The Use of ChatGPT (Generative Pre-trained Transformer) as a Supporting Tool in Writing Research Proposals

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Abstract

Academic writing is an essential component of formal education, particularly for English as a Foreign Language (EFL) students who are required to produce research proposals before conducting their thesis. Several students used ChatGPT as a supporting tool in writing their research proposals. The objectives of this study are to explore how EFL students perceive the use of ChatGPT as a supporting tool in writing research proposals and to examine the challenges EFL students faced when using ChatGPT in the research proposal writing process. This study employed a qualitative research approach with a case study design, incorporating data from close-ended questionnaires and semi-structured interviews. A total of 20 EFL students from the English Education Department at the University of Mataram participated in the questionnaire phase, while 6 were selected for in-depth interviews. The findings revealed that the majority of students responded positively to ChatGPT. ChatGPT is useful in organizing ideas, as a writing tool, and in enhancing the academic quality of their proposals. However, challenges such as difficulties in designing effective prompts to produce results that match the commands remain. Therefore, prompt engineering training is important for students. These results highlight ChatGPT's potential in supporting proposal writing, but also emphasize the need for critical engagement and proper training to ensure ethical and effective use in higher education.

Keyword: ChatGPT, Academic Writing, Research Proposal, EFL Students, AI-assisted learning.

INTRODUCTION

Academic writing represents a vital aspect of English proficiency within formal education, serving as a medium for students to articulate their ideas and reasoning effectively. For English language learners, writing holds particular significance, as it contributes directly to their academic development. In the context of this study, English as a Foreign Language (EFL) students frequently encounter difficulties in developing strong writing abilities. As noted by Lindsay (2000), producing writing that is cohesive, fluent, and meaningful is a challenging task, regardless of whether the language in question is one's first, second, or a foreign language.

Additionally, academic writing is widely regarded as one of the most demanding tasks that university students must undertake, posing difficulties for both domestic and international learners (Campbell, 2019). At the university level, students are typically expected to prepare a research proposal prior to beginning their thesis. The purpose of this proposal is to assess the efficiency of time, financial investment, and effort, especially in situations where the thesis might not be approved. Many students struggle with writing research proposals due to limited academic writing proficiency.

Suryatiningsih (2019), highlights that EFL students often face obstacles in composing thesis proposals, particularly in key sections such as the introduction, methodology, literature review, and references. Based on the pre-observation, it is indicated that several students of the English education department at University of Mataram faced several difficulties in writing their research proposals. Some of the common obstacles faced are difficulties in finding and developing research ideas, organizing the proposal outline systematically, and lack of skills in organizing ideas. These obstacles often make students feel depressed and slow down the process of completing their final project. Due to the difficulties they faced, several students decided to use ChatGPT to support their research proposal writing as a solution. As a text-based artificial intelligence model, ChatGPT can help students find and develop relevant research ideas, organize the proposal outline systematically, and provide advice on writing background, research problems, and research methodology. Artificial intelligence (AI)-based learning tools like ChatGPT have been recommended as supplementary media, offering quick access to additional materials and explanations (Aeni et al., 2024; Afifah et al., 2024). In addition, the tool also provides feedback on grammar, writing style, and text coherence, helping students improve the quality of their writing. Fitri et al. (2025), states that the use of digital technologies such as chatbots or AI applications can provide instant feedback and help students improve their grammar and word choice.

In recent times, the use of Artificial Intelligence (AI), especially ChatGPT, has become increasingly prevalent as a tool in language learning. As explained by De La Vall and Araya (2023), AI-powered language learning applications are digital tools designed to assist individuals in acquiring and improving foreign language skills through the implementation of AI-driven algorithms. ChatGPT, a Generative Pre-Trained Transformer created by OpenAI, functions as an unsupervised language model capable of generating human-like text across a wide range of topics. This tool has gained popularity in academic contexts, particularly for aiding students in their academic writing, where it has shown promising outcomes. ChatGPT has become a popular tool for students in developing their English writing skills, particularly in terms of paragraph structure, main ideas, and syntactic accuracy (Soepriyanti et al., 2022). Mondal and Mondal (2023), noted that ChatGPT can support the development of well-crafted research papers by enhancing writing efficiency and precision. Nevertheless, they caution that overreliance on ChatGPT should be avoided, as it may introduce inaccuracies or reflect biases present in its training data. The researchers were motivated to start this research because of the popularity of AI, particularly ChatGPT, in the learning process. Based on personal questions to the people nearby (EFL students), it is indicated that they use ChatGPT to support in writing research proposals. This phenomenon also happened at the previous research conducted by Rosalina et al. (2024), found that ChatGPT can improve the quality of writing English education research articles.

