Challenges of Using AI Writing Tools in the Thesis Writing Process: A Study on Undergraduate English Education Students at Universitas Muhammadiyah Bengkulu

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ABSTRACT

The use of Artificial Intelligence (AI) writing tools such as ChatGPT, Grammarly, and Quillbot has rapidly expanded in academic contexts, particularly in higher education. While these tools offer significant benefits in assisting students with grammar correction, paraphrasing, and idea generation, they also pose critical challenges related to dependency, originality, academic integrity, and writing quality. This study explores the challenges experienced by undergraduate English Education students at Universitas Muhammadiyah Bengkulu when using AI writing tools during their thesis writing process, along with the strategies adopted to overcome them. Employing a descriptive qualitative approach, data were collected from 22 final-year students through open-ended questionnaires and semi-structured interviews. Thematic analysis revealed five key challenges: dependency on AI tools, issues of originality and plagiarism, difficulties in maintaining academic writing conventions, technical and conceptual limitations of AI tools, and fluctuating confidence in writing. To address these challenges, students applied self-regulation, consulted supervisors, used plagiarism checkers, paraphrased content manually, and improved independent writing skills. The study concludes that AI tools can effectively support thesis writing when used ethically and critically, supported by institutional guidance and academic supervision.

Keywords : AI Writing Tools, Academic Writing, Thesis Writing, EFL Students, Challenges

INTRODUCTION

Thesis writing is widely recognized as one of the most challenging academic tasks faced by undergraduate students, particularly in the field of English Education. The process requires students to demonstrate mastery of academic writing skills, critical thinking, research methodology, and linguistic accuracy. For English as a Foreign Language (EFL) learners, these challenges are even more pronounced due to limited proficiency in complex grammatical structures, academic vocabulary, and the conventions of scholarly writing (Wahid et al., 2024). Consequently, many students experience difficulties in formulating ideas, organizing paragraphs

coherently, and maintaining the formal tone expected in academic discourse.

With technological advancements, Artificial Intelligence (AI) writing tools such as ChatGPT, Grammarly, and Quillbot have become increasingly integrated into academic writing practices. These tools offer various functionalities, including paraphrasing, grammar correction, rephrasing, summarization, and idea generation (Amani & Bisriyah, 2025). For many students, AI tools provide immediate solutions to linguistic and structural constraints, reducing the cognitive load associated with writing in a second language. As a result, AI has become an indispensable companion in students' thesis writing routines.

However, despite their benefits, AI writing tools also bring complex implications. Concerns arise regarding excessive dependency, reduced originality, inconsistent adherence to academic conventions, and the risk of plagiarism (Gustilo et al., 2024). Additionally, AI tools may produce inaccurate, fabricated, or overly generalized content, requiring students to verify information manually. While previous research has explored AI in general academic writing contexts, limited studies have focused on how undergraduate Indonesian EFL students navigate the specific challenges of using AI during the high-stakes process of thesis writing.

This study aims to fill this gap by examining the challenges encountered by undergraduate English Education students at Universitas Muhammadiyah Bengkulu. It also identifies the strategies students implement to mitigate these challenges. The findings are expected to provide insights for educators, institutions, and future researchers in developing guidelines for responsible AI usage in academic settings.

Based on the issues presented in the background such as students' dependency on AI tools, challenges in maintaining originality, difficulties in applying academic writing conventions, and the technical limitations of AI-generated content this study seeks to explore the specific challenges faced by undergraduate English Education students at Universitas Muhammadiyah Bengkulu when using AI writing tools during the thesis writing process. In addition, this research also aims to understand how these students respond to and overcome the difficulties they encounter while relying on AI tools in developing their academic writing.

RESEARCH METHODOLOGY

RESEARCH DESIGN

This study used a descriptive qualitative research design. A qualitative approach was selected because it allows researchers to explore participants' real experiences, perceptions, and challenges in depth. According to (Flanders et al., 2025), qualitative inquiry is essential for understanding how individuals interpret and engage with technological tools, including artificial intelligence, within real-life contexts. Similarly, (Tan & Duarte, 2024) emphasize that qualitative methods help capture complex patterns of human and AI interaction that cannot be fully represented through numerical data.

