
Exploring ChatGPT Uses in Higher Studies: A Case Study of Arab Postgraduates in India

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Abstract

This study investigated Arab postgraduate students' uses of ChatGPT in their higher studies in India with a special reference to academic writing being a requirement of academic research activities. A questionnaire was used to collect data from 40 Arab postgraduates attending five universities in Kerala. Findings show that the participants perceived benefits of ChatGPT and effects on their academic writing, language competency, and achievement. It significantly impacts their productivity. However, not all Arab students utilize all the benefits of the tool for some reasons including lack of familiarity with the incipient ChatGPT. Based on the findings, the study provides some important recommendation for utilizing this chatbot in a way that increase their abilities in using technology in their studies to save time and efforts as well as familiarize them with sensitive issues of honesty and plagiarism. The study may be useful to some other participants engaged with academic writing in India and abroad.

Keywords: Academic writing, Arab students, Artificial intelligence, ChatGPT

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Introduction

Academic writing is required for successful performance in higher studies programs (Abdulkhalek & Al-Khulaidi, 2022; Kurniati & Fithriani, 2022). At the higher studies level, postgraduate students publish and present papers at local and international conferences and workshops using English. The English variety used in academia is called English for academic purposes. Writing is a vibrant skill among the other skills that they need to report results and prepare their reports, essays, and articles published in English (Al-Kadi, 2023). In Nagmode's (2019) words, "scientific papers are the heart of the science community" (p. 38). Chiefly, postgraduate students are expected to conduct rigorous research and produce high-quality academic work in a limited time. This can be challenging, particularly for those working on complex research projects (Al-Kadi, 2023).

This makes academic writing in English, which is a foreign language for Arab students, a challenging endeavour (Abdulkhalek & Al-Khulaidi, 2022; Kurniati & Fithriani, 2022). The emergence of digital technology has been used widely to assist in writing assignments. Artificial intelligence (AI) has bombarded us with applications and tools that could be used in writing, editing, and translation (Ali et al., 2023; Nazari et al., 2021; Khabib, 2022; Nguyen, 2023). ChatGPT applications have become popular among postgraduate students in today's digital age. It facilitates communication and collaboration among users, making sharing ideas and information more accessible (AlAfnan et al., 2023). There is a need to ask questions about how ChatGPT invests in academia and impacts students' performance.

AI Writing assisting tools

The AI has given rise across the past two decades to several tools that can revolutionize academic programs. In the figure below the most important ten tools that academics and researchers can use— some are totally free and some are paid. As illustrated in the figure below, each of these tools aligns with some purposes, ranging from literature search through presentations and data analysis and writing.

For the purpose of the present investigation, the tools invested for academic writing are highlighted. For instance, Grammarly, a digital writing assistance service, is an online proofreading website that can scan documents for grammar mistakes, originality, style, and editing (Al-Kadi, 2023; Karyuatry, 2018). It can also provide word suggestions to help students improve their writing. Nazari et al. (2021) found that Grammarly helped students develop self-regulation skills due to its multiplicity of access options, ease of use, and the opportunity to self-correct before summative assessments.

Another important software is Quillbot. It is an AI-powered writing tool that can be used to paraphrase, reword, and improve text quality. It is designed to help writers, students, and professionals create high-quality content quickly and easily. Khabib (2022) defined it as software explicitly developed for paraphrasing scientific articles and has become the first AI software to be used in many languages. With the help of this software, researchers can paraphrase scientific articles quickly and accurately and avoid plagiarism. Quillbot's ability to aid with paraphrasing may lead to a more efficient and accurate research procedures (Chen et al., 2020). This is significant as it could drastically reduce the time spent writing research papers.

ChatGPT

ChatGPT is a language chatbot, or as Opara (2023) defined it "a software program that uses user input to simulate human-like interactions" (p. 10). The application has been gaining popularity among postgraduate students as a tool for communication and research. The ChatGPT is popular among students, even who do not possess a higher level of technical expertise. Its benefits have been examined in many contexts. Liebrez et al. (2023) conducted a study on the ability of ChatGPT to generate scholarly content. The study discusses the ability of AI to write academic articles. The authors reported that while AI bots like ChatGPT can write essays and articles, they still need the systematic reasoning capability to write multi-paragraph academic articles requiring precise and detailed information. The

authors suggest that academics collaborate with AI by giving them detailed prompts to generate individual paragraphs, which humans can then combine and validate to generate a complete multi-paragraph essay. Also, Nguyen (2023) discussed the use of AI in academic writing and suggested a possible collaboration between AI and humans to generate scientific content. The author highlights AI's need for systematic reasoning capability to write multi-paragraph essays requiring precise and detailed information. Nguyen suggested that AI and humans can collaborate to improve research efficiency and reduce the cost of doing science.

