu and Ontario Wooden.** (2023). 'Managing the strategic transformation of higher education through artificial intelligence'. *Administrative Sciences*, 13(9), 196. <https://doi.org/10.3390/admsci13090196>
- Ginting, Daniel and Yusawinur Barella.** (2022). 'Academic writing centers and the teaching of academic writing at colleges: Literature review'. *Journal of Education and Learning (EduLearn)*, 16(3): 350–356. <https://doi.org/10.11591/edulearn.v16i3.20473>

- Ginting, Pirman, Haris Muda Batubara and Yenni Hasnah.** (2023). 'Artificial intelligence-powered writing tools as adaptable aids for academic writing: Insight from EFL college learners in writing final projects'. *International Journal of Multidisciplinary Research and Analysis*, 6(10): 4640–4650.
<https://doi.org/10.47191/ijmra/v6-i10-15>
- Hatmanto, Endro Dwi and Mariska Intan Sari.** (2023). 'Aligning theory and practice: Leveraging Chat GPT for effective English language teaching and learning'. *E3S Web of Conferences*, 440, 05001
<https://doi.org/10.1051/e3sconf/202344005001>
- Jarrah, Adeeb Marwan, Yousef Wardat and Patricia Fidalgo.** (2023). 'Using ChatGPT in academic writing is (not) a form of plagiarism: What does the literature say?'. *Online Journal of Communication and Media Technologies*, 13(4): e202346. <https://doi.org/10.30935/ojcm/13572>
- Kim, Sunyoung, Joobo Shim and Jaechang Shim.** (2023). 'A study on the utilization of OpenAI ChatGPT as a second language learning tool'. *Journal of Multimedia Information System*, 10(1): 79–88.
<https://doi.org/10.33851/JMIS.2023.10.1.79>
- Mahapatra, Santosh.** (2024). 'Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study'. *Smart Learning Environments*, 11, Article 9. <https://doi.org/10.1186/s40561-024-00295-9>
- Malik, Muhammad Abid, Amjad Islam Amjad, Sarfraz Aslam and Abdunaser Fakhrou.** (2024). 'Global insights: ChatGPT's influence on academic and research writing, creativity, and plagiarism policies'. *Frontiers in Research Metrics and Analytics*, 9: 1486832.
<https://doi.org/10.3389/frma.2024.1486832>
- Malkawi, Mai Abdel Karim Mohammad, Ayman Altalihin, Majd Saleem Hussein Abushunar and Abdullah S. Aldelaa.** (2025). 'AI-aided translation: An eye on ChatGPT as a tool of translating literary texts'. *Technium Social Sciences Journal*, 75: 311–318.
<https://doi.org/10.47577/tssj.v75i1.13180>
- Mendoza, Laura, Tuula Lehtonen, Sari Lindblom-Ylänne and Heidi Hyytinen.** (2022). 'Exploring first-year university students' learning journals: Conceptions of second language self-concept and self-efficacy for academic writing'. *System*, 106:102759.
<https://doi.org/10.1016/j.system.2022.102759>
- Mudawy, Ammar Mohammed Ahmed.** (2024). 'Investigating EFL faculty members' perceptions of integrating artificial intelligence applications to improve the research writing process: A case study at Majmaah University'. *Arab World English Journal*, Special Issue on ChatGPT: 169–183.
<https://doi.org/10.24093/awej/ChatGPT.11>
- Omar, Hani, Hamza Abu Owida, Suhaila Abuowaida, Nawaf Alshdaifat, Raed Alazaidah, Esraa Elsoud and Radwan Batyha.** (2024). 'ChatGPT: A new AI tool for English language teaching and learning among Jordanian students'. *Knowledge and Science*, 12(1): 3628–3637.
<https://doi.org/10.58262/ks.v12i1.257>

