



The Impact of Using ChatGPT: Students' Perspectives in an Indonesian Private University

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ABSTRAK

Penelitian ini mengkaji dampak dari penggunaan ChatGPT atas lima mahasiswa pascasarjana pendidikan Bahasa Inggris di sebuah universitas swasta di Yogyakarta dari segi manfaat dan tantangannya. Penelitian ini menggunakan pendekatan kualitatif melalui kuesioner terbuka dan wawancara semi-terstruktur sebagai teknik pengumpulan data. Data kemudian dianalisis menggunakan NVivo dan triangulasi untuk memahami perspektif mahasiswa pendidikan tinggi di Indonesia dalam menggunakan ChatGPT. Hasil penelitian mengidentifikasi tiga tantangan utama, yaitu kesulitan dalam menyusun prompt yang tepat, keraguan terhadap validitas dan reliabilitas, serta kekhawatiran terkait privasi dan isu etika, sementara manfaat yang dirasakan dalam penyelesaian tugas akademik meliputi peningkatan kreativitas dan kemampuan berpikir kritis serta penguatan pembelajaran kolaboratif. Penelitian ini menekankan pentingnya literasi digital agar ChatGPT dapat digunakan secara etis dan efektif serta merekomendasikan agar perguruan tinggi di Indonesia menyediakan pelatihan yang memadai dan menetapkan pedoman etika yang seimbang demi menciptakan lingkungan belajar yang lebih mendukung, meningkatkan hasil belajar mahasiswa, dan memperluas peluang karier mereka di masa depan.

ABSTRACT

This study examined the impact of using ChatGPT on five postgraduate English education students at a private university in Yogyakarta, both the benefits and challenges. A qualitative approach was used in this research with open-ended questionnaires and semi-structured interviews to gather the data. The researcher applied NVivo and triangulation to analyze the data. This method allows the researcher to understand the perspectives of Indonesian higher education students when using ChatGPT. There are three specific challenges identified: 1) difficulty in creating appropriate prompts, 2) doubts about its validity and reliability, and 3) concerns about privacy and ethical issues. The benefits of using ChatGPT in their academic assignments are: 1) increasing creativity and critical thinking skills, and 2) enhancing collaborative learning. To mitigate these issues, this study highlights the significance of digital literacy in using ChatGPT ethically and effectively. These findings suggest that Indonesian higher education institutions should provide adequate training and establish balanced ethical guidelines. Addressing these challenges can create a more supportive learning environment and improve student outcomes and future career opportunities.

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1. INTRODUCTION

Artificial Intelligence (AI) is a modern technological advancement that has been developing over the last three years. It is a transformative phenomenon that has crept into various aspects (Chen et al., 2020; Jati, 2022; Khan et al., 2021; Rizvi, 2023). Since then, AI has bloomed into a tool that uses data provided to become a learning experience that is adapted to the specific needs of users (Samudrala et al., 2022). In higher education, it has offered an extraordinary teaching-learning and administrative process revolution (Asmara & Kastuhandani, 2024; Baskara, 2023; Grassini, 2023; Mustafa et al., 2022). From tutoring intelligent systems and personalized learning experiences to automated administrative functions, it holds significant potential to increase an educational institution's efficiency and effectiveness. Currently, this issue has become a concern and discussed in some educational conferences and seminars such as The 5th International Conference on Teacher Education and Professional Development (Teacher Professional Development in the Age of AI) in June 2024 and The 11th International Language and Language Teaching Conference (Empowering Next-generation Educators: Challenges and Opportunities) in November 2024. All the keynote speakers declared their concern about using AI. AI is greatly beneficial when we use it properly, like a knife with two sides, but it can kill us if we use it inaccurately.