Some studies examined the impact of ChatGPT on academic performance. As soon as the ChatGPT was launched in November 2022, several articles discussed its potential, advantages and disadvantages. For example, Susnjak (2022) conducted a study on online exam integrity and how it is affected by using ChatGPT. The study indicated that ChatGPT can demonstrate critical thinking and generate very realistic language with minimal input, making it a possible threat to the integrity of online exams, particularly in tertiary education settings where these exams are gaining popularity. The writer recommends that educators and institutions be aware of the potential for ChatGPT to be exploited for cheating and that there should be measures to preserve the fairness and validity of online examinations for all students.

Based on available studies, ChatGPT is likely to impact the academic performance of postgraduate students positively. Mallow (2023) has highlighted several benefits of ChatGPT for students. At first, ChatGPT provides 24/7 access to support and guidance. It also offers personalized recommendations based on the students' learning history. Additionally, ChatGPT can provide quick and accurate answers to questions. Fourth, it can help students to improve their study skills and time management. What is more, ChatGPT can increase students' motivation and engagement with learning. Finally, it provides access to a wide range of resources." Apart from these, AI tools, including ChatGPT, can be used to assess students' writing (Moqbel & Al-Kadi, 2023) and boost their motivation for learning (Ali et al., 2023).

Despite the benefits of using ChatGPT, some challenges are associated with it. One of the challenges is related to the originality of texts and plagiarism. Khalil and Er (2023) explored the originality of ChatGPT's content, using two popular plagiarism detection programmes to evaluate the originality of 50 essays on various topics generated by ChatGPT. The results showed that ChatGPT could generate sophisticated text outputs without being detected by plagiarism detection technologies. This means that ChatGPT can generate highly original content on various topics.

To summarize, academic writing, a formal style of writing used in universities and scholarly publications, is a crucial skill for postgraduate learners, particularly those from Arab countries who learn English as a foreign language. Arab postgraduate students face challenges in academic writing tasks, including language barriers and limited access to academic resources in English (Abdulkhalek & Al-Khulaidi, 2022; Al-Kadi, 2023). They may need help with vocabulary use, concept organization, grammar, and spelling. In recent years, AI has become popular as a tool for assisting postgraduate students in their research. One such tool is ChatGPT, a language model that uses deep learning to generate human-like responses in real time. ChatGPT offers a potential solution by enabling Arab postgraduate students to generate coherent and concise English-language text quickly and efficiently. The present study intends to explore the how Arab postgraduate students perceive the potential benefits and challenges of ChatGPT in their higher studies in India. It mainly focusses on ChatGPT uses for academic writing and its impact on their academic writing, motivation, and productivity.

Method

This study is based on survey data to investigate the use of ChatGPT for academic writing by Arab postgraduates in Kerala, India. The study adopted a quantitative research design using a survey questionnaire as the primary tool for data collection. The study was

conducted in Kerala, India, a popular destination for Arab postgraduate students. It took place at five universities in Kerala: Kariyavattom Campus University of Kerala, University of Kerala-Palayam, Cochin University, University of Calicut and Mahatma Gandhi University.

Participants

The target population for this study was Arab postgraduates who are pursuing their studies in Kerala, India. The participants in this study were selected using a purposive sampling technique, which allowed the researchers to contact the Arab students in Kerala. Forty Arab students were chosen from the target universities in Kerala. The participants (26 males and 12 females) were contacted to complete the survey. Their nationalities included Arab countries such as Yemen (21), Oman (1), Syria (5), Jordan (1), Iraq (3), Egypt (1), Sudan (94), and Palestine (92). Most participants were doing their PhD studies (29), and the rest (9) were doing their master's studies. Overall, the sample can be generalised for the whole population, and using a purposive sampling technique allowed for the selection of the participants.