- Popescu, Elvira and Stefania-Carmen Dobre.** (2024). 'Exploring students' perception and experience with ChatGPT and critical thinking in a higher education context'. *Proceedings of the 2024 21st International Conference on Information Technology Based Higher Education and Training (ITHET)*: 1–6. <https://doi.org/10.1109/ITHET61869.2024.10837650>
- Schillings, Marlies, Herma Roebertsen, Hans Savelberg and Diana Dolmans.** (2023). 'A review of educational dialogue strategies to improve academic writing skills'. *Active Learning in Higher Education*, 24(2): 95–108. <https://doi.org/10.1177/1469787418810663>
- Tarawneh, Majid, Afag Khzouz, Hanan Madanat and Wael Hamdan.** (2026). 'Leveraging ChatGPT for optimized email communication: An analysis of benefits, limitations, and ethical considerations for AUM academic staff'. *International Journal of Arabic-English Studies*, 26(2): 301–324. <https://doi.org/10.33806/ijaes760>
- Teng, Xiaoyan, Zhong Wu and Feng Yang.** (2022). 'Research on the relationship between digital transformation and performance of SMEs'. *Sustainability*, 14(10): 6012. <https://doi.org/10.3390/su14106012>
- Venkatesh, Viswanath and Hillol Bala.** (2008). 'Technology Acceptance Model 3 and a research agenda on interventions'. *Decision Sciences*, 39(2): 273–315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>
- Venkatesh, Viswanath and Fred Davis.** (2000). 'A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies'. *Management Science*, 46(2): 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Woo, David James, Hengky Susanto, Chi Ho Yeung, Kai Guo and April Ka Yeng Fung.** (2024). 'Exploring AI-generated text in student writing: How does AI help?' *Language Learning & Technology*, 28(2): 183–209. <https://doi.org/10.48550/arXiv.2304.02478>
- Wu, Yixuan.** (2024). 'Study on the impact of utilizing ChatGPT and other AI tools for feedback in EAP writing classrooms on the discursive writing performance of English major students'. *Transactions on Social Science, Education and Humanities Research*, 4: 143–150. <https://doi.org/10.62051/4se95x52>
- Yu, Hao, Yunyun Guo, Hailiang Yang, Weiyu Zhang and Yan Dong.** (2025). 'Can ChatGPT revolutionize language learning? Unveiling the power of AI in multilingual education through user insights and pedagogical impact'. *European Journal of Education*, 60(1): e12749. <https://doi.org/10.1111/ejed.12749>
- Zhao, Xin, Laura Sbaffi and Andrew Cox.** (2025). 'The Digitisation of Writing in Higher Education: Exploring the Use of Wordtune as an AI Writing Assistant'. *Electronics*, 14(6): 1194. <https://doi.org/10.3390/electronics14061194>

Appendix

Answer the following questions according to your use of ChatGPT in research writing. You cannot submit your response unless you answer all questions.

Always - Often - Sometimes - Rarely - Never

1. I use ChatGPT for writing the literature review section.
2. I use ChatGPT for writing the introduction section.
3. I use ChatGPT for writing the conclusion section.
4. I use ChatGPT for writing the research problem section.
5. I use ChatGPT for writing the research questions/objectives section.
6. I use ChatGPT for writing the research abstract section.
7. I use ChatGPT for writing the results section.
8. I use ChatGPT for writing the methodology section.
9. I use ChatGPT for writing the discussion section.
10. Why do you use ChatGPT while writing a research paper? (Select all answers that apply)
 - I am not fluent enough in English and cannot write independently.
 - I do not know how to search for information elsewhere.
 - I face a problem finding ideas to write about.
 - I feel too lazy to search for information myself, although I know where to search.
 - I feel that this tool saves a lot of time, unlike other tools that are slower.
 - I trust that this tool will give me correct answers.
 - I use it because I do not know how to write a research paper at all.
11. How frequently do you think your lecturer should recommend helpful YouTube videos/channels explaining the section/sections you face difficulties while writing to reduce or eliminate your dependence on using ChatGPT?
12. How frequently do you think your lecturer should follow up with you step by step while writing to reduce or eliminate your dependence on using ChatGPT?
13. How frequently do you think your lecturer should explain how to write each section of a research paper in depth to reduce or eliminate your dependence on using ChatGPT?
14. How frequently do you think your lecturer should hold workshops/training sessions that concentrate on the section/sections you face difficulties while writing to reduce or eliminate your dependence on using ChatGPT?