Journal of English Language and Education
ISSN 2597- 6850 (Online), 2502-4132 (Print)
Journal Homepage: https://jele.or.id/index.php/jele/index
Article

EFL Students' Experiences and Perceptions of Using Chatgpt for Brainstorming in Research Proposal Writing

https://doi.org/10.31004/jele.v11i4.3177

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A B S T R A C T

This study aimed to explore English Education students' experiences and perceptions of using ChatGPT during the brainstorming stage of research proposal writing at Tadulako University. While previous research has examined the use of artificial intelligence in academic writing more broadly, limited attention has been given to its role in brainstorming research ideas. Using a qualitative case study design, data were collected through semi-structured interviews with 12 students and analyzed using Braun and Clarke's thematic analysis. The findings revealed five main themes: challenges in brainstorming, ChatGPT as academic support, perceived relational value, developing strategic AI use, and recognizing limitations. Participants reported that ChatGPT helped them generate, develop, and organize research ideas, which increased their confidence and facilitated the proposal writing process. However, they also emphasized the importance of verifying AI-generated information, critically evaluating its responses, and maintaining intellectual autonomy because of concerns about accuracy and reliability. Overall, the findings indicate that ChatGPT can serve as an effective brainstorming support tool for research proposal writing when its use is accompanied by critical thinking, careful verification, and responsible AI practices.

Keywords: *Chatgpt, Brainstorming, Research Proposal Writing, Students' Experiences, Students' Perceptions*
Article History:
Received 18th July 2026
Accepted 20th August 2026
Published 24th August 2026

INTRODUCTION

Generative Artificial Intelligence (GenAI) has increasingly shaped academic writing in higher education by providing students with new forms of support throughout the writing process. Among the various GenAI tools, ChatGPT has attracted particular attention because its conversational capabilities enable students to generate ideas, develop arguments, organize information, draft texts, and revise their writing through interactive prompts (Baig & Yadegaridehkordi, 2024; Meyer, 2023). In academic writing, these capabilities can be especially useful at the early stages of composing, when students often experience difficulties identifying topics, narrowing research ideas, and determining how to develop their initial thoughts into coherent written work. ChatGPT can provide immediate suggestions and alternative perspectives that may help students overcome such difficulties and initiate the writing process (Alberth, 2024). However, its use in academic writing also raises concerns about inaccurate information, overreliance on AI-generated content, academic integrity, and the potential reduction of students' independent thinking (Baig & Yadegaridehkordi, 2024; Deng, 2025). For this reason, ChatGPT is more appropriately viewed as a writing support tool rather than a substitute for students' intellectual engagement. Its effective use requires students to critically evaluate AI-generated responses, verify information, and retain responsibility for developing and expressing their own ideas.

Writing is one of the essential skills that university students need to develop because it enables them to express ideas, develop critical thinking, and construct knowledge. In academic contexts, writing involves not only expressing ideas but also planning, organizing, and

developing them (Hyland, 2019). Flower & Hayes (1981) describe writing as a recursive process involving planning, translating, and reviewing. Among these stages, planning is particularly important at the beginning of research proposal writing because students need to generate ideas, establish a research focus, and organize their thoughts before developing them into written text. However, many students experience difficulties when beginning their thesis proposals, particularly when choosing a research topic, generating ideas, and determining how to develop their initial thoughts. For EFL students, these difficulties may become more complex because they need to develop and organize ideas while expressing them in English.

Previous research has documented difficulties experienced by Indonesian EFL students during academic writing. A meta-analysis by Hamdani & Abid (2025) reported that Indonesian EFL students commonly experienced difficulties in developing ideas, particularly at the beginning of the writing process. Similarly, Fauzan et al. (2022) found that students writing thesis proposals experienced difficulties in starting paragraphs and developing topic sentences because of limited ideas and unclear directions. These difficulties suggest that the early stage of proposal writing is an important point at which students may need support in exploring and developing their research ideas.