In this study, descriptive qualitative design enabled the researcher to describe in detail the benefits and challenges experienced by students when using artificial intelligence based writing tools during their thesis writing process. This approach was appropriate because it allowed an in-depth exploration of how students interacted with and adapted to the technological tools they used.

PARTICIPANTS

The participants of this study were final-year students of the English Education Study Program at Universitas Muhammadiyah Bengkulu. They were selected because they were actively engaged in thesis writing and had experience using AI-based writing tools such as ChatGPT, Grammarly, and similar platforms. Their direct involvement with AI tools made them relevant sources of information regarding the benefits and challenges of AI-assisted academic writing.

DATA COLLECTION

Data were collected using two techniques: a questionnaire and semi-structured interviews. These techniques were used to obtain both broad and detailed information from the participants.

1. Questionnaire

   An online questionnaire was developed to gather initial data related to participants' experiences with AI writing tools. The questionnaire consisted of multiple-choice and open-ended items covering respondent information, types and purposes of AI tool usage, frequency of use, and the challenges encountered. The development process included designing the items, validating them through expert judgment, revising the items based on feedback, and distributing the final version through Google Forms.
2. Semi-Structured Interviews

   Semi-structured interviews were conducted with selected participants based on their questionnaire responses. The interviews explored three main areas: (a) the types of challenges experienced when using AI tools, (b) the effects of these challenges on students' thesis writing progress, and (c) the strategies used to manage or overcome those challenges. All interviews were recorded, transcribed, and verified through member checking to ensure accuracy.

DATA ANALYSIS

The data in this study were analyzed using thematic analysis following the steps introduced by (Braun & Clarke, 2006). This method was chosen because it provides a systematic yet flexible way to identify recurring patterns within qualitative data. The analysis involved six detailed stages, which are explained as follows :

1. Familiarizing with the Data

In the first stage, the researcher repeatedly read all questionnaire responses and interview transcripts to gain a deep understanding of the content. Important statements, keywords, and initial impressions were noted. This step ensured that the researcher became fully immersed in the data before beginning the formal coding process.

2. Generating Initial Codes

   After becoming familiar with the data, the researcher highlighted meaningful segments and assigned initial codes to them. These codes represented significant features related to students' experiences for example, "AI dependency," "difficulty maintaining originality," "technical errors," or "plagiarism concerns." Coding was done manually to capture as many relevant details as possible.

3. Searching for Themes

   In this stage, the researcher reviewed the initial codes and grouped them into broader categories or potential themes. Codes that shared similar meanings or topics were placed together. For instance, codes related to "limited AI features," "inaccurate references," and "AI errors" were grouped under the theme "technical limitations."

4. Reviewing the Themes

   The researcher then examined each potential theme to ensure that the data within them were coherent and accurately represented participants' experiences. Some themes were refined, combined, or separated based on their relevance. This step ensured that each theme truly reflected patterns found in the data rather than isolated statements.

5. Defining and Naming the Themes

   Once the themes were finalized, the researcher clearly defined what each theme represented. Each theme was given a concise and descriptive name such as "Dependency on AI Tools," "Originality and Academic Integrity," or "Confidence in Writing." Sub-themes were also identified when necessary to capture deeper nuances within the data.

6. Producing the Final Report

   In the final stage, the researcher organized the defined themes into a structured narrative supported by direct participant quotations. This report explained how the themes connected to the research questions and demonstrated the students' experiences in a clear and meaningful way. The results of this process formed the basis of the findings and discussion presented in this study.

FINDINGS AND DISCUSSION

FINDINGS

1. Dependency on AI Tools

   A considerable number of students reported a strong reliance on AI tools, especially during the early stages of writing their thesis. Many participants described AI as a starting point that helped them reduce anxiety when drafting introductions, background sections, or theoretical explanations. Students frequently used AI to generate outlines, paraphrase complex ideas, or rephrase sentences that they struggled to

write in English. This reliance indicates that AI supported both linguistic and cognitive processes, particularly for students who lacked confidence in academic writing.

However, this dependency also reduced students' autonomy. Some participants explained that they encountered difficulties progressing with their drafts whenever AI was unavailable or limited. They felt less capable of brainstorming, organizing ideas, or maintaining an academic tone without assistance, suggesting that AI began to replace essential pre-writing strategies. These experiences were especially common among participants who used AI for almost every writing task, including simple explanations or paraphrasing.