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Integrating artificial intelligence (AI) into higher education, specifically ChatGPT, denote the opportunities and also challenges. While AI has potential to transform teaching and learning process, its effectiveness depends on institutional readiness, digital literacy levels, ethical considerations, and worthy access technology. Students perspectives are central to concept how AI tools are experienced in academic contexts. Their perceptions define the perceived benefits of AI for academic performance and productivity, nor as concerns relating to academic integrity, privacy, data security, and digital divide (Bates et al., 2020; Chatterjee & Bhattacharjee, 2020; Herawati, 2024). in spite of the growing body of global research on the adoption of AI in education, several studies have criticize how Indonesian higher education students perceive and experience using ChatGPT to assist academic assignments. Existing research often defines institutional strategies or educator's overview, while student's lived experiences remain under-explored, especially within Indonesia's unique cultural and technological context. This gap is crucial because cultural values, access to digital infrastructure and levels of digital literacy may influence the adoption and application of generative AI. Hence, this study addresses this academic gap by focusing particularly on the perspectives of Indonesian higher education students on adoption of ChatGPT for academic task. It seeks to investigate the associated challenges and benefits. This study is guided by two research questions: (1) what specific challenges do Indonesian higher education students face when using ChatGPT, and (2) what benefits do they perceive in using it for academic assignments? By answering these questions, the study aims to provide a more contextualized and extensive understanding of the topic.

The integration of technology in higher education (HE), especially through e-learning, blended learning, and learning management system (LMS), has become progressively familiar. Nevertheless, the implementation often encounters crucial obstacles despite its potential benefits, such as resistance to change, insufficient infrastructure, and institutional culture, even though source limitations among students, staff, and faculty (Akram et al., 2021; Santoso & Lestari, 2019; Saputra et al., 2023). Successful adoption consequently switch on institutional readiness and intense support system. Now, artificial intelligence (AI) has further transformed educational practices. Students mostly accept AI-based tools, such as gamified learning platform and AI-enhanced interactive content, as they value more engaging and interactive learning experiences. These technologies can raise deeper learning, gain motivation, and promote inclusion (bali et al., 2022). Moreover, AI-powered recommendation systems can guide students against involved learning resources based on their academic interest and areas of difficulty. This supports more personalized and effective learning pathways (Mishra & Varshney, 2024).

Adopting ChatGPT in HEIs applies theories, frameworks, and empirical studies to introduce and encounter reforms, policies, technologies, or pedagogies. Rogers's diffusion theories offer fundamental insights into how new ideas are adopted within educational institutions, while the concerns-based adoption model emphasizes addressing teachers' and students' concerns during the process (Dampere et al., 2023; Olson et al., 2020; Rogers, 2003). ChatGPT enhances self-directed learning by providing instant feedback and explanations, helping students generate ideas for assignments, and reducing language barriers for non-native speakers. In this case, HEIs must be able to converse issues of academic integrity, potential over-reliance, and the accuracy of generated information. In the context of Indonesian HEIs, unique challenges and benefits are influencing the adoption of ChatGPT. Many students and institutions may lack access to important technology, making the limitations of infrastructure and digital divide crucial barriers (Damayanto et al., 2022; Silitonga, 2023). Furthermore, adopting ChatGPT is discouraged by resistance to change among faculty and administrators (Saragih et al., 2023). Comprehensive training is needed to ensure the adoption is successfully implemented.

While ChatGPT offers powerful tools to support both students and lecturers, its adoption needs to be balanced with clear guidelines, ethical considerations, and digital literacy training to ensure that it enhances rather than undermines the educational experience. The most significant concern of students is having their data collected, used, and secured (Regan & Jesse, 2019). ChatGPT systems often require large amounts of student data to function effectively. This poses concerns about privacy and potential misuse of information. Students may be concerned about analysis, storage, and demographic data. Their acceptance and trust influence the way their institutions communicate their plan for ChatGPT adoption. It has the potential to transform and enhance our lives, but it poses challenges that require awareness to maximize benefits and minimize risks.

In traditional classrooms, lecturers are authoritative figures in shaping students' cultural attitudes toward ChatGPT in Indonesian HEIs, so students are often reluctant to trust AI systems rather than humans (Sukma et al., 2024; Utina et al., 2024). The connection between students and ChatGPT is further complicated by cultural concerns about losing the human touch in learning and fears that it could contribute to dehumanizing education (Helmiatin & Kahar, 2024). Social-cultural barriers to this implementation in HEIs mean challenges arising from social values, cultural norms, and inequalities that extremely hinder this integration (Kartiasih et al., 2023).