The increasing availability of artificial intelligence has introduced new possibilities for students seeking support during this stage. Among these technologies, ChatGPT has become increasingly visible in academic contexts. Díaz Larenas et al. (2025) reported that searches for ChatGPT in Indonesia increased by more than 200% between June 2023 and May 2025, with substantial growth in academic-related categories. Its use can also be observed in academic writing practices. Ariqo et al. (2025) found that graduate students used ChatGPT as a discussion partner for brainstorming and generating research ideas, as well as for organizing research steps and structuring their writing. These findings suggest that ChatGPT can be used not only to produce written text but also to support students while they are exploring and developing ideas.

The use of ChatGPT, however, involves both perceived benefits and potential challenges. Herda et al. (2024) reported that students felt more confident and less stressed when using ChatGPT during writing, while Sudrajad et al. (2024) found that it helped students overcome writer's block and supported creativity. At the same time, Wang (2024). warned that excessive reliance on ChatGPT may affect students' critical thinking when AI-generated suggestions are accepted without further evaluation. These findings indicate that the use of ChatGPT in academic writing cannot be understood only in terms of the assistance it provides. Students' experiences with the tool and their perceptions of its usefulness and limitations are also important, particularly when they use it to develop their own research ideas.

This issue is relevant in the context of English Education at Tadulako University. Preliminary observations during proposal supervision indicated that final-year students used ChatGPT for activities related to the early development of their research proposals, including finding research ideas, exploring possible topics, identifying related studies, and checking grammar. A preliminary questionnaire involving English Education students further showed that 96.9% had used ChatGPT for brainstorming research-proposal ideas. Regarding frequency, 56.3% reported using ChatGPT often, and 37.5% reported using it sometimes. The responses also indicated that students used ChatGPT at different points in proposal development, including generating titles, developing topics and discussions, and searching for references. Although these preliminary data do not represent the entire population of English Education students at Tadulako University, they provide contextual evidence that ChatGPT-assisted idea development is a relevant practice among students in this setting.

Therefore, an important issue is not simply whether students use ChatGPT to generate research ideas, but how they experience and perceive its role while developing those ideas. This includes understanding how students use ChatGPT when they encounter difficulties, the benefits they perceive during brainstorming, and the limitations or concerns they face when interacting with AI-generated suggestions. Examining these experiences is particularly relevant because the use of ChatGPT may involve different forms of engagement, ranging from using AI suggestions as initial stimuli to evaluating, adapting, or rejecting them.

Understanding these processes can provide a more contextualized account of AI-assisted brainstorming among EFL students.

Accordingly, this study explores English Education students' experiences and perceptions of using ChatGPT as a brainstorming tool during research proposal writing at Tadulako University. Specifically, the study seeks to understand how students experience the use of ChatGPT when generating, developing, and organizing research ideas and how they perceive its role in supporting their brainstorming process during research proposal writing. Thus, the study addresses two research questions: (1) What are the experiences of English Education students when using ChatGPT as a brainstorming tool in research proposal writing? and (2) How do students perceive the use of ChatGPT in supporting their brainstorming process during research proposal writing?

Student's Experience

Experience is formed through an individual's interaction with social situations and the external environment and is reflected in knowledge, emotions, and actions (Jarvis, 2006). Rogoff (2023) similarly views experience as participation in social activities mediated by other people and culture. Thus, experience develops through interaction, engagement, and the interpretation of events within a particular environment.

From the perspective of Vygotsky (1978), learning experiences are mediated by tools, symbols, and social interaction. This perspective is related to the Zone of Proximal Development (ZPD), in which learners can achieve a higher level of performance with appropriate assistance or scaffolding. Such assistance can help students organize ideas, develop their thinking, and complete tasks that they may not yet be able to perform independently. Liu (2023) further explain that learning experience includes learners' feelings and the outcomes of their interaction with the learning environment.

In the context of technology-supported learning, ChatGPT can function as a mediating tool that provides external support. Hamedi et al. (2025) emphasize that technology-supported experience can develop through dynamic and adaptive interaction, in which the system provides scaffolding according to users' needs. Therefore, students' experiences with ChatGPT can be understood through their interaction with the technology and the support it provides during the learning process.

