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The Role of ChatGPT in Students academic paper Writing Process

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ABSTRACT

This study explores how ChatGPT is used by students in the process of writing academic papers, especially in the context of higher education. In the digital era, many students use AI tools like ChatGPT to help generate ideas, improve grammar, structure paragraphs, and revise their academic writing. This research uses a qualitative descriptive approach by conducting interviews with students of the English Education Department at Nurul Jadid University who actively use ChatGPT during the process of writing their final paper. The findings show that ChatGPT plays a helpful role in several stages of the writing process, such as brainstorming, outlining, developing arguments, and refining language. Students feel that ChatGPT helps make their writing clearer, more structured, and easier to understand. However, the study also found several challenges, including inaccurate references, general or irrelevant answers, the risk of plagiarism, over-dependence, and technical problems like poor internet connections. This research concludes that while ChatGPT can support students in academic writing, it should be used wisely and critically. Students need to be aware of ethical issues and maintain their originality and critical thinking. ChatGPT should act as a writing assistant, not as a replacement for the students' own effort and understanding.

Keywords: Role,ChatGPT,Academic Writing

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INTRODUCTION

ChatGPT is an artificial intelligence language model developed by OpenAI and released in November 2022. It helps students generate ideas, build arguments, improve sentence structure, and support academic writing. Using Natural Language Processing (NLP), ChatGPT allows users to interact through text and can produce various types of written content. According to Kasneci et al. (2023), generative AI has transformed how students access, process, and present information. Despite its benefits, the use of ChatGPT also raises concerns regarding academic integrity, authenticity of work, and the risk of overdependence on technology.

The increasing use of ChatGPT in education presents new challenges for educational institutions in adapting policies and learning systems. Therefore, its use should be guided wisely to support creativity, understanding, and learning rather than replace students' critical thinking processes (Zawacki-Richter et al., 2019). This phenomenon also reflects the growing dependence of students on digital technology in academic activities, where ChatGPT is often used to help complete difficult tasks more efficiently. However, excessive reliance on this technology may reduce students' independence in learning and problem-solving.

In the digital era, ChatGPT has emerged as a significant innovation in artificial intelligence (AI) and natural language processing (NLP), offering various benefits in education, particularly in higher education. ChatGPT assists students in drafting academic papers, developing arguments, organizing information, providing feedback, and improving writing efficiency, making it a valuable tool in completing academic tasks such as theses and dissertations (Liebrenz et al., 2023; Kasneci et al., 2023). However, despite its advantages, the increasing use of ChatGPT also raises concerns regarding

plagiarism, reduced originality, weakened critical thinking skills, and excessive dependence on AI technology (Zawacki-Richter et al., 2019). Furthermore, its growing use for both academic and non-academic purposes reflects a shift in students' learning culture, where AI is often perceived as a primary solution rather than a supporting tool (Liebrenz et al., 2023). Therefore, the implementation of adaptive academic policies and the development of digital literacy are essential to ensure that ChatGPT is used ethically, responsibly, and in ways that uphold academic integrity (Zawacki-Richter et al., 2019).

This study found that many students use ChatGPT to support academic writing, including generating ideas, creating outlines, improving grammar, and editing drafts. This trend reflects the increasing role of AI in academic activities. Although ChatGPT can enhance writing efficiency and organization (Zhai, 2022), studies have highlighted concerns about reduced critical thinking (Zawacki-Richter et al., 2019), plagiarism and dependency risks (Liebrenz et al., 2023), inaccurate information (Wenzlaff & Spaeth, 2022), and challenges for educational assessment systems (Susnjak & McIntosh, 2024). Therefore, ChatGPT should be used responsibly and critically in academic contexts.