Questionnaire

The survey questionnaire was used as the primary instrument for data collection in this study. It was comprised of two parts: (a) personal information, including name, age, nationality, and current academic program and (b) questions related to the use of ChatGPT for academic writing purposes. The questionnaire was designed in English and pilot-tested among five participants to ensure clarity and comprehensibility. The researchers used Google Forms to distribute the questionnaire. The questionnaire was designed in a way that excluded all the respondents who did not use the ChatGPT. That is, the first question was, "Are you familiar with ChatGPT?" if the respondent selected "No", it would lead him to the end of the questionnaire where s/he is thanked and given some information about ChatGPT, in case he/she is interested to know about it. If the answer was "Yes", the respondent was allowed to go ahead and answer the second section on ChatGPT. This study was conducted following the ethical principles of research. The participants were informed of the purpose and nature of the study, assured of their confidentiality and anonymity, and given enough time to complete the answers. They were given the freedom to withdraw any time they wished to.

Results

After data collection, the researchers went through the responses and checked them all. Two participants were removed from the data as outliers. Their responses were illogical, for selecting the option "strongly disagree" for all the questions given. The use of ChatGPT is reflected the Arab students' familiarity with ChatGPT, usage and version of the tool. As for familiarity, 29 of the respondents were familiar with ChatGPT and only 9 of the participants were not familiar with ChatGPT. 28 respondents mentioned using the free version of ChatGPT, while 1 respondent mentioned using the paid version. The total count of respondents in this case is 29. In terms of usage, 2 respondents stated that they use ChatGPT "always," 6 respondents mentioned using it "often," 15 respondents reported using it "sometimes," and 6 respondents stated they use it "rarely." The total count of respondents in this case is 29.

The data arranged in Table 1 and Table 2 below display the results of the participants' responses to the questionnaire in so far as benefits of using ChatGPT and its impact on productivity. As in Table 1, there is a significant amount of variation in individuals' opinions about ChatGPT's capabilities, with some individuals rating ChatGPT 'very highly' and others rating it 'very low'. The highest mean score is for the question "ChatGPT texts are highly reliable and need not be second checked for reliability" (mean= 3.07). The lowest mean value is for the question "ChatGPT saves my time, effort and energy," (mean=1.89). In Table 2, most of the participants who were asked about ChatGPT's usefulness for academic writing thought it was at least somewhat helpful. However, there is a significant amount of variation in individuals' opinions, with some individuals rating ChatGPT 'very highly' and

others rating it 'very low'. The highest mean score is for the question "Research scholars can use ChatGPT to generate ideas and gain inspiration for their academic writing," (mean= 2.17). The lowest mean rating is for the question "as a post graduate student, ChatGPT is a useful tool to improve academic writing skill," (mean= 2.38).

Table 1. Potential Benefits of using ChatGPT

Questionnaire items	N	Mean	Std.
ChatGPT generates highly effective essays on any topic and in any field.	29	2.2414	.73946
As Arabic is my first language, using ChatGPT enriches the English vocabulary I need in my specialization.	29	2.3103	.76080
ChatGPT is a useful tool to improve reading skill.	29	2.5172	.87099
ChatGPT is important for me to get information on different topics.	29	1.8966	.77205
ChatGPT texts are highly reliable and need not be second checked for reliability.	29	3.0690	.99753
ChatGPT saves my time, effort and energy.	29	1.8966	.77205

Table 2. Using ChatGPT for Academic Writing Purposes

Questionnaire items	N	Mean	Std.
Research scholars can use ChatGPT to generate ideas and gain inspiration for their academic writing.	29	2.1724	.84806
Chat GPT can help students brainstorm ideas, organize their thoughts and it can suggest relevant keywords and sources to explore	29	2.3448	1.00980
Research scholars can make use of ChatGPT to help them write literature reviews, introduction to topics and terms definitions.	29	2.3448	1.00980
As a post graduate student, ChatGPT is a useful tool to improve academic writing skill.	29	2.3793	1.01467

The mean scores in Table 3 suggest that most of the participants who were asked about ChatGPT's impact on their productivity thought it was at least somewhat helpful. However, there is a significant amount of variation in individuals' opinions, with some individuals rating ChatGPT very highly and others rating it very low. The highest mean rating is for the question "ChatGPT improves my productivity," (mean= 2.31). The lowest mean rating is for the question "doing my assignments became easier when using ChatGPT," (mean= 2.10).

