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Students' Use of ChatGPT in Completing Academic Writing Tasks

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Abstract

The increasing use of ChatGPT in higher education raises concerns about its role in supporting or substituting students' thinking in academic writing. This study explored how students use ChatGPT, particularly during research proposal planning and development. A qualitative case study involved four students from an English Language Education Study Program at a private university in Southeast Sulawesi, selected purposively based on their experience using ChatGPT for academic writing. Data were collected through semi-structured interviews and analyzed thematically. Five themes emerged: Idea Generation and Topic Development; Planning and Organization of Academic Writing; Conceptual Understanding and Language Support; Critical Evaluation and Human Control; and Limitations and Challenges of ChatGPT. Participants reported using ChatGPT to develop ideas, organize writing, clarify concepts, and obtain language support. They also described comparing, evaluating, modifying, and verifying AI-generated responses using their understanding and academic sources. However, they encountered challenges in using the tool. These accounts suggest that participants perceived ChatGPT as a thinking aid and external cognitive support, although its role in supporting or substituting for their thinking could not be independently verified. Because the study relied on self-reported accounts and did not collect private ChatGPT prompt histories, it recommends guided integration of ChatGPT into academic writing instruction to promote critical evaluation, verification, and adaptation of AI-generated information while maintaining students' responsibility for their academic decisions.

Keywords: ChatGPT, academic writing, cognitive offloading, thinking aid.

1. INTRODUCTION

Artificial Intelligence (AI) is one of the key characteristics of development in the era of the fifth industrial revolution toward Industry 5.0, which integrates virtual and physical spaces while emphasizing a human-cantered approach [1]. As a manifestation of rapid technological advancement, AI has made significant contributions to facilitating various processes in the fields of education and learning [2]. Various AI-based systems have been widely implemented in educational contexts, such as virtual tutors, voice assistants, interactive content, smart classrooms, automated grading systems, and personalized learning platforms [2]. In the era of the Fourth Industrial Revolution, these technologies are widely utilized by individuals from Generation Y, Z, and Alpha known as digital natives a group with higher proficiency in using computers and the internet compared to previous generations [2]. Along with these developments, the integration of generative artificial intelligence technologies such as ChatGPT into academic writing is increasingly attracting attention in the worlds of education and research. ChatGPT was developed to support natural language generation and is now increasingly used by students to assist with various stages of the writing process, such as generating ideas, exploring topics, and proofreading and editing text [3];[4];[5]. The use of AI in education has also been widely implemented in various countries, including in the form of voice assistants, interactive content, smart classrooms, automated grading systems, and personalized adaptive learning systems [6]. In this context, the use of generative AI-based tools such as ChatGPT in academic writing is increasingly attracting attention from researchers and educators. ChatGPT not only functions as a tool to assist in text generation but can also be used to support various stages of the writing process, from idea development to revision and editing.

In Indonesia, the adoption of ChatGPT in higher education has increased rapidly since the emergence of generative artificial intelligence technologies. Many university students have begun using ChatGPT to support their academic activities, including understanding course materials, completing assignments, generating ideas, improving academic writing, and obtaining immediate feedback during the

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learning process [7]. Furthermore, ChatGPT has become an important learning aid among Indonesian students because it provides quick access to information and supports independent learning. However, concerns remain regarding academic integrity, critical thinking, and students' overreliance on AI-generated content.

Although ChatGPT has become a valuable tool for supporting academic writing, its increasing use has also raised concerns in higher education. Previous studies have shown that ChatGPT can assist students in generating ideas, organizing content, improving language, and providing writing support [8];[9] . At the same time, researchers have emphasized that excessive dependence on ChatGPT may reduce students' active cognitive engagement and raise concerns related to academic integrity and independent learning [10]. These different perspectives have contributed to the rapid growth of research on ChatGPT in education, with existing studies largely examining students' perceptions, acceptance, educational benefits, ethical issues, and learning outcomes rather than focusing on how students actually use ChatGPT in academic writing [11].

Despite the growing body of research, limited attention has been given to how students use ChatGPT specifically during research proposal writing and to the role the technology may play in their thinking processes. In particular, it remains unclear whether students use ChatGPT as a thinking aid that supports idea development and decision-making or as a substitute for thinking by allowing the technology to perform cognitive tasks on their behalf. Addressing this gap is important for understanding not only what ChatGPT can provide to students, but also how students engage with and respond to the information generated by the technology. Therefore, this study aims to explore how students use ChatGPT during research proposal writing, with particular attention to whether it functions as a thinking aid or as a substitute for students' thinking.

2. MATERIALS AND METHODS

2.1. Research Design

This study employed a qualitative research approach using a case study design. A qualitative approach was selected because the study aimed to gain an in-depth understanding of how students use ChatGPT when completing academic writing tasks rather than measuring the effectiveness of ChatGPT statistically. The case study design was considered appropriate because the study focused on a specific group of students within a particular educational setting and examined their reported practices of using ChatGPT in academic writing [12]. The design allowed the researcher to explore the purposes, ways, and considerations underlying students' use of ChatGPT in completing their academic writing tasks. The study particularly examined whether ChatGPT was reported as functioning as a thinking aid that supported students' cognitive processes or as a tool to which some cognitive tasks were offloaded.