Students' Perception

Perception refers to individuals' subjective evaluation of a technology, particularly its perceived ease of use and perceived usefulness, which influence technology acceptance (Davis, 1989). Perceived ease of use concerns the extent to which a technology is considered easy to operate, while perceived usefulness refers to the extent to which it is considered helpful in improving task performance (Davis, 1989). In relation to ChatGPT, Fadli Alghifari & Rosnija (2025) found that students perceived it as easy to use and useful for generating ideas and developing academic writing.

ChatGPT in Academic Writing

Academic writing requires students to manage planning, monitoring, and revision as part of the writing process. These activities relate to Self-Regulated Learning, which emphasizes students' active regulation of cognition, motivation, and behaviour through forethought, performance, and self-reflection (Zimmerman, 2002). Feng Teng (2025) similarly emphasizes that planning, monitoring, and reflection support students' writing development and learning independence.

ChatGPT has been used to support various stages of academic writing. Chukwuere (2024) reports that it can assist with idea generation and outline organization during pre-writing, content and language development during writing, and feedback during post-writing. Huang & Tan (2023) further identify its use for literature summarization and citation organization. However, its contribution depends on how actively and reflectively students use and evaluate its output.

Brainstorming

Brainstorming is an idea-generation technique introduced by Osborn (1954) that encourages individuals to produce multiple ideas freely without immediate judgment, allowing them to explore various possibilities before selecting and developing relevant ideas. In academic writing, brainstorming is commonly used during the early stages to explore topics, perspectives, and arguments, which can then be categorized, evaluated, and organized into a clearer focus.

ChatGPT in Brainstorming

Brainstorming can involve considerable cognitive demands because students need to generate, process, and organize several ideas simultaneously. John Sweller (1988, *as cited in* Gkintoni et al., 2025) explains that working memory has a limited capacity, while excessive cognitive load can hinder information processing. Doğan & Batdı (2021) further identify several barriers to brainstorming, including premature evaluation, fear of making mistakes, limited knowledge, and fixed patterns of thinking.

ChatGPT can function as external support during brainstorming by allowing students to generate, develop, and refine ideas through interaction. Li et al. (2026) found that ChatGPT can support brainstorming and idea generation by enabling students to externalize their thinking through iterative processes of generating and refining ideas. However, Yasmine & Hikmawan (2025) found that ChatGPT's contribution to creativity remains limited. This indicates that although ChatGPT can support the brainstorming process, students' independent thinking and creativity remain important.

Brainstorming in Writing a Research Proposal

A research proposal is an academic document containing the research background, questions, objectives, and methodology. Its development requires systematic idea generation and organization. Flower & Hayes (1981) explain that writing involves planning, translating, and reviewing, with planning involving the generation, goal-setting, and organization of ideas before drafting. In proposal writing, brainstorming helps students explore research topics, clarify their focus, and determine the direction of their study. Rahmawati et al. (2022) found that brainstorming supports students in generating, developing, and organizing ideas, while Potters et al. (2023) showed that collaborative brainstorming helps students exchange perspectives, refine research questions, and develop proposal frameworks.

METHOD

This study employed a qualitative case study methodology to examine the experiences and perspectives of English Education students regarding the use of ChatGPT as a brainstorming tool in research proposal writing. A case study design was selected because the study focused on a specific, bounded case, namely the experiences of English Education students at Tadulako University who used ChatGPT during the brainstorming stage of developing their research proposals. Unlike approaches such as phenomenology, which primarily seeks to understand the essence of a shared lived experience, or grounded theory, which aims to develop a theory from qualitative data, a case study allows the researchers to investigate the phenomenon within its specific educational context and examine participants' experiences and perceptions in depth. This approach was particularly appropriate because the study sought to understand not only what students experienced when using ChatGPT but also how they perceived its role in generating, developing, and organizing research ideas during proposal writing. The research was conducted within the English Education Study Program at Tadulako University.