Most previous studies on ChatGPT in education mainly focus on negative impacts, such as decreased critical thinking, plagiarism risks, and dependence on AI technology. However, the potential benefits of ChatGPT in improving learning quality, academic writing efficiency, and student productivity are still less explored. As the use of ChatGPT in academic writing continues to grow, it is important to examine both its advantages and challenges, including information accuracy, ethical issues, and maintaining academic originality (Zawacki-Richter et al., 2019; Kasneci et al., 2023). Therefore, this study aims to provide a balanced understanding of ChatGPT's role as a supportive tool in higher education while ensuring responsible and ethical use (Liebrenz et al., 2023).

The researcher's objective is to study role of ChatGPT in students academic paper writing process. as well as the student challenges in using it during the wrting process. This study aims to analyze the role and challenges faced by students in using ChatGPT as a tool in student academic paper writing process. Thus, this study is expected to contribute to a deeper understanding of the wise and responsible use of artificial intelligence technology in an academic environment, as well as to promote the importance of digital literacy and adaptive academic regulations.

METHOD

2.1. Research Design

This study uses a qualitative descriptive approach to explore the role of ChatGPT in students' academic writing processes. This approach enables the researcher to gain in-depth insights into students' experiences, perceptions, and reflections regarding the use of ChatGPT in composing academic papers. The study focuses on analyzing both the role of ChatGPT and the challenges students encounter when utilizing this AI-based tool in academic writing. By examining the phenomenon from the participants' perspectives, the research aims to provide a comprehensive understanding of ChatGPT's practical and pedagogical contributions to higher education writing practices.

2.2. Research Instrument

In this qualitative study, the researcher served as the main instrument responsible for designing interview guidelines, collecting data, conducting observations, and analyzing and interpreting the findings. The researcher's direct involvement enabled a deeper understanding of participants' experiences while maintaining sensitivity, neutrality, and openness toward the research context. In addition, semi-structured interview guidelines were used as a supporting instrument containing flexible open-ended questions related to the role and challenges of using ChatGPT in students' academic paper writing process. These guidelines helped ensure a focused data collection process while allowing participants to freely express their perspectives and experiences.

2.3. Research Participants

This study used purposive sampling to select 7 English Education students at Nurul Jadid University who actively used ChatGPT in writing academic papers. Participants were chosen based on their

experience using ChatGPT for tasks such as generating ideas, organizing content, improving grammar, and revising drafts. The sample size was considered adequate because data saturation was reached, ensuring the collection of relevant and in-depth information related to the role of ChatGPT in the academic writing process. To protect participant privacy, pseudonyms were used throughout the study.

Tabel 1.Participant Information

Pseudonym	University	Program	Semester	Using GptChat
UF	Nurul Jadid	English Education	8	Active
MD	Nurul Jadid	English Education	8	Active
KI	Nurul Jadid	English Education	8	Active
RF	Nurul Jadid	English Education	8	Active
KM	Nurul Jadid	English Education	8	Active
AP	Nurul Jadid	English Education	8	Active
GK	Nurul Jadid	English Education	8	Active

Data were collected through semi-structured interviews, which provided flexibility for the researcher to explore emerging themes and gain deeper insights into participants' experiences. This method allowed students to give open-ended responses and explain how ChatGPT supports, influences, or challenges their academic writing processes. Through qualitative interviews, the researcher was able to capture nuanced perspectives, ethical considerations, and cognitive aspects related to the use of ChatGPT. As noted by Babchuk (2017), qualitative interviews are effective for obtaining information that cannot be directly observed and for exploring the subjective meanings of participants' experiences.

2.4. Data Collection Techniques

Data collection in this study was conducted through semi-structured interviews and field notes. Semi-structured interviews were selected to explore participants' experiences and perspectives in depth while allowing flexibility to develop questions based on their responses. The interviews focused on the roles and challenges of using ChatGPT in students' academic paper writing process, with open-ended questions that encouraged participants to share their experiences freely. The interviews were recorded with participants' consent, transcribed verbatim, and supported by field notes documenting nonverbal aspects and contextual situations. Data triangulation was applied by comparing interview results and field notes to enhance the validity and credibility of the findings, in accordance with the principles of qualitative research that emphasize authenticity and depth of understanding (Creswell & Poth, 2016).