Table 3. Descriptive Statistics of ChatGPT and PG students' Productivity

Questionnaire items	N	Mean	Std. D
ChatGPT improves my productivity.	29	2.3103	.80638
Doing my assignments became easier when using ChatGPT.	29	2.1034	.72431

Discussion

Referring to the results outlined above and data on the Tables 1,2, and 3 suggest that ChatGPT is generally an effective tool for a variety of tasks, including generating ideas and inspiration for academic writing, helping students brainstorm ideas, organize their

thoughts, and suggest relevant keywords and sources to explore, and improving students' productivity. However, there is a significant amount of variation in individuals' opinions, with some individuals rating ChatGPT very highly and others rating it very low. Regarding the effective ways of enhancing ChatGPT to improve the overall academic performance of Arab PG students in Kerala, there are some points to highlight here. Familiarizing themselves with ChatGPT's capabilities and limitations, students should explore its features, experiment the inputs, and seek guidance from professors, academic advisors, or peers when needed. This would streamline ChatGPT in their academic journey effectively.

Effective use of this chatbot include generating ideas for academic papers by inputting relevant Arabic or English prompts, allowing for the expansion of knowledge and the development of new ideas. It is essential to choose prompts that are specific to their field of study or the topic at hand to obtain optimal results. Additionally, students can employ ChatGPT for language translation, enabling them to understand and comprehend texts in their mother tongue, Arabic. This functionality can also assist in translating academic work into Arabic, aiding in overcoming language barriers. It is crucial to check for plagiarism before submitting any work, ensuring originality and authenticity. Using ChatGPT to summarize research articles related to their academic field can enhance understanding of key points. Finally, it helps students critically evaluate ChatGPT's suggestions and incorporate only those that are suitable for their academic work, maintaining the integrity and originality of their own ideas. By following these recommendations, Arab PG students can harness the potential of ChatGPT to enhance their academic performance.

Overall, the results of this study showed that ChatGPT was used by a majority of the students for a variety of tasks, including writing assignments, researching topics, and translating texts. Students reported that ChatGPT helped them generate ideas, find information, and improve their writing skills. There is also a general agreement that ChatGPT could be used more effectively for teaching, learning, and collaboration. These findings suggest that ChatGPT has the potential to be a valuable tool for postgraduate students in their higher studies and beyond. However, it is important to note that not all students are capable of using ChatGPT to its full potential. Hence, students should be informed about the full range of benefits that ChatGPT offers and how to use it more effectively. With these results, the study accounted for the challenges the postgraduate face in writing for academic purposes, showing how ChatGPT assist them to achieve a milestone in their journey of academic endeavours. These findings are not indifferent from previous studies in terms of productivity (Firaina & Sulisworo, 2023), motivation (Ali et al., 2023), rethinking plagiarism (Khalil & Er, 2023), assessment (Moqbel & Al-kadi, 2023; Susnjak, 2022), publishing (Liebrenz et al., 2023) and teaching and learning in general (Opara, 2023).

With these findings and discussions, it is important to admit that the results are based on data elicited from a relatively small sample size which restricts their generalizability to some other populations. In other words, if a larger sample of individuals were asked, the results would differ. For now, the study implies using ChatGPT as a valuable tool for postgraduate students. It is important to remember that it is not a device that substitutes human critical thinking, research, and writing skills. Hence, postgraduate students are recommended to use ChatGPT in conjunction with their own knowledge and expertise to produce high-quality academic work. Nevertheless, further research would be an advantage to substantiate these findings or develop more in-depth findings.

Conclusion

This paper suggests that Arab postgraduate students can benefit from ChatGPT to improve the quality and productivity of their academic writing. Using ChatGPT, students in this study stated that they quickly generate summaries and abstracts of complex academic literature, generate and organize ideas and arguments more effectively, and find inspiration for their writing. Additionally, ChatGPT is a valuable tool for improving English proficiency and writing skills by providing a platform to practice writing and expand vocabulary and grammar. However, it is to be borne in mind that not all Arab postgraduate students in

Kerala are proficient in using ChatGPT, nor are they taking full advantage of its benefits. Therefore, they should be provided with clear guidelines on the appropriate use of ChatGPT for academic purposes and a full range of benefits, such as writing assignments and academic research activities, that ChatGPT offers, and how to use it more effectively, emphasizing the importance of avoiding plagiarism and other ethical concerns while using this tool.

Disclosure Statement:

We (the authors of this paper) hereby declare that research ethics and citing principles have been considered in all the stages of this paper. Thus, we take full responsibility for the content of the paper in case of dispute.

Ethics Statement

We confirm that the manuscript has been created by the authors and not an AI tool/Large Language Model (LLM). We are fully responsible for the content of the manuscript and are thus liable for any breach of publication ethics.

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