Respondents

The participants were twelve English Education students from Tadulako University who had utilized ChatGPT during the ideation phase of composing research proposals. Participants

were chosen using purposive sampling according to established inclusion criteria. Participants who qualified for the study were students who had utilized ChatGPT to create or refine research concepts when formulating their research proposals and were inclined to participate willingly. Recruitment of participants persisted until data saturation was reached, signifying that no significant new insights arose from later interviews.

Instruments

The primary instrument utilized in this research wassemi-structured interview guidelines created in alignment with the study's aims. The interview guide comprised open-ended inquiries aimed at examining participants' experiences and views regarding the utilization of ChatGPT in the brainstorming phase of research proposal development. To facilitate the interview procedure, interviews were carried out either in person or via Zoom Meeting where required. The replies of participants were captured by a digital voice recorder and later transcribed to aid in data analysis.

Procedures

The collection of data was conducted via individual semi-structured interviews. Before each interview, participants were briefed on the study's objectives and the interview protocols. Interview schedules were arranged according to participants' availability. During the interviews, the researcher followed the interview guide while remaining flexible in asking probing questions to obtain more detailed responses whenever necessary. Field notes were additionally recorded to document contextual details and participants' non-verbal cues that aided in the analysis of the interview data. Subsequent to each interview, the audio recordings were converted into written text to facilitate data analysis.

Data Analysis

The transcripts of the interviews were examined utilizing Braun & Clarke (2006) thematic analysis. The analysis followed six stages: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. During the examination, codes and themes were persistently refined to ensure they authentically reflected participants' perceptions and experiences regarding the utilization of ChatGPT as a brainstorming instrument in the composition of research proposals.

To guarantee the reliability of the results, this research employed the criteria of credibility, transferability, dependability, and confirmability as outlined by Lincoln & Guba 1985). Credibility was attained via member checking by allowing participants to examine the interview transcripts and validate the precision of their replies. Transferability was facilitated through comprehensive descriptions of the research environment and subjects. Reliability was improved by the meticulous documentation of the research processes, whilst confirmability was established by anchoring the results in the participants' narratives and corroborating them with the gathered data.

FINDINGS AND DISCUSSION

Research Findings

The research findings are presented based on semi-structured interviews conducted with 12 English Education students who had used ChatGPT as a brainstorming tool in research proposal writing. The interview data were transcribed verbatim and analyzed using thematic analysis, resulting in five themes that capture participants' experiences and perceptions of using ChatGPT throughout the brainstorming process. Each theme is presented with representative interview excerpts to illustrate the participants' perspectives.

Theme 1. Challenges in Navigating the Brainstorming Process

Participants reported difficulties in identifying and developing research ideas during the initial stage of proposal writing. One participant explained that the initial challenge was

determining a research topic and beginning the writing process, *"At first, I was just experimenting because I was having trouble deciding on a research topic, and it was also hard to start writing the background section."* (P9). This response indicates that students experienced uncertainty in generating initial research ideas and initiating proposal writing.

Another participant reported that although a research topic had already been identified, developing it into a more focused proposal remained challenging. *"I already know what topic I want to research. But I'm not sure how to develop it. Since I'm still unsure, I decided to try using ChatGPT to brainstorm ideas for my topic."* (P7). This finding suggests that brainstorming difficulties also involved refining and expanding initial ideas into more feasible research directions.

Participants also encountered challenges when interacting with ChatGPT. One participant described the difficulty of learning how to use the tool effectively. *"At first, I was still a bit confused about how to use ChatGPT. When I first used it for brainstorming, I only asked very simple questions. But over time, I realized that ChatGPT could do much more than that."* (P8). This finding indicates that students required an adaptation process to use ChatGPT effectively during brainstorming.

Another participant highlighted difficulties in understanding ChatGPT's academic language, *"Sometimes ChatGPT uses words or expressions that are difficult to understand. When it gives me more complex academic text, I usually read it again and try to interpret the academic language in my own way."* (P9). This response suggests that students needed to actively interpret AI-generated academic language before applying it to their proposals.

In addition, participants emphasized the importance of critically evaluating the relevance of ChatGPT's responses. *"We have to read the responses carefully because sometimes the information is not relevant or not completely valid. The difficult part is deciding which information actually fits our research needs. So, it's not just about copying and pasting the answers."* (P10). This finding shows that students viewed ChatGPT as a tool whose responses required careful evaluation and adaptation rather than direct acceptance.