2.5. Data Collection Techniques

Data analysis in this study followed the thematic analysis model proposed by Braun and Clarke (2006), which consists of six stages: familiarizing with the data, generating initial codes, identifying themes, reviewing themes, defining and naming themes, and writing the report. The process began with transcribing interview data verbatim and repeatedly reading the transcripts to gain a deep understanding of participants' experiences. Researchers then conducted coding by identifying relevant information related to students' experiences, benefits, challenges, and ethical issues in using ChatGPT. The identified codes were grouped into broader themes, which were reviewed and refined to ensure they accurately represented the participants' perspectives. The final themes were clearly defined,

named, and presented with supporting participant quotations to provide a comprehensive interpretation of the findings.

To ensure data validity and credibility, this study employed member checking by confirming the researchers' interpretations with the participants. Participants were invited to review the findings and verify whether the interpretations accurately reflected their experiences and intentions. Any feedback or corrections from participants were incorporated into the final analysis. This technique is considered essential in qualitative research because it strengthens the trustworthiness and accuracy of the findings (Lincoln & Guba, 1988).

FINDING AND DISCUSSION

This study explored the role of ChatGPT in students' academic paper writing process and the challenges encountered when using ChatGPT. The data were collected through in-depth interviews with English Education students at Nurul Jadid University who actively used ChatGPT while writing their academic papers. Using Braun and Clarke's thematic analysis, the researcher identified two major themes: (1) the role of ChatGPT in academic writing and (2) the challenges of using ChatGPT in academic writing.

3.1. the role of ChatGPT in academic writing

The findings reveal that ChatGPT plays a significant role throughout different stages of students' academic writing.

During the initial stage of writing, ChatGPT serves as a brainstorming tool that helps students generate ideas, clarify research topics, formulate research problems, and prepare preliminary outlines. Most participants stated that ChatGPT reduced their confusion when starting their academic papers by providing clear directions and organizing their initial thoughts. As a result, students found it easier to begin the writing process with a structured plan.

In the draft preparation stage, ChatGPT assists students in developing ideas into coherent paragraphs, constructing effective sentences, simplifying complex theories, and summarizing academic journal articles. These functions enable students to organize their arguments more systematically and improve the overall flow of their writing. Furthermore, the ability of ChatGPT to summarize lengthy references helps students save time while understanding relevant literature.

ChatGPT also plays an important role in language revision and refinement. Participants reported using ChatGPT to improve sentence structure, enhance paragraph coherence, shorten lengthy sentences, and adjust their writing style to meet academic standards. Some students also used ChatGPT to revise their papers based on lecturers' feedback before reviewing and evaluating the revisions independently. Consequently, ChatGPT functions as an effective editing assistant that supports students during the revision process.

Another important finding is that ChatGPT contributes to academic improvement. Participants believed that their writing quality improved after using ChatGPT because it helped them produce clearer sentence structures, select more appropriate academic vocabulary, and organize arguments in a logical and coherent manner. Overall, ChatGPT acts as an academic writing assistant that enhances language quality while still requiring students to apply their own critical thinking and academic judgment.

3.2. the challenges of using ChatGPT in academic writing

Although ChatGPT offers many advantages, the study also identified several challenges experienced by students.

The first challenge concerns the validity and accuracy of references. Many participants explained that the references generated by ChatGPT were sometimes inaccurate, unavailable, or inconsistent with actual academic publications. Some journal titles, publication years, and cited sources could not be verified through academic databases such as Google Scholar. Therefore, students emphasized the importance of cross-checking every reference with credible academic sources before including it in their papers.

The second challenge is that ChatGPT sometimes provides answers that are too general or insufficiently contextualized. Several participants mentioned that the responses often lacked specific information related to their research topics. In addition, the language generated by ChatGPT occasionally appeared too formal or robotic, requiring further editing to make it more natural and academically appropriate. Some participants also found that ChatGPT did not always respond accurately to the prompts they provided.