2. Originality and Academic Integrity

Concerns regarding originality were frequently highlighted by students. Many participants stated that AI-generated text sounded more polished than their usual writing, creating inconsistency in tone across their chapters. Some felt that AI-produced sentences lacked personal voice and did not fully represent their own understanding, especially when writing literature reviews or theoretical explanations. These issues made students hesitant to rely on AI-generated wording.

Academic integrity also emerged as a prominent theme. Several students reported uncertainty about how to use AI without violating plagiarism guidelines. Some participants struggled to paraphrase AI suggestions effectively, while others worried that AI-generated sentences might resemble online sources. Students also expressed concern about similarity checks and the risk of unintentionally producing work that did not reflect their own reasoning.

3. Academic Writing Conventions

Students reported that AI was useful for correcting grammar, improving clarity, and assisting with vocabulary selection. However, difficulties remained in more complex aspects of academic writing. Several participants noted that AI did not consistently follow the APA citation style required in their department. AI-generated references were sometimes incomplete, outdated, or incorrect, forcing students to manually verify all citations.

Students also found that AI did not always provide coherent arguments or logical flow aligned with thesis expectations. Although AI could generate individual paragraphs, these paragraphs sometimes lacked depth or connection to students' research focus. Participants often needed to reorganize or expand AI-generated content to meet academic standards.

4. Technical and Conceptual Limitations

Most students experienced technical limitations, especially those using free AI versions. Participants described restrictions such as limited daily usage, character limits, or the inability to generate long academic explanations. Internet instability also disrupted AI usage, particularly for students writing from home or rural areas.

Conceptual limitations were also observed. Students encountered AI hallucinations, such as fabricated references, inaccurate theoretical explanations, or incorrect definitions of research terms. These errors required students to cross-check AI content with credible sources,

adding additional workload. Such inconsistencies affected students' confidence in relying fully on AI for academic tasks.

5. Confidence in Writing

   AI affected students' confidence in mixed ways. For some students, AI increased confidence by helping them produce clearer, more grammatically accurate writing. They felt more comfortable submitting drafts to supervisors because AI minimized linguistic errors and improved readability. This support reduced anxiety, especially among students who lacked confidence in English.

   Conversely, some participants reported reduced confidence due to dependence on AI. They expressed concern that their natural writing ability might weaken over time because they relied heavily on AI suggestions. Some felt unsure about their ability to write without assistance, leading to doubts about their actual competence as English Education students.

6. Students' Strategie

   Students adopted several strategies to manage their AI use. Many participants intentionally drafted their ideas independently before consulting AI, believing this would preserve originality and personal voice. Others emphasized editing and paraphrasing AI-generated sentences to ensure accuracy and authenticity.

   Students also sought human support to complement AI. They consulted supervisors for conceptual clarification and peers for feedback. In addition, they manually checked references, verified definitions, and used plagiarism checkers to ensure academic integrity. Over time, these practices contributed to greater awareness of ethical and responsible AI usage.

DISCUSSION

1. Dependency on AI Tools

   The findings indicate that AI played a significant role in supporting students' thesis writing, particularly for generating ideas and managing linguistic challenges. This aligns with research suggesting that AI reduces cognitive load for EFL learners. However, students' difficulty in writing without AI suggests weakened autonomy, supporting arguments by (Sahabuddin et al., 2025) that overreliance on AI can hinder the development of creative and critical thinking skills.

2. Originality and Academic Integrity

   Students' concerns about losing personal voice reflect broader debates about AI's role in academic authorship. As the findings show, polished but impersonal AI-generated writing created tension between convenience and authenticity. This aligns with (Gustilo et al., 2024), who highlight academic integrity risks when students cannot distinguish between acceptable and excessive AI involvement. The findings demonstrate that without clear institutional guidelines, students face uncertainty in making ethical decisions about AI use.

3. Academic Writing Conventions

   While AI supported grammar and surface-level accuracy, students still struggled with higher-level writing conventions such as citation,

coherence, and argument development. These findings reinforce the idea that academic writing competence cannot be fully delegated to AI. (Oktaviani et al., 2024) similarly argue that EFL students require explicit instruction in academic writing conventions, regardless of technological assistance. The mismatch between AI-generated structure and thesis requirements shows that AI cannot replace foundational academic literacy.