Adoption of ChatGPT in higher education, especially in the system that traditional teaching practices are deeply rooted, may be significantly influenced by resistance from both students and lecturers. In specific cultural contexts, there shall general incredulity or mistrust toward appear technologies, including ChatGPT. Sinificance about losing control over the learning process, data privacy issues, and misconceptions about the role of ChatGPT in education may further intensify this resistance. Even if ChatGPT has potential to enhance

educational output, it can struggle to obtain spacious acceptance in societies where innovation is noticed with prejudice (Nowotny, 2021). Existing literature recognizes that technological innovation in education often confluence cultural and institutional resistance. While the benefits of ChatGPT are progressively recognized, debates remain regarding trust, control, and ethical intention. Still, there is limited empirical evidence criticizing how cultural perceptions particularly shape awareness and adoption of this technology into traditional educational environments.

The Technology Acceptance Model (TAM) is a foundational framework for understanding how individual admit and use new technologies from the user's perspectives (Mustafa & Garcia, 2021; Rahmawati & Narsa, 2019; Santi & Erdani, 2021). TAM proposes two key determinants of technology acceptance: perceived usefulness (PU) and perceive ease of use (PEOU). PU refers to the extent to which individuals believe that a technology enhances their performance, while PEOU consideration the degree to which they perceive the technology as effortless to apply. Rooted in information system theory, TAM has been extremely applied to examine adoption decisions across various contexts, including higher education (Fussel & Truong, 2022; Granić & Marangunić, 2019). It has been used to investigate the implementation of online assessments, e-learning platforms, learning management system (LMS), and barely, AI-driven technologies

In developing countries such as Indonesia, Yogyakarta especially-that can be said to represent a student city, where access to technology contrast significantly by region, digital literacy issues, and digital divide are principally raised. Digital literacy is defined as the ability to navigate, evaluate, and establish information using various digital technologies (Carter et al., 2020; Chung & Yoo, 2021; Liu et al., 2020; Van Dijk, 2020). in Indonesian higher education, distinction among urban and rural institutions yield in curious access to infrastructure, connectivity, and digital devices (Sari et al., 2024). These distinction shape students' engagement with ChatGPT. Nevertheless, this study goes beyond exculpating unequal access in another developing countries by offering three significant contributions. First, it refines the concept of digital literacy by presenting an effective engagement with AI necessitates technical-operational skills, strategic prompting abilities, critical evaluation, and epistemic conclusion. This propose an immersion of the new layer of AI-related literacy. Second, this study provides a culturally grounded system of how students integrate ChatGPT into their academic workout. It exposes that, in the limited sources, students often notice the tool as a compensatory mechanism that bridges gaps in instructional support, language proficiency, and learning language proficiency, and learning resources. This is an under-explored passage of the student experience. Third, this study elongates digital divide theory theory by recognizing a "second level of AI", where inequalities obvious in access to the infrastructure, the implementation quality, reliance in interaction, and critical assessment capacity. Simultaneously, these perceptions forward theoretical and experimental view of ho AI adoption chop with digital competence, inequality, and student agency in blooming higher education settings, shifting the contribution beyond contextual innovation.

The research gap resides in the limited integration of digital literacy theory, digital divide research, and AI adoption in higher education inside thriving context such as Indonesia. Digital literacy frameworks, including those influenced by Jan van Dijk, have been assigned as the ability to access, navigate, and create information using digital technologies. In Indonesia, most existing research focuses on the differences in infrastructure between urban and rural higher education institutions, particularly connectivity and device ability. These studies mostly discussed about the differences in how students using AI in their work. The researchers don't explore closely at how differences in technology skills lead to diverse ways how students using AI, how much they trust them, and how well they do on progress. As the result, there is sill limited empirical and theoretical knowledge of how infrastructure, institutional differences, and AI-related skills collectively influence students' experiences with ChatGPT. This study is guided by two research questions: (1) what specific challenges do Indonesian higher education students face when using ChatGPT, and (2) what benefits do they perceive in using it for academic assignments? By answering these questions, the study aims to provide a more contextualized and extensive understanding of the topic.