Theme 2. ChatGPT as a Brainstorming and Academic Support Tool

The findings revealed that participants perceived ChatGPT as both a brainstorming and an academic support tool throughout the development of their research proposals. Rather than relying on ChatGPT to generate complete proposals, participants used it to develop ideas, support academic tasks, and improve the quality of their proposal writing while maintaining responsibility for their own work.

One participant explained that ChatGPT primarily functioned as a tool to expand and organize existing ideas rather than replace independent thinking. *"ChatGPT's role is more like a tool that helps me develop my ideas. For example, when I already have a research topic, I enter it into ChatGPT, and it gives me additional perspectives, examples, or ideas that I can build on. It doesn't write the entire proposal for me; instead, it makes it easier for me to think through and organize my research ideas."* (P2). This finding suggests that participants viewed ChatGPT as a resource for enriching and refining ideas they had already generated.

Participants also reported using ChatGPT to support a variety of academic tasks beyond brainstorming. *"I use it to look for research topic ideas, figure out what should be included in the proposal outline, improve my academic writing, and find some journal references."* (P12). This response indicates that ChatGPT supported participants throughout different stages of research proposal preparation.

Despite these benefits, participants consistently maintained ownership of their ideas during the brainstorming process. *"I always start with my own ideas first. After that, I ask ChatGPT to help me develop them or suggest anything that could be added. Sometimes I also ask whether there is anything in my idea that ChatGPT thinks could be improved."* (P4). This finding demonstrates that participants positioned ChatGPT as a collaborative academic partner rather than a substitute for their own thinking.

Theme 3. Perceived Benefits and Relational Value of ChatGPT

Participants reported various benefits of using ChatGPT during the brainstorming process. Beyond supporting idea generation, they perceived ChatGPT as a tool that improved writing efficiency, increased confidence, provided a comfortable space for discussion, and supported proposal development.

One participant emphasized that ChatGPT made the proposal writing process faster, particularly when experiencing writer's block. *"Using ChatGPT makes the proposal writing process much faster, especially when I don't know where to start or when I run out of ideas."* (P2). This finding suggests that ChatGPT helped participants overcome difficulties in initiating the writing process.

Participants also perceived that ChatGPT enhanced their creativity and confidence by providing multiple perspectives for developing research ideas. *"Yes, it makes me more creative, and it also boosts my confidence. When I ask ChatGPT a question, it gives me so many possible answers. That means I'm not limited to just one answer – I can compare different responses before deciding which one works best."* (P9). This response indicates that ChatGPT encouraged participants to explore and evaluate different possibilities before making academic decisions.

Several participants also appreciated the comfort of interacting with ChatGPT without fear of being judged. *"I don't feel embarrassed to ask very detailed questions. Sometimes I feel uncomfortable asking my supervisor those kinds of questions, but with ChatGPT, I can ask anything."* (P12). This finding shows that ChatGPT provided a comfortable environment for academic discussion.

Some participants even described ChatGPT as an initial discussion partner before consulting their academic supervisor. *"If I had to compare it to something, I'd say ChatGPT is like my first supervisor. Before discussing my research title with my actual supervisor, I always discuss it with ChatGPT first."* (P11). This response suggests that participants used ChatGPT to prepare and refine their ideas before seeking feedback from their supervisors.

Despite these positive perceptions, a few participants expressed mixed feelings about relying on AI during the brainstorming process. *"Sometimes I feel a bit guilty. I think, 'I'm using AI, so maybe this isn't completely my own work anymore.' Even though the brainstorming starts with my own knowledge, I still use some of ChatGPT's suggestions."* (P8). This finding indicates that participants recognized the benefits of ChatGPT while remaining aware of concerns about originality and authorship.

Theme 4. Developing Strategic and Critical AI Use

These findings reported becoming more strategic and critical in their use of ChatGPT as they gained experience during the brainstorming process. Rather than relying on AI-generated responses directly, they developed strategies to verify information, evaluate references, and integrate ChatGPT's suggestions into their own ideas.