2.2. Setting and Participants

The study was conducted in the English Language Education Study Program at a private university in Southeast Sulawesi. The setting was selected because students in the program were required to complete academic writing tasks, including research proposals, and some students had experience using ChatGPT during the writing process. The study involved four final-semester students who had experience using ChatGPT to support their academic writing, particularly the planning and development of their research proposals. The participants had completed their research proposals and were selected because their experiences were relevant to the focus of the study. Purposive sampling was used to select participants who met the following criteria: they were students in the English Language Education Study Program, had experience using ChatGPT for academic writing tasks, and were willing to participate in an interview. This sampling technique was appropriate because the participants were selected based on their relevance to the research focus and their ability to provide information about the phenomenon under investigation [13]. To protect their identities, the participants were referred to as P1, P2, P3, and P4. The small number of participants was intended to facilitate an in-depth exploration of their reported experiences rather than to achieve statistical generalization.

2.3. Research Instrument

In this qualitative study, the researcher served as the primary research instrument, supported by a semi-structured interview guide [14]. The interview questions were developed based on the research question and theoretical framework, particularly Cognitive Offloading Theory and Cognitive Load Theory. The guide was reviewed by the researcher's supervisor as an expert review process but was not pilot-tested. The interviews explored when and why students used ChatGPT, the academic writing tasks they sought assistance with, how they responded to generated outputs, and how they perceived ChatGPT's role in their thinking processes.

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2.4. Data Collection

Data were collected through individual semi-structured interviews with four participants, each lasting approximately 10–20 minutes. The interviews were conducted in Indonesian to help participants understand the questions and express their experiences clearly. Each interview took place at a location chosen by the participant for their comfort. With participants' consent, the interviews were audio-recorded using a mobile phone. The recordings were manually transcribed verbatim, and the transcripts were read repeatedly to familiarize the researcher with the data. Follow-up questions were asked when clarification or further explanation was needed.

The interviews explored participants' reported practices when using ChatGPT, particularly whether they evaluated, compared, modified, paraphrased, or directly used its responses. These accounts were retrospective, as participants described their experiences during or after completing their research proposals. Although ChatGPT prompts and chat histories were initially considered as supplementary data, participants were not required to disclose their private conversations. Therefore, the findings were based on interview accounts and represent participants' reported practices rather than direct verification of their interactions with ChatGPT.

The four participants were purposively selected based on their experience completing research proposals and using ChatGPT for academic writing. Data adequacy was considered in relation to the study's focused research question, the relevance of participants' experiences, and the depth of information obtained through the interviews. The findings were therefore interpreted within the context of these four participants rather than as representative of all students. Data saturation was not claimed.

2.5. Data Analysis

The interview data were analyzed using inductive thematic analysis, following the general procedures described by Braun and Clarke [15]. The analysis involved repeatedly reading the interview transcripts, identifying meaningful statements, assigning initial codes, grouping related codes into categories, and reviewing the emerging patterns to develop and define themes. The codes and themes were developed from participants' accounts rather than predetermined theoretical categories. Coding decisions were based on similarities and differences in meaning and the actions described by participants. The researcher conducted the coding and theme development without an independent second coder or a formal inter-coder agreement procedure.

For example, a statement about using ChatGPT to explore research topics could be coded as "generating research ideas," grouped into "topic exploration and development," and assigned to the theme "Idea Generation and Topic Development." The analysis produced five themes: (1) Idea Generation and Topic Development, (2) Planning and Organization of Academic Writing, (3) Conceptual Understanding and Language Support, (4) Critical Evaluation and Human Control, and (5) Limitations and Challenges of ChatGPT.

The analysis focused on participants' reported purposes for using ChatGPT and their accounts of how they responded to its outputs, including evaluating, comparing, modifying, selecting, or directly using generated information. Cognitive Offloading Theory and Cognitive Load Theory informed the interpretation of the findings rather than the initial coding process. These theoretical perspectives provided a basis for discussing participants' reported use of ChatGPT as an external resource and their experiences of seeking assistance with academic writing tasks. However, the study did not directly measure cognitive load or independently verify participants' interactions with ChatGPT.

2.6. Trustworthiness and Ethical Considerations

To support the credibility of the findings, the researcher recorded the interviews with participants' consent and typed their statements from the recordings for analysis. The interview records were repeatedly reviewed to ensure that the analysis remained grounded in participants' accounts. The researcher also maintained coding records documenting the progression from meaningful interview statements to initial codes, categories, and themes. Emerging themes were reviewed against the interview transcripts and compared across participants to identify similarities and differences. As the researcher was responsible for both coding and interpretation, care was taken to distinguish participants' statements from the researcher's interpretations. However, member checking, data triangulation, and independent review by another researcher were not conducted. Therefore, the findings reflect the researcher's interpretation of participants' self-reported interview accounts, and this limitation is acknowledged.

Ethical principles included informed consent, voluntary participation, confidentiality, and privacy protection. Participants were informed about the purpose and procedures of the study before the interviews and participated voluntarily. Their identities were protected using participant codes (P1–P4), and identifying information was excluded from the report. Participants were not required to disclose their

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private ChatGPT conversations or prompt histories. Interview recordings and typed interview records were used for research purposes and handled confidentially.