2. METHOD

This study adopts a qualitative method because the research questions seek to understand how Indonesian higher education students experience, analyze, and navigate the challenges of using ChatGPT, rather than to measure predominance or test predetermined variables. It let us to see the contextual influences, subjective meanings, and nuanced practices. These things can't be captured by standardized surveys or purely quantitative metrics (Creswell & Poth, 2018; Davis, 1989; Schwandt, 2000). This study uses open-ended questionnaires and semi-structured interviews to gather detailed students' interpretation about their attitudes, coping strategies, digital skills, and perceptions of institutional barrier. This approach allows for the appearance of patterns and themes through inductive analysis, rather than imposing predefined categories (Davis, 1989). This small sample size is intentional and consistent with qualitative research principles. It prioritizes complexity, depth, and contextual sensitivity over statistical generalization. Focusing on a smaller group enables to more in depth

questioning, clarification, and interpretation of the participants' experiences. In addition, combining different data collection methods, known as triangulation, enhances the reliability and credibility of the results by cross checking themes across different data sources and improving the inflexibility of interpretation (Drost, 2011; Huberman & Miles, 2002; Natow, 2020; Sugiyono, 2023). In this way, the qualitative method is not simply a descriptive choice but a intentional methodological strategy to generate theoretically meaningful, contextually grounded insights into complexities of students' engagements with ChatGPT, prioritizing depth analytical and conceptual richness over broad generalization.

In the first stage, the researcher distributed open-ended questionnaires via Google Forms. The link was distributed via WhatsApp from December 08, 2024, to December 22, 2024. Open-ended questions allowed for detailed and personal responses (Ahmad et al., 2019; Devi, 2019; Vygotsky, 1978). Semi-structured face-to-face interviews were conducted between January 01, 2025, to January 15, 2025, to gain deeper insights (Ruslin et al., 2022). The data were then analyzed thematically to identify patterns and key themes (Creswell & Poth, 2018; Vaismoradi & Snelgrove, 2019). To enhance validity and reduce bias, document analysis was also conducted to explore how ChatGPT is perceived and used in educational contexts (Morgan, 2022). The breakdown is shown in Figure 1.

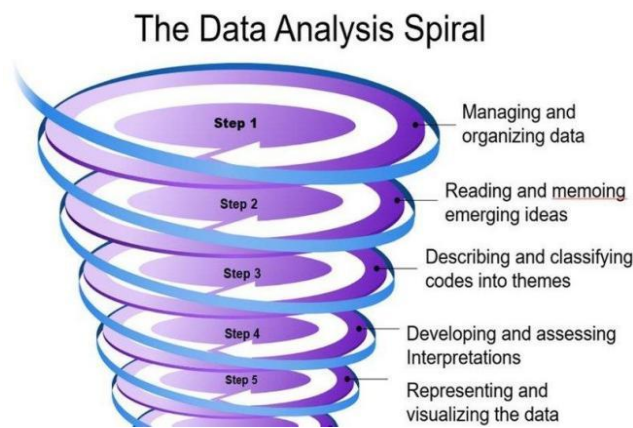


Figure 1. Data Analysis Spiral (Creswell & Poth, 2018)

This study was conducted at a private university in Yogyakarta, Indonesia, particularly within the postgraduate English education program 2023 (S2-301). The university is a private institution that operates under its internal academic policies while complying with national higher education regulations. It provides digital infrastructures, such as campus-wide internet access and learning management system (LMS). To get formal access to the research site, researcher had to submit a research proposal to the faculty. Once the researcher received the green light, researcher was allowed to start contact the participants. Participation was entirely voluntary and had no bearing on students' academic assessment. Ethical procedures were strictly followed, including informed consent, confidentiality assurances, and clarification that withdrawal was possible at any time. Five postgraduate students with experience using ChatGPT in academic contexts were selected through purposive sampling. Their postgraduate level ensured their ability to critically reflect on and articulate their experiences with AI. The small sample size was intentionally chosen to enable in-depth, contextually grounded exploration rather than broad institutional generalization. They were selected through purposive sampling with the selection criteria: 1) They have specialized knowledge and experience that enables them to provide insights into how ChatGPT impacts their learning, 2) Their academic level allows them to think critically and reflect on their experience using AI, 3) While all participants are in the same program, they may have different levels of familiarity, comfort, and engagement with it. By focusing on a small group of participants, the research provides an in-depth understanding of their engagement with ChatGPT for learning, problem-solving, and academic tasks. Their demographics are shown in Table 1.