Based on the background above, the further investigation regarding the use of ChatGPT in scientific writing is needed. Some researches on ChatGPT have been studied by several previous researchers. First, the research was conducted by Salsabila et al. (2024). The findings indicated that the use of ChatGPT significantly positively impacted students' academic quality, enhancing their understanding of the material, fostering critical thinking skills, and improving efficiency in completing academic

tasks. The second research was conducted by Kusumaningtyas et al. (2023). The findings of the study suggest that using ChatGPT can assist students at Surabaya State University in completing assignments, such as essays, by aiding in tasks like information retrieval, answering questions, and sentence composition, ultimately increasing productivity in completing academic tasks. The last research was conducted by Tarmizi & yahfizham (2023). The results of the study suggest that students are interested in using ChatGPT's AI technology to enhance both the efficiency and quality of their final assignments.

Although there has been much research on ChatGPT, little focus has been placed on research proposal writing by EFL students in Indonesia. This research, focusing on EFL students' perspectives at the University of Mataram, used a case study design to explore the potential and challenges of using ChatGPT as a tool in research proposal writing, aiming to deepen the understanding of its application and impact. The main objectives of this study are to explore how EFL students perceive the use of ChatGPT as a supporting tool in writing research proposals and to examine the challenges EFL students faced when using ChatGPT in the research proposal writing process.

METHOD

This study employed a qualitative research approach with a case study design, to explore students' learning experiences with the use of ChatGPT (Generative Pre-trained Transformer) as a supporting tool in writing research proposals. A case study was considered appropriate because it allows for an in-depth and contextualized understanding of students' interactions with ChatGPT, particularly how they utilize the tool during different stages of academic writing. As defined by Creswell & Creswell (2018), a qualitative case study involves the researcher conducting an in-depth examination of one or more cases over time, with the collection of detailed data from various sources.

Research Subjects

This study was conducted at one of state universities in Lombok, Indonesia, specifically within the English Education Department. A purposive sampling method was used to choose the participants for this study. Participants were selected based on the criteria included final-year students in the English Education study program at University of Mataram, currently in their 8th semester and students actively using a ChatGPT as a tool to assist in writing proposals.

Research Instruments

This study used two main instruments in data collection, namely questionnaires and interview guides, both of which are commonly used instruments in qualitative research to explore participants' experiences and perceptions in depth.

Questionnaire

The questionnaire instrument was used to obtain an initial overview of students' perceptions of the use of ChatGPT as a tool to assist in writing research proposals. The questionnaire consisted of 18 statements arranged on a 4-point Likert scale, ranging from Strongly Disagree to Strongly Agree. The questionnaire consisted of 18 questions grouped into four main dimensions: (1) students' perceptions of ChatGPT, (2) the use of ChatGPT for brainstorming and finding ideas, (3) ChatGPT as a writing tool

(paraphrasing, summarizing, academic style), and (4) challenges in using ChatGPT. Although it was a closed-ended questionnaire, it served a qualitative purpose to identify general trends among students and as a basis for determining participants for the interview stage. Thus, the questionnaire provided a comprehensive overview of students' attitudes before more in-depth data collection was conducted.

Interview

To complement and deepen the findings from the questionnaire, the researcher conducted semi-structured interviews. The interviews were conducted individually with 6 students selected based on the questionnaire results, specifically those who showed the highest intensity of ChatGPT use and obtained significant benefits from it. The interview guide consisted of four open-ended questions developed from the themes that emerged in the questionnaire. The questions were designed to be flexible to allow for follow-up questions, while remaining focused on the main topics. The discussions focused on the students' experiences in using ChatGPT for writing proposals, the benefits and challenges they encountered, the impact on their motivation and engagement in writing, and their suggestions regarding the use of ChatGPT in an academic context. Each interview lasted approximately 10–15 minutes and was conducted individually via WhatsApp Chat. All conversations were documented with the participants' consent and then transcribed verbatim for thematic analysis.