3. RESULTS

The findings of this study were obtained from interviews with four participants (P1–P4) concerning their use of ChatGPT during the planning and development of their research proposals. The analysis identified five main themes: (1) Idea Generation and Topic Development, (2) Planning and Organization of Academic Writing, (3) Conceptual Understanding and Language Support, (4) Critical Evaluation and Human Control, and (5) Limitations and Challenges of ChatGPT. These themes illustrate how students used ChatGPT as a support tool while still engaging in their own thinking and decision-making processes.

3.1. Idea Generation and Topic Development

The first theme identified from the interview data was Idea Generation and Topic Development. All four participants described using ChatGPT to obtain support when generating or developing research ideas. However, their accounts highlighted different aspects of this use. ChatGPT was described as a source of initial ideas, assistance in determining research directions, support for clarifying research topics, and help with developing ideas when participants were uncertain about how to proceed. These accounts suggest that idea generation and topic development were common reported uses among the four participants, although the specific difficulties they described were not identical.

P1 explained that ChatGPT was useful when the participant already had a topic but was uncertain about how to develop it further:

> "When I'm not sure where to start, or sometimes even when I already have a topic but am still unsure which direction to take it in, I usually ask ChatGPT for ideas." (P1)

Similarly, P2 emphasized the importance of obtaining ideas before organizing the proposal:

> "The reason I use it at that stage is that, usually, at the beginning, we need to have some ideas before we start organizing things so that everything is in order." (P2)

P3 described using ChatGPT for idea generation as well as for clarifying research topics and understanding unfamiliar concepts:

> "I use it to find ideas, clarify research topics, and help me think through concepts or terms I don't yet understand." (P3)

P4 also described using ChatGPT when experiencing difficulties in developing research ideas:

> "I usually use ChatGPT as a tool when I'm having trouble finding or developing research ideas." (P4)

Taken together, these accounts show that all four participants reported using ChatGPT to support idea generation or development, but they emphasized different aspects of the process. P1 focused on finding a direction for an existing topic, P2 highlighted the need for initial ideas before organizing the proposal, P3 described both idea generation and topic clarification, and P4 emphasized assistance when experiencing difficulty developing ideas. These differences indicate that, although idea generation and topic development appeared across all four accounts, participants did not describe their experiences in exactly the same way. The findings therefore identify a shared reported pattern without assuming that all participants used ChatGPT for identical purposes or in the same manner.

3.2. Planning and Organization of Academic Writing

The second theme was Planning and Organization of Academic Writing. The participants reported using ChatGPT to obtain an initial overview of their proposals, organize ideas, determine what should be discussed in different chapters, and establish a possible direction for the writing. Thus, ChatGPT was not limited to generating research topics but was also used to help students organize the information they already needed to develop.

P1 stated that the participant frequently used ChatGPT at the beginning of the proposal-writing process, particularly for determining the topic, title, research focus, research questions, and initial overview:

> "Usually, I tend to ask for help more often in the early stages. For example, earlier on, I needed help deciding on a topic, a title, the focus of my research, and the research question, or creating a preliminary outline." (P1)

P2 explained that ChatGPT was used when beginning the initial draft, especially to determine the aspects that needed to be discussed in Chapters 1, 2, and 3:

> "That was when I started using ChatGPT during the initial drafting stage, especially when... I was figuring out what I needed to cover in Chapter 1, Chapter 2, and Chapter 3." (P2)

P4 also explained that ChatGPT helped provide alternative possibilities and an initial picture before writing:

> "I also use ChatGPT to help clarify the topic, find some other alternatives, and get a preliminary idea before I write the proposal." (P4)

These accounts suggest that ChatGPT functioned as an organizational aid during proposal planning. Participants used the generated responses to obtain a preliminary structure and organize information before proceeding with their own writing. Therefore, the use of ChatGPT in this theme reflects its role in reducing the difficulty of organizing information and planning the structure of the proposal, rather than completely taking over the writing process.

3.3. Conceptual Understanding and Language Support

The third theme was Conceptual Understanding and Language Support. The findings indicate that participants also used ChatGPT when they encountered difficult concepts, terms, or explanations. Instead of simply requesting answers, students asked ChatGPT to explain information using simpler language so that they could understand the concepts more easily. P2 additionally used ChatGPT to simplify topics and support the development of academic language and sentences.

P1 explained:

> "Especially when I come across a term that's a bit hard to understand, I usually ask ChatGPT to explain it in simpler terms so I can understand it more easily." (P1)

P2 described how ChatGPT helped make complicated topics easier to understand:

> "Because of ChatGPT, I actually think it can help me break down these topics so they're not too complicated into simple points." (P2)

Similarly, P3 stated:

> "It's quite helpful, because ChatGPT can explain a concept using simpler language, which makes it easier for me to understand." (P3)

P4 emphasized the interactive aspect of asking for clarification:

> "Because I can ask questions right away and ask for explanations in simpler language. If I still don't understand, I can also ask again in a different way." (P4)

The participants' responses demonstrate that ChatGPT served as an accessible source of explanation when students encountered conceptual or language-related difficulties. Importantly, this use was connected to understanding information, rather than simply obtaining text to insert into the proposal. The findings therefore show that ChatGPT supported students in processing and understanding information during the planning process.