Table 1. Participants' Demographic Data

No	Pseudonym	Age	Gender	Years of Using ChatGPT
1	BN	26	Male	3
2	GN	23	Male	2
3	MA	23	Female	2,5
4	WI	25	Female	2
5	JM	23	Female	3

To collect data, open-ended questionnaires and semi-structured interviews were applied. To ensure ensure the clumsiness and improvement of these instruments were piloted with two postgraduate students who were not included in the final sample. This piloting was done to access clarity, relevance, and the ability of questions to

obtain reflective responses. Based on this feedback, any ambiguous questions were revised, simplified, and reordered to rectify the instruments' coherence and depth. Additionally, two experts in educational technology and qualitative method reviewed the instruments blueprint to establish the content validity and alignment with the research objectives. Their sight led to the refinement of delving questions and the elimination of redundant items. Rather than relying on statistical reliability, this study executed trustworthiness through established qualitative criteria. The credibility of this study was gained through data triangulation, which involved combining information from interviews and questionnaires. This was further reinforced by member checking, where the participants asked to define the accuracy of interview outlines. The persistence was ensured by maintaining a detailed audit trail that documented instrument development, coding process, and analytic decision. The strengthened confirmation was through by reflective journaling prompts to monitor the bias. Demonstrability was supported by thick descriptions of the institutional context and participant characteristics being provided. Combining these techniques would assist the researcher in gathering rich qualitative insights and providing a comprehensive understanding (Creswell & Poth, 2016; Weyant, 2022). The instrument blueprint is shown in Table 2.

Table 2. Instrument Blueprint

Framework	Open-ended Questions	Semi-structured Interviews
TAM (Davis & Granić, 2024; Mustafa & Garcia, 2021; Rahmawati & Narsa, 2019; Santi & Erdani, 2021)	What challenges do you face when using ChatGPT? How easy or difficult is AI to use? Please explain any difficulties you have encountered. How has ChatGPT affected your learning experience?	Can you describe some specific challenges when using ChatGPT? How do these challenges affect your ability to complete your academic assignments? Are there any particular features of ChatGPT that you find difficult to use?
Digital Literacy (Chung & Yoo, 2021; Liu et al., 2020; Van Dijk, 2020)	Do you feel that you have the necessary skills to use ChatGPT effectively? If not, what skills do you feel you lack? What types of training or support would help you make better use of ChatGPT?	Do you feel confident using AI? What specific digital skills do you think are needed to maximize ChatGPT? Do you feel that your university provides sufficient resources to help you use ChatGPT effectively?
Digital Devide (Carter et al., 2020; ; Sari et al., 2024)	What kind of access do you have to the necessary technology to use ChatGPT in your studies? Are there any barriers to accessing ChatGPT at your university?	What is your opinion of the technological infrastructure at your university to support the use of ChatGPT? Do you think there is enough technological support available?

The data collected were analyzed using thematic analysis, a qualitative data analysis method which focuses on identifying, analyzing, and reporting themes or patterns within the data (Humble & Mozelius, 2022; Lochmiller, 2021; Miles, Huberman, & Saldaña, 2014). The researcher applied Nvivo to analyze the data. First, data is imported and manually created notes for themes, such as ChatGPT-related challenges, students' perspectives, and technological barriers. Next, the data is grouped by relevant sections into broader themes. After using queries for deeper analysis, the researcher refined, interpreted, and reported findings in a descriptive qualitative method. The triangulation method was applied to increase the findings' credibility, validity, and depth. It helps to cultivate the overall conclusions of the study by cross-checking findings, identifying in case different methods produce similar results, and confirming that the conclusions drawn are not biased (Sugiyono, 2023; Vaismoradi & Snelgrove, 2019). The components of data analysis are as follows:

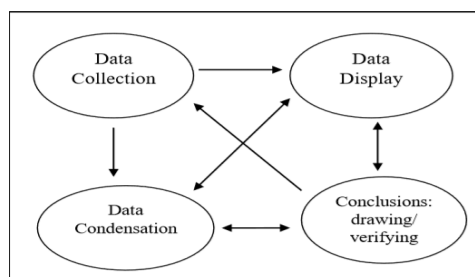


Figure 2. Components of Data Analysis (Miles, Huberman, & Saldaña, 2014)

To further enhance the rigor of the analysis, the researcher guarded detailed memos throughout the coding process to track decisions, reflections, and emerging patterns. Participants' confidentiality and consent were protected, ensuring the integrity of the data. Nevertheless, to enhance trustworthiness, ancillary strategies such as member checking, peer debriefing, and a reflexive statement could be incorporated to validate the interpretations and mitigate potential researcher bias.