Research Procedures

The empirical data in this study were collected through questionnaires and semi-structured interviews. The data collection process was carried out systematically to ensure the accuracy and depth of the findings. The main purpose of data collection was to explore students' perceptions of the use of ChatGPT as a tool in writing research proposals, particularly regarding ChatGPT's role in helping to find ideas, organize structure, paraphrase, summarize, and the challenges faced by students.

Questionnaire

The first stage of data collection was carried out by distributing questionnaires to 20 eighth-semester students of the English Education Study Program, Mataram University. The distribution was carried out in May 2025. Before distribution, the researcher explained the purpose of the study and provided clear instructions on how to fill out the questionnaire. The instrument used was a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly Agree), so that respondents could indicate their level of agreement with each statement. Respondents were given 30 minutes to complete the questionnaire online via Google Form. During the process, most students responded enthusiastically, although some still requested clarification on certain items. Overall, this stage ran smoothly and produced complete data.

Interviews

The second stage of data collection was semi-structured interviews conducted in June 2025. Interviews were conducted with 6 students who were purposively selected based on the questionnaire results, specifically those who showed high intensity in using ChatGPT and obtained significant benefits from its use. The interviews were conducted individually via WhatsApp Chat and lasted 10–15 minutes for each

participant. Interview guidelines were used to explore the students' experiences, the benefits they felt, the challenges they faced, and the strategies they used in utilizing ChatGPT for writing proposals. All interviews were documented in written notes by the researcher, then transcribed verbatim for thematic analysis.

Data Analysis

The data analyzed in six steps to analyzing qualitative data. The steps required for qualitative data analysis are as follows (Creswell & Creswell, 2018):
1) Preparing and organizing data for analysis
     All collected data, including questionnaire results and interviews, were compiled and organized systematically.
2) Reading and Familiarizing with the Data
     Researchers carefully read all interview results and questionnaire responses to gain a general understanding of the data content.
3) Coding the Data
     The data was then sorted into meaningful units through a thematic coding process.
4) Generating Themes from the Codes
     After the coding process is complete, the data is grouped into main themes related to the research focus.
5) Interpreting and Representing the Findings
     Researchers interpret each theme in relation to the research questions, supported by direct quotes from participants.
6) Validating the findings' accuracy
     To ensure the credibility and validity of the findings, the researchers used data triangulation techniques through two sources: questionnaires and interviews.

Table 1. Likert Scale

Description	Scale
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4

Table 1 shows the Likert scale used as the basis for measuring students' responses to statements regarding the feelings and opinions, brainstorm and find ideas, writing tools, and challenges encountered when using ChatGPT.

FINDINGS AND DISCUSSION

Students' feelings and opinions on using ChatGPT as a supporting tool in writing a research proposal

Analysis of the 18-item questionnaire revealed four key themes: feelings and opinions, brainstorm and find ideas, writing tools, and challenges related to usage. The following is a bar chart depicting students' perceptions about using ChatGPT:
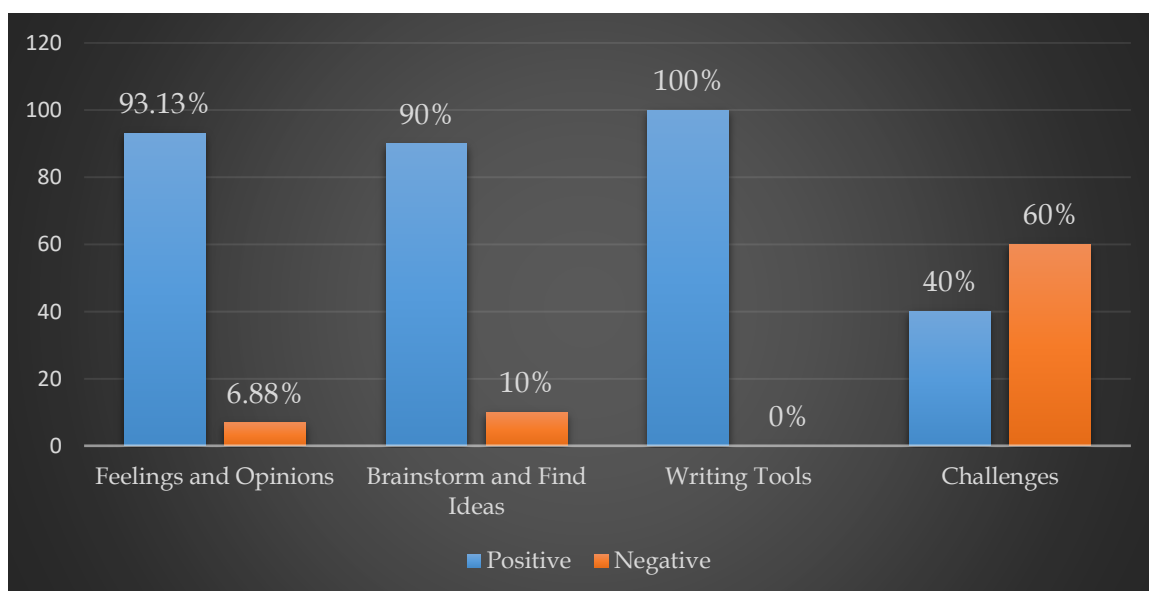
Figure 1. Students' Perceptions