3.4. Critical Evaluation and Human Control

The fourth theme, Critical Evaluation and Human Control, concerns participants' reported practices of evaluating and responding to ChatGPT's outputs. In their interviews, participants described reading, comparing, evaluating, revising, and developing the generated information before deciding whether to use it. These accounts suggest that participants reported engaging in evaluative practices rather than always

accepting ChatGPT's responses without consideration. However, because the study relied on interview data and did not examine participants' prompt histories or proposal drafts, these practices could not be independently verified.

P1 explained that information generated by ChatGPT was compared with other sources:

> "I usually compare them first. When it comes to ideas, I see how they align with my own thoughts. When it comes to theory or research information, I usually look them up in journals or other sources." (P1)

P2 similarly described reading and developing ChatGPT's responses rather than copying them directly:

> "Basically, I took that, asked ChatGPT for help, but didn't just copy it. I reread it, and then expanded on it in my own words." (P2)

P3 reported comparing ChatGPT's answers with academic references:

> "I usually don't just use ChatGPT's answers right away; sometimes I compare them with other sources, especially relevant articles or academic references." (P3)

P4 also described evaluating the output in relation to personal understanding:

> "Usually, I don't use it right away. I compare it with what I already know first. And if necessary, I look for additional information." (P4)

Taken together, these interview accounts indicate that participants reported practices such as comparing information with prior knowledge, consulting academic sources, and developing responses in their own words. From the perspective of this study, these practices can be interpreted as reported forms of evaluation and decision-making in the use of ChatGPT. They are relevant to the concept of human control because participants described making judgments about the information they received. Nevertheless, the findings do not directly measure participants' cognitive processes or establish whether their actual interactions with ChatGPT consistently followed these reported practices. Therefore, the theme reflects participants' accounts of evaluation and decision-making rather than direct evidence that they retained complete control over the writing process or never relied on ChatGPT to perform cognitive tasks.

3.5. Limitations and Challenges of ChatGPT

The fifth theme concerned the Limitations and Challenges of ChatGPT. Although participants considered ChatGPT useful, they also encountered problems with the responses generated by the system. The responses were sometimes perceived as too general, too broad, generic, or unsuitable for the specific context of their research. Participants therefore needed to revise, clarify, or verify the generated information.

P1 stated:

> "Sometimes I feel like the answers don't match what I meant. Some are also too general, even though I was hoping for a more specific answer." (P1)

P2 similarly described the responses as overly broad:

> "Sometimes the explanation is too broad, too general and sometimes when I read the sentence, it's kind of like, well, it just feels too broad." (P2)

P3 explained that the participant did not always follow ChatGPT's instructions because the answers could be inappropriate:

> "I don't usually follow ChatGPT's instructions too closely, because sometimes its answers aren't appropriate." (P3)

P4 also encountered responses that were too general or did not fit the research context:

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> "Sometimes there are answers that I feel are too general or not quite relevant to the context of the research I'm currently conducting." (P4)

The findings indicate that the limitations of ChatGPT itself contributed to the continued involvement of the students in the thinking process. Because the generated responses were not always sufficiently specific or contextually appropriate, participants had to assess the responses and determine what could or could not be used. Consequently, the limitations of ChatGPT also reinforced the importance of students' own evaluation and decision-making during proposal development.

3.6. Overall Finding

Overall, the findings indicate that the four participants reported using ChatGPT for different activities during the planning and development of their research proposals. These activities included generating and developing research ideas, planning and organizing proposal content, clarifying concepts, obtaining language-related assistance, and evaluating the relevance of generated responses. However, the participants' accounts did not indicate that all four used ChatGPT for every activity or followed the same practices.

Idea generation and topic development emerged as a shared reported use among all four participants, as illustrated by the interview excerpts in Section 3.1. In contrast, the excerpts presented in Section 3.2 show that P1, P2, and P4 described using ChatGPT to support planning and organization. Their accounts emphasized different aspects of this activity, including developing a research focus and preliminary outline, identifying content for different chapters, and exploring alternatives before writing. These examples illustrate variation in the reported uses of ChatGPT rather than a uniform process across all participants.

The participants also described limitations in ChatGPT's responses. As presented in Section 3.5, all four participants reported difficulties involving responses that were too general, insufficiently specific, or unsuitable for their research needs, although the particular difficulties differed across their accounts. P1 emphasized responses that did not match the intended question, P2 highlighted explanations that were too broad, P3 described suggestions that were not always appropriate, and P4 noted a lack of relevance to the research context. These accounts indicate that participants encountered different forms of difficulty when using ChatGPT.

In addition, some participants described evaluating or adapting ChatGPT's responses. For example, P1 reported comparing generated information with personal thoughts and academic sources, while P2 described rereading and developing responses in their own words. These accounts illustrate reported practices of evaluation and adaptation, but they do not establish that every participant consistently engaged in these practices.

From the perspective of Cognitive Offloading Theory, the reported uses of ChatGPT can be interpreted as examples of drawing on an external resource to support academic writing activities. Cognitive Load Theory also provides a framework for discussing why students might seek assistance with demanding writing tasks. Nevertheless, the study did not directly measure changes in cognitive load or examine participants' internal thinking processes. The theoretical perspectives therefore inform the interpretation of participants' accounts rather than establish the cognitive effects of using ChatGPT.