3. RESULT AND DISCUSSION

3.1 Indonesian Higher Education Students' Challenges in Using ChatGPT

3.1.1 Difficulty in Creating Prompts

The researcher identified that participants faced key challenges in creating appropriate prompts to have the right interactions with ChatGPT. They often struggle to formulate clear instructions, as BN shared.

"The biggest challenge when using ChatGPT is how I created good prompts. I strongly believe that using this OpenAI technology is about our prompting towards the tool." (BN, Interview)

"I often use ChatGPT to correct my writing, but sometimes it doesn't match with my style. So, I just adapt it with my own" (WI, Interview)

This statement pointed out how students struggled to formulate clear instructions to obtain consistent responses from ChatGPT. This challenge exposes the importance of input in AI systems, where the effectiveness of the technology specifically depends on how well users communicate their exact needs in detail (Chan & Hu, 2020). This finding aligns with research from Ekin (2023), which highlights the significance of creating specific, clear, and specific prompts to assist in narrowing the concerns of ChatGPT. It has a fundamental impact on the quality of the generated response and addresses that some different types of attempts have shown that using different questions can generate results more in line with the user's intent. Using a continuity of prompts can simplify deeper dialogue through multi-turn conversations and customization of prompts. In fixed domains, it increases the relevance and accuracy of the responses. The findings also highlight the need to deal effectively with bias. Understanding the students' needs and desired outcomes is critical to designing prompts that align with their goals, which significantly improves the relevance and quality of ChatGPT's output.

Based on PEOU theory, a key factor in new technology adoption is when students find it challenging to interact with it due to unclear prompts, which mitigates their agreement to use the technology effectively (Granić & Marangunić, 2019). It is tightly related to the level of students' digital literacy, the concept of Open AI systems working and interacting effectively, as well as basic skills in using technology. If students do not mean it, they may struggle to formulate the proper requests to reach desired outcomes. Students lacking AI literacy may not understand how ChatGPT produces beneficial and accurate responses (Ayeni et al., 2024). Their mastery of digital literacy focuses on understanding how to work and generate detailed responses to ChatGPT. Without this skill, students may face difficulties in formulating the proper prompts.

3.1.2 Doubts about its Validity and Reliability

The researcher found a crucial concern among participants concerning the validity and reliability of ChatGPT. They often question the accuracy and consistency of OpenAI, as MA and BN explained.

"I am not confident enough in the validity and credibility of ChatGPT 100%. Usually, I check the original because it sometimes doesn't match what I intended." (MA, Interview).

"I usually cross-check with original sources because the output doesn't match what I intended sometimes. I must recognize a certain of skepticism with regard to the veracity and reliability of ChatGPT." (BN, Interview).

The lack of trust in ChatGPT's output led participants to cross-check this AI-generated information with other sources to verify its accuracy. This skepticism is consistent with PU and PEOU theories (Davis, 1989; Nguyen et al., 2023), which raise crucial attention about data generation and question its validity and reliability. This finding is in line with Shen et al. (2023), which comprehensively evaluates its validity and reliability. They identified that the OpenAI system varied significantly across domains. For example, with a dataset of 5,695 questions across ten datasets, the researchers found inconsistencies in ChatGPT's capability to give correct answers and acknowledge unanswerable questions. This recommends a tendency to make meaningless guesses rather than recognizing when a question is unanswerable. Furthermore, the impact of various system roles designed by OpenAI to guide its performance was found to play a significant role in the model's reliability in unclear instructions. They recapitulated that this raises important concerns about the security and trustworthiness of this model in sensitive contexts.