4. Technical and Conceptual Limitations

   Students' encounters with technical restrictions and AI hallucinations emphasize that AI tools are not fully reliable for academic work. These findings correspond with (Jamaluddin et al., 2023), who warn that unverified AI content may compromise the accuracy and credibility of academic writing. The need for manual verification in this study shows that students must possess adequate digital literacy to recognize and correct inaccurate or fabricated information produced by AI.

5. Confidence in Writing

   Students' confidence fluctuated depending on their interaction with AI. This finding aligns with (Abdulkareem et al., 2024), who reported that AI tools often increase students' confidence by improving grammatical accuracy and writing clarity. However, similar to (Ratih & Kastuhandani, 2024) findings, some students in this study also experienced reduced confidence due to excessive reliance on AI-generated text. These results are consistent with Wahid et al. (2024), who noted that confidence issues are common among EFL students engaged in thesis writing.

6. Students' Strategies

   The strategies identified in this study align with previous research. (Amani & Bisriyah, 2025) explain that self-regulated writing is an essential approach when using AI tools, as students must balance technological assistance with independent thinking. (Gustilo et al., 2024) emphasize the importance of verifying AI outputs and checking for plagiarism, which is consistent with participants' practices in this study. In addition, the emphasis on supervisor consultation supports (Ihekweazu et al., 2023) argument that human judgment remains critical in evaluating AI-generated content. Students' habit of rewriting AI-generated sentences also aligns with findings by (Oktaviani et al., 2024), who highlight that manual revision helps maintain coherence and authenticity in academic writing.

CONCLUSION & SUGGESTION

Conclusion

This study revealed five key challenges faced by undergraduate English Education students when using AI writing tools in thesis writing: dependency, originality concerns, difficulties with academic conventions, technical limitations, and fluctuating writing confidence. While AI tools such as ChatGPT, Grammarly, and Quillbot provide significant support, their effectiveness depends on responsible, critical, and ethical use. Students

who balanced AI with independent writing and academic guidance demonstrated better outcomes. The study suggests that universities should establish clear guidelines on ethical AI use and provide training in digital literacy. Supervisors should also engage in open discussions with students about responsible AI practices. Ultimately, AI writing tools should serve as complementary aids, not replacements, for students' critical thinking and academic creativity.

Suggestion

Based on the findings of this study, several suggestions are proposed for students, lecturers, the university, and future researchers. For students, it is recommended that AI writing tools be used wisely and responsibly. Students should avoid relying on AI as the primary source of their academic writing and instead prioritize developing their own ideas and arguments. AI tools should function as supportive aids, particularly for grammar checking, sentence refinement, or language clarity, rather than content creation. Students are encouraged to paraphrase AI-generated text carefully, verify information using credible academic sources, and utilize plagiarism detection tools before submitting their work. Regular practice in independent writing and consistent engagement with academic literature are essential to strengthen writing competence and maintain originality.

For lecturers or thesis supervisors, closer attention should be given to students' use of AI during the thesis writing process. Supervisors are encouraged to initiate open discussions regarding the ethical use of AI tools and provide clear guidance on acceptable practices. Giving constructive feedback when AI usage appears excessive can help students reflect on their writing habits. Additionally, lecturers may encourage students to explain how AI is integrated into their writing process and support the development of critical thinking, argumentation, and academic writing skills through targeted writing exercises.

For the university, it is strongly recommended to establish official policies or guidelines regarding the use of AI in academic writing. These guidelines should clearly define permissible and impermissible uses of AI to prevent academic misconduct and reduce uncertainty among students. Furthermore, the university is encouraged to offer training programs or workshops focusing on digital literacy, AI ethics, and responsible technology use. Such initiatives can help students and lecturers better understand both the advantages and limitations of AI tools in academic contexts.

For future researchers, this study was limited to undergraduate English Education students from a single university and employed a qualitative research design. Future studies are encouraged to involve participants from diverse academic disciplines or multiple institutions to enable comparative analysis. Researchers may also explore the use of AI tools in other academic tasks, such as essay writing, classroom learning, or academic presentations. In addition, employing quantitative or mixed-method approaches could provide broader and more comprehensive insights into students' perceptions, behaviors, and challenges related to AI-assisted academic writing.

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