In relation to the research question, "How do students use ChatGPT in completing academic writing tasks?", the findings show that the participants reported using ChatGPT for several writing-related activities, with idea generation and topic development emerging as a shared pattern. Other practices, including planning and organization, evaluating generated information, and adapting responses, were illustrated by the accounts of particular participants. These findings suggest that participants described ChatGPT as a source of assistance in their academic writing practices, but the nature and range of that assistance varied across their accounts.

The findings may therefore be interpreted as indicating that ChatGPT was reported as a thinking aid in some aspects of the participants' academic writing practices. However, this interpretation does not establish that ChatGPT never substituted for some aspects of their thinking. Because the study relied on self-reported interview accounts and did not analyze prompt histories or proposal drafts, the findings describe participants' reported practices rather than independently verified interactions or direct measurements of their cognitive processes.

4. DISCUSSION

The findings of this study indicate that students used ChatGPT in several interconnected ways when completing academic writing tasks. These uses were reflected in five major themes: Idea Generation and Topic Development, Planning and Organization of Academic Writing, Conceptual Understanding and

Language Support, Critical Evaluation and Human Control, and Limitations and Challenges of ChatGPT. Rather than using ChatGPT only to produce written text, the participants reported using it to generate and develop ideas, organize their writing, clarify difficult concepts, and evaluate information before incorporating it into their academic work. These findings are discussed in relation to the theoretical perspectives of Cognitive Offloading Theory and Cognitive Load Theory, as well as previous studies reviewed in Chapter II.

4.1. Idea Generation and Topic Development

The finding that participants reported using ChatGPT to generate and develop research ideas suggests that the tool served as an external resource during the early stages of academic writing. Participants described turning to ChatGPT when they had difficulty starting their writing, developing a topic, or determining the direction of an idea. This finding relates to the view of academic writing presented in Chapter II, which emphasizes that academic writing involves idea development, decision-making, analysis, and problem-solving rather than merely producing a final written product. Research proposal writing, in particular, requires students to formulate research problems, develop ideas, and establish a coherent research direction [13].

From the perspective of Cognitive Offloading Theory, these reported practices can be interpreted as instances of using an external resource to support cognitively demanding tasks. [14] explain that individuals may rely on external resources to support cognitive task performance. In this study, participants reported turning to ChatGPT for possible ideas when they experienced difficulty generating or developing them. However, the interview data do not establish the extent to which participants delegated particular thinking tasks to ChatGPT or how they processed each generated idea. Cognitive offloading therefore serves as an interpretive lens for understanding participants' accounts, rather than as direct evidence of their internal cognitive processes.

Cognitive Load Theory also provides a relevant perspective. Academic writing requires students to manage multiple demands, including generating ideas, evaluating their relevance, organizing information, and constructing arguments. As discussed in Chapter II, working memory has limited capacity, and excessive cognitive demands may make learning and problem-solving more difficult [16]. Participants' reported use of ChatGPT for initial ideas can be understood as a strategy they used when facing difficulties with academic writing. Nevertheless, because this study did not directly measure cognitive load, it cannot establish that using ChatGPT reduced participants' cognitive load.

These findings can also be considered in relation to previous research. A systematic review of 30 relevant studies selected from 550 articles [10] identified idea generation as one area in which ChatGPT may support academic writing. The review also highlighted concerns about plagiarism, originality, and overreliance. Similarly, [4] reported that ChatGPT-assisted writing contributed to more focused ideas and stronger connections between ideas and sentences, while [17] reported improvements in writing performance, including organization and coherence, among EFL students receiving ChatGPT-assisted instruction. Although these studies examined writing outcomes or the effectiveness of ChatGPT, the present study focuses on participants' reported practices. It therefore provides insight into how participants said they used ChatGPT to generate and develop ideas, rather than demonstrating that such use improved writing performance.

The findings also relate to Between Words and Prompts: Revealing Student Practices of ChatGPT in Academic Writing [18]. In that study, participants described ChatGPT as a source of ideas and clarification, while the analysis of prompt records documented instances of students delegating more substantial cognitive and writing tasks to the tool. This comparison highlights the distinction between participants' reported use and documented interactions with ChatGPT. In the present study, participants reported using the tool to support idea generation and topic development; however, because prompt histories and proposal drafts were not analyzed, their subsequent use of generated ideas could not be independently verified. Consequently, the findings suggest that participants perceived ChatGPT as a source of assistance during idea generation, but they do not establish that it functioned exclusively as a thinking aid or that it never substituted for students' thinking.

4.2. Planning and Organization of Academic Writing

The second finding shows that students used ChatGPT to plan and organize their academic writing. The participants reported using ChatGPT to determine possible topics, develop research directions, formulate initial structures, and organize what should be discussed in different sections of their academic writing [15] This indicates that ChatGPT was incorporated into the organizational aspects of academic writing rather than being used exclusively for sentence-level language production. This finding can be

explained through Cognitive Load Theory. Research proposal writing requires students to manage multiple elements simultaneously, including research topics, research questions, theoretical concepts, literature, and methodological considerations. [16] explains that learning becomes more difficult when cognitive demands exceed the capacity of working memory. Therefore, external assistance that helps students organize information may reduce unnecessary cognitive demands and allow them to focus on other aspects of the task. [17] similarly explain that appropriate external support can help optimize cognitive processing by reducing unnecessary mental effort. In the present study, ChatGPT's role in organizing topics and creating an initial structure can therefore be interpreted as a means of managing the cognitive demands associated with academic writing. The students did not necessarily transfer the entire organizational process to ChatGPT; rather, ChatGPT provided suggestions that could be used as an initial structure for subsequent writing. This finding is consistent with [4], whose study found positive effects of ChatGPT-assisted writing on the generation of focused ideas and the connection between ideas and sentences. It also corresponds with [18], whose experimental group showed improvement in writing organization and coherence following ChatGPT-assisted instruction. Therefore, the present finding supports previous research showing that ChatGPT can assist with organizational aspects of academic writing.