Students' concerns about the mismatch between the AI's output and their intentions could be an indication of bias, which has an impact on validity. It can also lead to inconsistencies in ChatGPT output. Their disbelief in

the consistency of the results goes hand in hand with the potential impact of bias on reliability (Novelli et al., 2024; Schwartz et al., 2022). They also emphasized the importance of systemic and procedural transparency in OpenAI adoption, including working to make this generative AI system more explainable and interpretable to address issues of bias and build trust. The need for mechanisms to recognize and manage bias in the AI they use is indirectly highlighted by students' interest in validity and reliability.

3.1.3 Concerns about Privacy and Ethical Issues

The last finding was privacy and ethical issues. The participants worry about the responsible use of AI-generated content and data security, as WI mentioned.

"I don't fully understand how my data is stored and used. For me, it will create challenges related to privacy and ethical standards, especially in the ease of producing generated academic work that can raise concerns about plagiarism and originality concerns." (WI, Interview).

These issues contribute to hesitation in fully adopting ChatGPT for academic purposes, as they are confused about the misuse of data and academic integrity. To address these concerns, HEIS must prioritize arrangements for using it, ensure robust data security, and promote digital literacy to help students navigate their responsibility in the implementation of AI (Davis, 1989; Herawati, 2024).

The participants revealed interest in AI decision-making processes, which can make it difficult for them to understand how their data is being handled. This finding aligned with Malik et al. (2023), who discussed ethical considerations related to privacy and data security as challenges in using OpenAI for academic purposes. Although a high positive acceptance, some students expressed concerns about its potential impact on ethical practices. They were also indefinite about the potential for unintentional plagiarism through AI. It showed the importance of a balanced approach to AI implementation and identified the need for proper training and guidance to ensure academic integrity.

3.2 The Benefits of Using ChatGPT in Academic Assignments

3.2.1 Increasing Creativity and Critical Thinking

According to the participants, using ChatGPT increases their creativity and critical thinking skills. As WI explained, the ability to create appropriate prompts is helpful in terms of being able to think outside the box, to analyze more deeply, and to be reflective in one's approach to tasks.

"For me, using ChatGPT is like having a brainstorming partner who will never run out of ideas. It requires me to use my imagination and creativity. I feel like I'm being pushed to think more critically to make the right interaction with it." (WI, Interview)

This finding aligned with Shanto et al. (2024). They leveraged an AI framework with ChatGPT to significantly improve students' critical thinking levels. It helped students generate ideas and improve their critical thinking skills. There is an interesting framework proposed in this research called AI-CRITIQUE (AI-based Critical Reflection and Insightful Thought Unleashed for Education). This is a concept proposed in this study to improve critical thinking skills among students in HEIS through the use of generative AI tools such as ChatGPT. The framework provides a structured guide that encourages students to critically evaluate and build on the outputs produced. If Indonesian HEIs are aware of these concerns, they can make decisions to address the perceived risks in a way that promotes the wise use of ChatGPT and does not sacrifice developing higher cognitive skills (Dira & Kuswandono, 2024).

The positive attitudes of students toward the use of ChatGPT, influenced by performance expectations and ease of use, can create an environment in which AI is used as an innovative tool to support deeper learning and develop higher-order thinking skills (HOTS). Lecturers can design tasks and activities that use ChatGPT while challenging students to think creatively and critically if they have a good perception of the potential and limitations of AI (Helmiatin et al., 2024; Sukma et al., 2024).

3.2.2 Enhancing Collaborative Learning

ChatGPT presents significant challenges for Indonesian higher education students. These challenges incorporate difficulty creating prompts, doubts about the validity and reliability of AI outputs, and concerns over privacy and ethical use. These findings reinforce extant research on AI prompting, bias, and ethical risk (Chan & Hu, 2020; Shen et al., 2023; Malik et al., 2023) while extending understanding by irradiating how digital literacy and contextual factors shape students' experiences. In spite of these challenges, students declared ChatGPT can enhance creativity and critical thinking when used intentionally and with proper institutional guidance, demonstrating its potential as a higher-order learning tool. Participants perceived use of ChatGPT could enhance collaborative learning with a student-centered approach to joint problem-solving, completing assignments, and developing projects. It contributes to academic habits that affect their ability to engage in collaborative learning, where students can share ideas, solve problems together, and increase their understanding through interactions in group discussions, as GN shared.