Based on Figure 1. The questionnaire results show students' perceptions using ChatGPT. In terms of feelings and opinions, 93.13% of respondents gave positive responses, indicating that the majority of students felt helped by ChatGPT in the process of writing proposals. Only 6.88% expressed negative perceptions. In terms of brainstormi and find ideas, 90% of respondents admitted that ChatGPT helped them find research topics, formulate research questions, and determine research methods. Conversely, 10% gave negative responses. In terms of writing tools, all respondents (100%) expressed positive perceptions. This confirms that ChatGPT is very effective in helping students with writing activities, including paraphrasing, summarizing, and adjusting academic style. No respondents gave negative responses. In terms of challenges, the results were more varied. Forty percent of respondents gave positive responses, seeing challenges as opportunities to improve independent learning skills. However, 60% gave negative perceptions, mainly due to difficulties in formulating prompts and explanations that were sometimes unclear. Overall, the questionnaire results show that students have a predominantly positive perception of ChatGPT. The majority consider ChatGPT useful in providing easy access, helping to find ideas, and improving writing skills. However, some respondents highlighted technical and content barriers that need to be anticipated.

The semi-structured interviews provided a deeper understanding of the students' experiences. Students rated ChatGPT as a very helpful tool, especially when facing initial confusion in writing proposals. Responden #1 stated: "*ChatGPT Very helpful, because when confused about what to write, ChatGPT can provide references and also helped me to outline the chapters of the research I did so that my research plan was more organized and clear*". Several students emphasized that ChatGPT helped clarify research ideas and provided alternative methodologies. Responden #4 stated: "*It makes it easier to understand the topic that I want to research, giving me a lot of ways to find research methodologies and techniques*". ChatGPT was also seen as speeding up the literature review process and improving the academic style of writing. Respondent #6 explained: "*ChatGPT helps provide ideas and references that I can use to make proposals and improve my knowledge of proper writing...*".

However, the interviews also revealed several challenges in using ChatGPT, especially regarding the accuracy of sources, the relevance of answers, as well as the importance of formulating appropriate prompts so that the results obtained are appropriate for the academic context. Respondent #2 reflected the challenges : *"I've had a fair share of challenges when using ChatGPT. For one, the answers are sometimes too general and not directly relevant to the context of my research and the problem is only one, namely how to prompt or generate that can be understood by ChatGPT so that it generates requests as expected, if not careful in this case different things can be given"*. In addition to the challenges mentioned above, participants also overcame these challenges in the following ways. Respondent #2 reflects that: *"I usually solve this by asking more specific questions, or adding more details prompt so that ChatGPT can provide more relevant answers. After getting the answers, I always re-read them, then revise or re-arrange them to better suit my topic and academic writing style. I also compare them with other sources if in doubt"*. Thus, it can be concluded that all participants addressed the challenges in using ChatGPT with adaptive strategies, especially through improving the quality of prompts, verifying results, and self-learning to optimize the use of this tool in academic writing.