However, the present study differs in emphasis from those studies. [4] investigated the impact of ChatGPT as a formative feedback tool, while [18] examined the effectiveness of AI-assisted instruction. The present study instead demonstrates how students reported incorporating ChatGPT into the organization of their own academic writing. This distinction is important because the RQ of the present study asks how students use ChatGPT, rather than whether ChatGPT improves their writing. The finding can also be related to [19]. Their participants described ChatGPT as a tool that helped them clarify ideas and structure writing, but their prompt records demonstrated that some students subsequently asked ChatGPT to perform increasingly complex analytical and writing tasks. Thus, the present finding supports the idea that ChatGPT can function as an organizational aid, while simultaneously showing why the boundary between assistance and substitution requires attention. In the present study, students' reported use of ChatGPT for organization indicates external cognitive support; however, without access to their prompt records, it is not possible to determine whether all organizational decisions remained with the students [20].

4.3. Conceptual Understanding and Language Support

The third finding demonstrates that students used ChatGPT to understand difficult concepts, simplify explanations, and obtain language-related support. This indicates that ChatGPT was not used only as a text-generation tool but also as an interactive source of explanation during academic writing. Students' use of ChatGPT for conceptual clarification is particularly relevant because academic writing requires students to understand the concepts underlying the arguments they construct[9]. This finding can be interpreted through Cognitive Load Theory because difficult academic concepts may impose substantial demands on students' working memory. [16] explains that learners have limited working-memory capacity and may experience difficulty when dealing with excessive cognitive demands. When ChatGPT reformulates a complex explanation into simpler language, it may reduce the immediate difficulty associated with processing unfamiliar information. In this sense, ChatGPT can function as an external support mechanism that helps students manage cognitive demands.

The finding also relates to the concept of cognitive offloading.[14] explain that people use external resources to support memory and information processing. In the present study, students' requests for simpler explanations can be interpreted as a form of external cognitive support because they relied on ChatGPT to process and reformulate information that they found difficult to understand. However, this should not automatically be interpreted as cognitive replacement. If the student uses the explanation to develop their own understanding, the external resource functions as support for cognition rather than a complete replacement for cognition. This interpretation is supported by previous research. [10] identified clarification and support for academic writing as important functions of ChatGPT, while also emphasizing that responsible use requires attention to academic integrity and students' interaction with AI. Similarly, [21] found that ChatGPT could function as a learning assistant in writing, particularly in helping students acquire knowledge related to writing and register.

The finding is also related to [22], who examined ChatGPT-based reflective feedback among EFL graduate students. Their study found that ChatGPT could complement human instruction and support academic writing, while also indicating that AI feedback was more effective for surface- and structure-level revisions than for more advanced academic reasoning. This distinction is relevant to the present study because the participants' use of ChatGPT for explanation and language support may reduce some immediate difficulties, but it does not necessarily mean that ChatGPT performs the deeper reasoning required to construct academic arguments. Furthermore, this finding is closely related to the study by[19], where

students also described using ChatGPT to clarify topics and understand academic materials. However, their prompt records showed that some students subsequently moved from asking for explanations toward delegating analytical and writing tasks. Therefore, the present finding should be understood as evidence of reported conceptual and language support, rather than evidence that ChatGPT was always used only for learning.

4.4. Critical Evaluation and Human Control

The fourth finding is particularly important for understanding the cognitive role of ChatGPT in the present study. Participants reported that they did not always accept ChatGPT's responses directly. Instead, they described comparing the responses with their own understanding, checking information against journals or other sources, modifying the generated text, and selecting only information that they considered relevant. This finding is significant from the perspective of Cognitive Offloading Theory. [14] describe cognitive offloading as the distribution of cognitive responsibilities between the individual and an external resource. Importantly, externalizing part of a task does not necessarily eliminate the individual's cognitive involvement. In the present study, the reported acts of comparing, evaluating, revising, and selecting suggest that students retained some responsibility for decisions concerning the final use of ChatGPT-generated information.

This finding therefore provides the strongest basis for interpreting ChatGPT as a thinking aid rather than automatically as a substitute for thinking. The important issue is not simply whether students used ChatGPT, but what they reportedly did after receiving the AI-generated response. When students compare information with other sources, modify the response, or reject information they consider inappropriate, the cognitive responsibility for the final decision remains partly with the student. The finding is also consistent with the concerns discussed in the theoretical framework. The proposal explains that excessive dependence on AI can reduce active cognitive engagement when students passively accept AI-generated responses without evaluation. Therefore, the reported evaluation behaviour in the present study represents an important distinction between offloading cognitive work while retaining control and passively transferring cognitive responsibility to AI. Previous research provides support for this interpretation. [22] emphasize reflective use of ChatGPT and describe AI as a complement to human instruction rather than a complete replacement for human involvement. Similarly, [10] argue that ChatGPT can be understood as an aid and facilitator, while also warning that academic integrity and originality require appropriate student training and institutional guidance.