"Sometimes I get stuck in group projects. ChatGPT helped me keep the discussion going and even brought up new angles I hadn't considered. I used this technology to compare my ideas with others. It helped us to see which direction was stronger and how we could improve each other's suggestions. It was like having a neutral third party in the room." (GN, Interview).

This finding is consistent with the work of [Tan et al. \(2022\)](#), who identified the characteristics of the study, aspects of collaborative learning, the OpenAI model techniques used, and gaps and future research directions. They noted that collaborative learning, which emphasizes social interaction as a prominent learning process, can theoretically be studied in sociocultural learning theory ([Vygotsky, 1978](#)). It means learning that may involve the use of computer-based resources, such as the Internet or learning management systems. They pointed out that ChatGPT is used not only to measure the results of collaborative learning but also to understand and support the underlying social interaction processes. This reflects the view that collaborative learning is not just about getting the right answer but also about sharing ideas and building shared understanding. The categories proposed are that this AI model collaborative learning has three main goals, namely to discover, to learn, and to reason. This study's findings have several important implications for higher education. The challenges students face in creating effective prompts underscore the necessity of acquiring AI-specific skills for effective digital literacy. These skills encompass strategic prompting, critical evaluation, and understanding AI limitations. This underscores the importance of integrating AI-focused training into higher education curricula. Skepticism about ChatGPT's reliability underscores the need for transparent and explainable AI systems, along with guidance on verifying outputs to promote informed engagement. It is essential to have clear institutional policies and ethical guidelines to protect students' data and support responsible AI use, as concerns about privacy, plagiarism, and academic integrity indicate. On top of that, ChatGPT can both boost and limit creativity and critical thinking, which shows how important it is to use it in a thoughtful, strategic way to get the most out of it. Overall, these findings suggest that AI adoption should be supported through structured guidance, equitable access, and faculty development to ensure ethical, effective, and inclusive integration across programs and regions.

4. CONCLUSION

This study indicated that Indonesian HEI students face certain specific challenges when using ChatGPT in their academic journey. First, students struggle to create appropriate prompts, which has a direct impact on the relevance and responsiveness of ChatGPT. This challenge reflects broader digital literacy issues with AI systems and highlights the need to improve prompt engineering skills. Second, concerns about its validity and reliability lead to skepticism, as students often think they need to verify information from other sources. This mistrust highlights explainable OpenAI systems. Finally, concerns about privacy and ethical issues. Notably, in data use, plagiarism, and academic integrity are crucial barriers to full adoption. Students' uncertainty about how their data will be handled and the ethical implications of AI-generated content emphasize the need for clear institutional policies, digital ethics, and accountable adoption in Indonesian academic contexts. There is a unique finding that needs to be further explored more deeply, but the researcher has not yet developed it due to limitations of participants, methodology, and time. The finding undermines increasing creativity and critical thinking skills. It is an interesting contrast because ChatGPT can both enhance and limit creativity and critical thinking. It can enhance creativity and critical thinking by offering a variety of ideas, creative prompts, and stimulating exploration. However, it can also reinforce norms, discourage independent thinking, and create over-dependency through its over-confident tone. When used critically, this bias is a powerful tool - when used passively, it can blunt authenticity. Future research may investigate more about this finding further by expanding the sample size and applying a quantitative or mixed-method approach to have a more comprehensive understanding of AI integration. The study has several limitations, including a small and relatively homogeneous sample, which limits the generalizability of the findings to Indonesian higher education institutions. Its qualitative design provides rich insights but does not allow for statistical validation of patterns or quantification of ChatGPT's impact on learning outcomes. The exploration of a unique finding regarding ChatGPT's dual effect on creativity and critical thinking was also limited by time constraints. This effect has the potential to both enhance and constrain independent thought. Future research should expand the sample size to include diverse disciplines and regions and consider quantitative or mixed-methods approaches to better measure the effects of ChatGPT on learning, creativity, and critical thinking. Combining students' perspectives, institutional policies, and longitudinal data would provide a more comprehensive understanding of AI integration and ethical adoption in higher education.

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