One participant emphasized the importance of verifying the accuracy of information generated by ChatGPT. *"I always have to double-check because sometimes ChatGPT gives theories or definitions that don't actually exist"* (P7). This finding indicates that participants recognized the need to verify AI-generated information before using it in their research.

Participants also became more attentive to the credibility of references suggested by ChatGPT. *"You shouldn't just take the references from ChatGPT without checking them first. You have to make sure the articles actually exist. Sometimes ChatGPT even gets the publication year wrong, and I've come across that several times."* (P11). This response suggests that participants critically evaluated the reliability of AI-generated references before incorporating them into their proposals.

In addition to verifying information, participants-maintained ownership of their ideas while using ChatGPT strategically. *"I always start with my own ideas first. After that, I ask ChatGPT to help me develop them or suggest anything that could be added. Sometimes I also ask whether there is anything in my idea that ChatGPT thinks could be improved."* (P1). This finding shows that participants used ChatGPT to support, rather than replace, their own thinking.

Theme 5. Recognizing Limitations and Envisioning Future Improvements

Participants recognized that although ChatGPT was beneficial during the brainstorming process, it also had several limitations related to academic integrity, information reliability, and its use in academic writing.

One participant expressed concern about the potential academic risks of relying too heavily on AI-generated content. *"It has a positive impact because it's very fast and really helpful, but it also has a downside. When the work is checked using Turnitin, it can be quite obvious that AI was used to complete it."* (P1). This response suggests that participants were aware of the ethical implications associated with the use of AI in academic writing.

Participants also questioned the reliability of references generated by ChatGPT. *"Sometimes the references ChatGPT gives aren't accurate. You just can't find them anywhere online."* (P3). This finding indicates that participants recognized the need to verify AI-generated references before using them in their research.

Despite these limitations, participants expected ChatGPT to become more reliable for academic purposes. *"Maybe there could be a correction checker, a feature that can verify whether a journal article actually exists."* (P8). The response shows that participants expected future enhancements to improve the accuracy and use of ChatGPT in scholarly writing.

Overall, the findings indicate that participants viewed ChatGPT as a valuable but imperfect academic support tool that still requires responsible use and further development.

Discussion

Theme 1. Challenges in Navigating the Brainstorming Process

The first theme revealed that students experienced difficulties in identifying research topics, developing initial ideas, and initiating proposal writing. These findings indicate that brainstorming was the most challenging stage before drafting began. According to (Flower & Hayes, 1981), these difficulties reflect obstacles in the planning stage of writing, where writers generate, organize, and refine ideas before composing a text. From the perspective of Cognitive Load Theory, these challenges may also be explained by the cognitive demands of simultaneously considering multiple proposal components, including research topics, research questions, theoretical frameworks, and research methods. This finding is consistent with Mali (2023), who reported that EFL students experienced difficulties in developing research topics and writing proposal introductions. Similarly, Amri & Salmiati (2024) found that students struggled to formulate research problems and develop research backgrounds. Prasetyaningrum et al. (2021) also reported that generating research ideas and selecting appropriate proposal components remained challenging for university students.

The findings further revealed that students encountered new challenges after using ChatGPT, particularly in learning how to use the tool effectively and evaluating its responses before applying them to their proposals. Rather than accepting AI-generated information directly, participants interpreted academic language, assessed the relevance of the responses, and adapted the information to their research needs. These behaviors reflect the monitoring and self-evaluation processes described in Self-Regulated Learning by Zimmerman (2002), which emphasizes learners' active regulation of their own learning. This interpretation is supported by Werdiningsih & Marzuki (2024), who found that students often considered ChatGPT's responses overly formal or inconsistent with their intended writing style, requiring further evaluation before incorporation into academic writing. These findings suggest that ChatGPT supports brainstorming only when accompanied by students' critical evaluation and self-regulated use.