Most EFL students showed positive perceptions toward the use of ChatGPT in the research proposal writing process. They felt assisted in organizing the content of the proposal, gained additional motivation, and perceived the writing process as more efficient. These findings are consistent with the Technology Acceptance Model (TAM) framework (Davis, 1989), in which perceived usefulness and perceived ease of use influence technology acceptance. 93,13% of students stated that ChatGPT helped them complete their writing and had a positive impact on their learning motivation. This also reinforces the findings of Song and Song (2023) that the use of AI can enhance students' learning motivation. The majority of students use ChatGPT to help explore research topics, research problems, and design methodologies. ChatGPT's role as an idea exploration tool is closely related to the Process Writing theory, particularly in the prewriting stage, where students build basic ideas before starting to write. In this context, ChatGPT functions as a scaffold that accompanies students' thinking processes, as explained by Dergaa et al. (2023), who state that AI can support the initial literature review process and the identification of main themes in research. In the writing process, students used ChatGPT to summarize references, paraphrase, and request examples of quotations. This usage shows that ChatGPT not only supports the drafting and revision stages in The process of writing but also acts as a virtual writing coach as described in Computer-Assisted Language Learning. According to Cronje (2023), AI such as ChatGPT provides feedback that supports the development of academic writing. The findings of this study reinforce this, as students reported that ChatGPT helped them in constructing academic paragraphs and improving grammar.

Although most students feel that it is helpful, several reported challenges such as difficulties in generating specific prompts, overly general output, and invalid references. This supports Dergaa et al. (2023), who warned of the risk of bias and inaccuracies in AI-generated content, and Nguyen Thi Thu (2023), who noted disparities in digital literacy among students. Some students also found that ChatGPT's language was too formal or inconsistent with their academic style, reinforcing the importance of critical thinking and revision. Students overcame these challenges by clarifying prompts, verifying information, and adjusting content to fit

academic standards. These adaptive strategies echo Giray's (2023) point that effective prompt engineering is a key to optimiz ChatGPT's performance and output relevance.

Overall the findings from this study reveal that most students generally view ChatGPT as a highly effective tool for supporting their research proposal writing. It plays a crucial role in helping them generate ideas, refine their writing, and enhance the overall quality and efficiency of their academic work. However, the use of ChatGPT is not without challenges, particularly in terms of prompt precision and the accuracy of generated content. Despite these difficulties, students have developed strategies to overcome these issues, such as refining prompts and supplementing ChatGPT's output with additional research. Ultimately, while ChatGPT significantly aids the writing process, it requires careful management and should be used as a complement to traditional academic skills to ensure the production of high-quality academic proposals.

CONCLUSION

This study revealed that students perceived ChatGPT positively. They viewed ChatGPT as helpful, students used ChatGPT to brainstorm and find ideas, students used ChatGPT as a tool for writing. These positive perceptions indicate that ChatGPT serves as a valuable academic aid, particularly for EFL learners who often face challenges in academic writing. The challenges faced by students when using ChatGPT included difficulties in creating effective prompts, the generation of overly general or irrelevant responses, and was too formal or not aligned with their academic style. To address these challenges, students developed strategies such as refining and specifying their prompts and revising AI-generated content to suit academic standards. These solutions highlight the importance of critical engagement and responsible use of AI tools. The limitations of this study are that the sample is limited to one university, the data is based solely on students perceptions without considering the quality of the proposals produced, and it does not measure the long-term impact of ChatGPT usage. Overall, while ChatGPT presents notable advantages, its effectiveness depends on how thoughtfully and strategically it is used by the students.

RECOMMENDATION

Based on the results of the study, it is suggested that students are encouraged to use ChatGPT judiciously and critically. While the tool can support idea development, paraphrasing, and writing, students should verify the accuracy of the content, revise the text generated by the AI, and ensure that the final output meets academic integrity standards. Learning how to write effective prompts is also critical to maximizing the usefulness of ChatGPT. In addition, suggestions for educators should consider incorporating AI literacy into academic writing instruction. Rather than banning tools like ChatGPT, teachers can guide students on how to use them ethically and effectively, promoting digital competence and academic honesty. Suggestions for further research include experimental studies to compare the quality of proposals with and without ChatGPT, research on lecturers' perceptions of students' use of ChatGPT, and exploration of the integration of ChatGPT into academic curricula.

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