However, the finding is also different from the evidence reported by[19]. Their study found that although students described ChatGPT as an assistive tool, their prompt records revealed increasingly direct delegation of analytical and authorship tasks. This difference does not necessarily mean that the two studies contradict each other. Rather, it demonstrates the importance of data source. Their study had access to prompt records, allowing the researchers to compare students' statements with their actual interactions with ChatGPT. The present study relies mainly on participants' reported practices. Consequently, the present study can conclude that students reported maintaining human control, but it cannot claim that all of their actual ChatGPT interactions were consistent with those reports. This distinction is particularly important because it directly relates to the research gap identified in Chapter I. Previous research has often focused on perceptions, effectiveness, benefits, or outcomes, whereas the present study attempts to understand students' reported practices in completing academic writing tasks. The finding therefore contributes to this gap by showing what students say they do with ChatGPT after receiving its responses.

4.5. Limitations and Challenges of ChatGPT

The fifth finding concerns the limitations and challenges students encountered when using ChatGPT. Participants reported that ChatGPT sometimes generated answers that were too general, too broad, or inappropriate for the specific context of their research. This finding is important because it demonstrates that students did not perceive ChatGPT as an infallible source of academic information. This finding is consistent with the limitations identified in previous studies. [18] reported concerns regarding contextual accuracy and over-reliance on AI among EFL students. Similarly, [10] identified reliance on AI, plagiarism, originality, and the need for appropriate training and policies as important challenges associated with ChatGPT use in academic writing. These findings are relevant to the present study because participants' recognition that ChatGPT responses could be inappropriate created a need for them to evaluate and reconsider the generated information. The limitation also reinforces the interpretation provided by Cognitive Offloading Theory. Cognitive offloading may increase task efficiency because part of the cognitive work is transferred to an external system, but the external system may not always provide an appropriate or accurate solution. Therefore, the individual still needs to monitor the output and determine whether it is suitable for the task. In the present study, the reported practice of rejecting, revising, or checking inappropriate responses suggests that students still performed an important monitoring function.

The finding can also be interpreted using Cognitive Load Theory. ChatGPT may reduce some cognitive demands by providing immediate suggestions and explanations, but students must still invest cognitive effort in evaluating whether those suggestions are appropriate. Therefore, the reduction of cognitive load should not be understood as the complete elimination of mental effort. Instead, the nature of the cognitive effort may shift from generating every piece of information independently toward evaluating, selecting, and adapting information provided by the AI. The finding also provides an important point of comparison with [19]. Their study demonstrated that students sometimes accepted ChatGPT-generated content without adequately verifying its accuracy. Their prompt records revealed a movement from supportive uses toward more direct delegation, including requests for ChatGPT to compose academic sections. In contrast, the participants in the present study reported encountering inappropriate or overly general responses and subsequently evaluating or modifying them. However, because the present study did not analyse participants' prompt histories, this difference should be treated as a difference in reported practice, not as proof that the participants actually behaved more critically in every interaction.

4.6. Overall Interpretation of the Findings

Taken together, the five themes indicate that the four participants reported using ChatGPT for several activities related to academic writing, including generating ideas, organizing writing, clarifying concepts, obtaining language support, and addressing difficulties encountered during the writing process. These reported uses can be discussed in relation to the literature reviewed in Chapter II, which identifies ChatGPT as a potential writing assistant and learning support tool [10, 4, 22]. The findings describe how participants understood and explained their use of ChatGPT; they do not independently establish the extent or nature of their actual interactions with the tool.

From the perspective of Cognitive Offloading Theory, the reported practices can be interpreted as examples of using an external resource to support cognitive tasks. Participants described seeking assistance with activities such as brainstorming, obtaining explanations, and organizing information. These accounts are consistent with Risko and Gilbert's [21] explanation of cognitive offloading as the use of external resources to support cognitive task performance. However, the application of this theory in the present study is interpretive. The interview data do not directly establish how participants' internal thinking processes changed or how much cognitive work they delegated to ChatGPT.

The participants also reported comparing generated information with their existing knowledge, consulting academic sources, and developing responses in their own words. These accounts suggest that participants described engaging in evaluation and decision-making when using ChatGPT. Such practices are relevant to the theme of Critical Evaluation and Human Control because they indicate that participants reported considering the suitability of the tool's responses. Nevertheless, these statements cannot be treated as definitive evidence that participants consistently evaluated every response, retained complete control over the writing process, or never delegated analytical and writing tasks to ChatGPT.

The distinction between reported practices and documented interactions is important when considering [18], Between Words and Prompts: Revealing Student Practices of ChatGPT in Academic Writing. That study illustrates how analyses of prompt records can reveal patterns of delegation that may not be evident from students' descriptions of ChatGPT as a learning tool. In contrast, the present study relied on interview accounts and did not examine participants' prompt histories or proposal drafts. Consequently, the findings cannot establish whether the participants' reported practices corresponded fully with their actual interactions with ChatGPT. This limitation requires the interpretation of the findings to remain within the boundaries of the available interview data.