Theme 2. ChatGPT as a Brainstorming and Academic Support Tool

These findings suggest that participants saw ChatGPT as a resource for brainstorming as well as an academic assistance tool during the writing of their research proposals. Rather than relying on ChatGPT to generate complete proposals, participants used it to expand existing ideas, organize proposal components, and support various academic tasks. This finding can be explained through the Zone of Proximal Development (ZPD) (Vygotsky, 1978), particularly the concept of scaffolding, which suggests that learners can accomplish more

complex tasks with appropriate support. In this study, ChatGPT functioned as a scaffold that helped participants elaborate and refine their ideas while allowing them to remain actively involved in the brainstorming process. This finding is consistent with Godoy (2026), who argued that ChatGPT can serve as a more knowledgeable partner in academic writing. Similarly, Sunra et al. (2026) found that students used ChatGPT to generate ideas, organize proposal structures, and support thesis proposal development.

Beyond brainstorming, participants also perceived ChatGPT as a source of academic support that helped them organize proposal outlines, improve academic writing, and locate preliminary references. This finding aligns with Mahapatra (2024), who reported that ChatGPT provides formative academic support by facilitating students' writing processes. However, while previous studies mainly emphasize ChatGPT's role in improving academic writing, the present study further demonstrates that students integrated these forms of support into the brainstorming stage to clarify and develop research ideas before drafting their proposals.

The findings further revealed that participants maintained ownership of their research ideas by using ChatGPT selectively rather than depending on it completely. This behavior can be understood through Self-Regulated Learning theory by Zimmerman (2002), particularly the process of monitoring and self-evaluation, which emphasizes learners' active regulation of information before applying it. This finding is consistent with Apriani et al. (2024), who found that AI-powered chatbots can foster students' self-regulation and autonomy while emphasizing that AI should serve as a support mechanism rather than a replacement for students' critical and creative thinking. Nguyen & Doan (2025) similarly reported that ChatGPT-supported learning encourages learner autonomy by promoting greater responsibility for learning and independent inquiry. Overall, these findings suggest that the educational value of ChatGPT is rooted not only in the services it offers but also in students' potential to employ it judiciously while upholding intellectual responsibility for their academic work.

Theme 3. Perceived Benefits and Relational Value of ChatGPT

The findings revealed that participants perceived ChatGPT as a beneficial tool that supported the brainstorming process by improving writing efficiency, increasing confidence, providing a comfortable discussion environment, and assisting proposal development. These positive perceptions can be explained through the Technology Acceptance Model (TAM) proposed by Davis (1989), which argues that users are more likely to adopt a technology when they perceive it as useful and easy to use. In this study, participants valued ChatGPT because it enabled them to overcome writer's block, access immediate assistance, and explore research ideas more efficiently. This finding is consistent with Strzelecki et al. (2024), who reported that university students perceived ChatGPT as a useful technology for supporting academic activities. Similarly, Zhai (2023) found that students appreciated ChatGPT because of its rapid responses, accessibility, and ability to improve the efficiency of academic work.

Beyond its practical benefits, participants also perceived ChatGPT as a comfortable discussion partner that encouraged creativity and confidence during brainstorming. By providing multiple perspectives without fear of negative evaluation, ChatGPT created a supportive environment where students felt comfortable exploring and refining their ideas before consulting their supervisors. This finding is consistent with Teng (2024), who reported that students viewed ChatGPT as a learning companion that supported the writing process while recognizing that it could not replace teachers' academic guidance. He also found that using ChatGPT positively influenced students' writing self-efficacy, motivation, and engagement, suggesting that AI can strengthen learners' confidence while supporting idea development.

Although participants generally perceived ChatGPT positively, some also expressed concerns about originality and authorship when incorporating AI-generated suggestions into their brainstorming process. These mixed perceptions indicate that students recognized both the benefits and ethical implications of using AI in academic writing. Overall, the findings

suggest that the value of ChatGPT extends beyond its functional role as a brainstorming tool, encompassing relational and psychological support while encouraging students to reflect critically on the responsible use of AI in academic contexts.