Another challenge identified in the study is the confusion caused by multiple answer options. ChatGPT frequently provides several alternative explanations or perspectives for a single question. While these alternatives may enrich students' understanding, they can also make it difficult to determine which explanation is the most suitable for a particular research context. Consequently, students must carefully evaluate the available options before incorporating them into their writing.

Participants also expressed concerns regarding the risk of plagiarism, reduced originality, and inaccurate information. Excessive dependence on ChatGPT may reduce students' analytical skills and the originality of their academic writing. Furthermore, copying ChatGPT-generated content without proper revision may increase the risk of plagiarism. Students also acknowledged that ChatGPT occasionally provides outdated or inaccurate information, making source verification essential for maintaining academic integrity.

Finally, the study identified several technical issues, including unstable internet connections and server errors during periods of high user traffic. Although these problems are unrelated to the quality of ChatGPT's responses, they can interrupt students' writing activities and reduce productivity, particularly during critical stages of completing academic papers.

The findings demonstrate that ChatGPT plays a meaningful role in supporting students throughout the academic writing process. Its contribution to brainstorming, topic clarification, and outline development supports the argument of Kasneci et al. (2023) that ChatGPT has a transformative role in higher education by facilitating idea generation and improving learning efficiency. These findings also align with the cognitive writing model proposed by Flower and Hayes (1981), which emphasizes planning as a fundamental stage of writing. In this context, ChatGPT functions as a scaffolding tool that assists students in organizing their thoughts before transforming them into written texts.

The findings also indicate that ChatGPT enhances students' ability to develop paragraphs, improve sentence structure, and revise academic language. These results are consistent with Zhai (2022), who argues that ChatGPT provides immediate linguistic feedback and supports students in producing clearer and more coherent academic writing. Its ability to simplify complex concepts and summarize academic literature further demonstrates its value as both a technical and cognitive learning assistant.

Despite these advantages, the findings also highlight important limitations. Consistent with Zawacki-Richter et al. (2019) and Liebrenz et al. (2023), participants expressed concerns regarding inaccurate references, excessive dependence on AI, plagiarism risks, and declining critical thinking skills. The study shows that ChatGPT cannot replace credible academic sources because its references and factual information must always be verified through books, journal articles, and other reliable scholarly resources.

Overall, the findings suggest that ChatGPT should be regarded as a supporting academic writing tool rather than a substitute for students' intellectual efforts. When used critically and responsibly, it can improve writing efficiency, language quality, and academic organization. However, inappropriate or excessive reliance on ChatGPT may reduce originality, weaken analytical thinking, and compromise academic integrity. Therefore, students should combine the advantages of AI technology with independent critical thinking, careful evaluation, and proper source verification to produce high-quality academic papers.

CONCLUSIONS

Based on the research findings, ChatGPT plays a significant dual role in the academic paper writing process of students at Nurul Jadid University. As a writing assistant, ChatGPT supports students throughout various stages of writing, including brainstorming ideas, clarifying research topics, creating

outlines, developing paragraphs, improving sentence structures, summarizing references, and refining academic language. Its use contributes to improving writing quality, particularly in terms of language accuracy, vocabulary development, and the coherence of arguments.

However, the use of ChatGPT also presents several challenges that require students' critical awareness. These challenges include inaccurate or irrelevant information, unreliable references, general responses, robotic language styles, confusion from multiple suggestions, and risks related to academic integrity such as plagiarism, reduced originality, and overdependence on AI. Technical problems, such as unstable internet connections and server errors, also affect its effectiveness. Therefore, ChatGPT should be viewed as a supportive tool rather than a replacement for students' critical thinking, analytical abilities, and responsibility in maintaining academic integrity. Its effectiveness depends on students' ability to evaluate, verify, and use the technology wisely.

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