In relation to the research question, "How do students use ChatGPT in completing academic writing tasks?", the findings show that the participants reported using ChatGPT for idea generation, planning and organization, conceptual clarification, language support, and evaluation of generated responses. Across these activities, participants described ChatGPT as a source of assistance and reported making decisions about how to respond to its outputs. These accounts support the interpretation that ChatGPT was predominantly described as a thinking aid in their academic writing practices. However, this interpretation refers to participants' reported experiences and should not be understood as an objective measurement of their cognitive processes or proof that ChatGPT did not substitute for some aspects of their thinking.

Therefore, the contribution of this study is to provide a qualitative account of how four participants described their use of ChatGPT in completing academic writing tasks. Rather than establishing that ChatGPT is exclusively beneficial or harmful, the findings identify reported practices involving assistance, evaluation, and adaptation, alongside difficulties with some generated responses. The distinction between using ChatGPT to support thinking and delegating thinking to the tool offers a useful interpretive perspective for understanding the participants' accounts. Determining the extent to which either pattern

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occurred in their actual interactions would require additional evidence, such as prompt histories or successive versions of their proposal drafts, which were outside the scope of the present study.

5. CONCLUSION AND RECOMMENDATIONS

This study explored how four students in an English Language Education Study Program at a private university in Southeast Sulawesi reported using ChatGPT to complete academic writing tasks, particularly during the planning and development of research proposals. The findings identified five themes: Idea Generation and Topic Development, Planning and Organization of Academic Writing, Conceptual Understanding and Language Support, Critical Evaluation and Human Control, and Limitations and Challenges of ChatGPT. Together, these themes describe the participants' reported uses of ChatGPT, the ways some participants described evaluating and adapting its responses, and the difficulties they encountered when using the tool.

The findings indicate that participants reported using ChatGPT to generate and develop research ideas, plan and organize proposal content, clarify concepts, and obtain language-related assistance. Idea generation and topic development emerged as a shared reported use across all four participants. Other practices, including planning and organization and the evaluation of generated responses, were illustrated by particular participants and should not be assumed to have been performed identically by everyone. From the perspective of Cognitive Offloading Theory, these reported uses can be interpreted as examples of drawing on an external resource to support academic writing activities. Cognitive Load Theory provides an additional perspective for discussing why students may seek assistance with demanding writing tasks. However, this study did not directly measure changes in cognitive load or examine participants' internal cognitive processes. Therefore, the findings do not establish that using ChatGPT reduced participants' cognitive load or produced particular cognitive effects.

The participants also reported encountering responses that were too general, insufficiently specific, or unsuitable for their research contexts. Some participants described comparing ChatGPT's responses with their own understanding or academic sources, rereading the generated content, and developing responses in their own words. These accounts suggest that participants described practices of evaluating and adapting AI-generated information. Accordingly, ChatGPT can be interpreted as a reported thinking aid in some aspects of their academic writing practices. Nevertheless, this interpretation does not demonstrate that all participants consistently evaluated every response or that ChatGPT never substituted for some aspects of their thinking. Because the study relied on interview accounts and did not analyze participants' prompt histories or proposal drafts, the findings represent participants' reported practices rather than independently verified interactions or direct measurements of their cognitive processes.

The contribution of this study is to provide a qualitative account of how four students described their use of ChatGPT during academic writing, particularly research proposal planning and development. Rather than establishing ChatGPT as exclusively beneficial or harmful, the findings highlight different reported uses, evaluation practices, and challenges. They also underscore the importance of distinguishing between participants' accounts of using ChatGPT as support and claims about the extent to which the tool actually performed or replaced their cognitive work. Further research incorporating interview data with prompt histories, successive proposal drafts, or other relevant writing artifacts could provide a more detailed understanding of how students interact with ChatGPT and how their reported practices correspond with their actual use.

The findings have several pedagogical implications for academic writing instruction in higher education. First, lecturers may introduce ChatGPT as a supplementary resource for activities such as idea generation, preliminary planning, conceptual clarification, and language support, while making clear that students remain responsible for the academic quality and final decisions in their writing. Second, academic writing instruction can emphasize the critical evaluation of AI-generated responses. Activities that require students to compare generated information with credible academic sources, explain their revisions, and justify their decisions may help them practice responsible engagement with AI-generated content. Third, students may benefit from guidance on formulating clear prompts, identifying responses that are too general or unsuitable for their research context, verifying information through reliable academic sources, and adapting suggestions to their research needs. Finally, lecturers should continue to develop students' independent academic writing skills, including their abilities to analyze information, formulate research problems, construct arguments, and revise their writing. These recommendations are intended as pedagogical implications drawn from the reported findings, rather than as demonstrated effects of particular teaching interventions.

In conclusion, the four participants' accounts indicate that ChatGPT was used as a source of support for several academic writing activities, particularly idea generation and topic development, while also

presenting challenges related to the relevance and specificity of its responses. The findings suggest the value of guiding students to evaluate and adapt AI-generated information critically. However, conclusions about the actual extent of cognitive offloading, cognitive load reduction, or substitution of students' thinking require further investigation using data beyond self-reported interviews.

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