Theme 4. Developing Strategic and Critical AI Use

The findings revealed that participants became more strategic and critical in their use of ChatGPT as they gained experience during the brainstorming process. Rather than accepting AI-generated information directly, they verified theories, references, and other information before incorporating them into their research proposals. This behaviour can be explained through Self-Regulated Learning theory (Zimmerman, 2002), particularly the processes of monitoring and self-evaluation, which emphasize learners' ability to evaluate information before applying it. This finding is consistent with Walters & Wilder (2023), who reported that ChatGPT may generate fabricated references and inaccurate citations. Similarly, Pratama (2025) argued that verifying AI-generated references is an essential practice for the responsible use of AI in academic writing. This finding is also comparable to Rasmin et al. (2026), who reported that students did not immediately accept AI-generated information but instead recognized the importance of double-checking responses and applying critical thinking and digital literacy when using AI. Although their study focused on AI-assisted reading, both studies demonstrate that students developed more critical strategies to evaluate AI-generated information before using it for academic purposes.

The findings demonstrated that participants thoughtfully reviewed the validity of citations supplied by ChatGPT before employing them in their ideas. These experiences indicate that students did not rely solely on AI-generated outputs but actively assessed their reliability for academic purposes. This practice reflects an essential aspect of academic writing, in which students are expected to evaluate sources, reasoning, and their own academic judgment before incorporating information into their work (Mursidin & Nurjannah, 2026). This finding supports Oates & Johnson (2025), who found that evaluating AI-generated content can foster students' critical evaluation skills and encourage more informed academic decision-making.

Furthermore, participants consistently maintained ownership of their research ideas by using ChatGPT to develop and refine ideas rather than replace them. This finding can be understood through Vygotsky's perspective on mediation, in which tools support cognitive development without replacing learners' thinking processes. Likewise, Nguyen & Doan (2025) reported that AI-assisted academic writing develops through active interactions in which students remain responsible for directing and refining their own ideas. Overall, these findings suggest that effective use of ChatGPT depends not only on the technology itself but also on students' ability to use it critically, strategically, and responsibly.

Theme 5. Recognizing Limitations and Envisioning Future Improvements

The findings revealed that participants were aware of the academic risks associated with using ChatGPT during research proposal writing. Although they recognized its usefulness, they also understood the ethical implications of relying excessively on AI-generated content. This finding can be explained through Davis (1989) Technology Acceptance Model (TAM), which suggests that technology acceptance is influenced not only by perceived usefulness but also by users' evaluation of its limitations. This finding is consistent with Perkins et al. (2023), who argued that generative AI has introduced new challenges to academic integrity in higher education.

Participants also questioned the reliability of ChatGPT-generated references and emphasized the need to verify them before use. This suggests that although ChatGPT was considered useful, it was not regarded as a fully reliable academic source. This finding aligns with TAM, where perceived usefulness does not necessarily lead to complete trust in a technology. Similarly, Nasho Ah-Pine & Awuye (2025) reported that students' trust in ChatGPT was influenced by their awareness of its limitations and their verification practices.

Despite these limitations, participants expected ChatGPT to become more reliable, particularly through features that could automatically verify academic references. This finding indicates that participants remained optimistic about ChatGPT's educational value while expecting improvements in its accuracy and reliability. A similar view was reported by Wang et al. (2024), who found that current developments in generative AI increasingly focus on improving reliability and addressing AI-generated inaccuracies.

CONCLUSIONS

This study explored English Education students' experiences and perceptions of using ChatGPT for brainstorming in research proposal writing. The findings indicate that students gradually developed more deliberate strategies for questioning, verifying, and selectively integrating AI-generated ideas with their own. ChatGPT was generally perceived not as a replacement for independent thinking but as an accessible scaffold that supported the early stages of proposal development while preserving students' ownership of their ideas. The study highlights that the benefits of ChatGPT depend on critical and strategic use, particularly in evaluating information and avoiding fabricated references, inaccuracies, and academic integrity risks. Therefore, English Education programs should integrate AI literacy, including source verification, critical evaluation, and responsible AI use, into research writing and thesis supervision. Future research should examine its influence on later stages of thesis writing and across different educational contexts.

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