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University Students and ChatGPT: Redefining Learning in the Age of Artificial Intelligence

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ABSTRACT

Artificial Intelligence (AI) has significantly reshaped the world of education, particularly in how university students access and interact with learning resources. Among the various AI tools, ChatGPT stands out for its capability to engage advanced, human-like conversations, offering students a novel way to obtain information and interact with academic content. This study aims to investigate university students' perspectives on using ChatGPT compared to traditional textbooks as learning resources. Employing a qualitative research design, semi-structured interviews were conducted with 12 students from Indonesia and Malaysia, allowing for a comparative analysis of their experiences. The findings reveal a significant paradigm shift in learning behaviours, with ChatGPT emerging as the preferred initial resource, even among students who recognize the importance of textbooks. This research highlights the transformative potential of AI in education and emphasizes the necessity for educators to adapt their teaching practices to effectively support student learning in an increasingly AI-driven environment.

Keywords: Artificial Intelligence (AI), ChatGPT, qualitative research, teaching, learning

ABSTRAK

Artificial intelligence (AI) atau kecerdasan buatan telah merevolusi cara kita belajar dan berkomunikasi. Salah satu AI tersebut adalah ChatGPT, yang memiliki potensi untuk mengubah cara mahasiswa belajar dan berinteraksi dengan dosen. ChatGPT adalah model AI yang dapat menjawab pertanyaan kompleks dan berkomunikasi dengan manusia dalam format percakapan. Penelitian ini bertujuan untuk mengeksplorasi pandangan mahasiswa tentang penggunaan ChatGPT dalam pembelajaran, termasuk kelebihan, kekurangan, dan potensinya dalam perubahan paradigma pembelajaran. Penelitian ini dilakukan dengan menggunakan metode qualitative. Kualitatif data dikumpulkan melalui wawancara dengan 12 mahasiswa dari Indonesia dan Malaysia. Riset ini juga sebagai studi perbandingan untuk mengetahui persamaan atau perbedaan bagaimana mahasiswa Indonesia dan Malaysia menggunakan ChatGPT dalam pembelajaran. Hasil penelitian menunjukan perubahan paradigma dalam pembelajaran mahasiswa di era kecerdasan buatan

Kata kunci: Kecerdasan buatan, ChatGPT, penelitian kualitatif, pengajaran, pembelajaran

INTRODUCTION

The educational landscape has changed significantly with the introduction of Artificial intelligence (AI), which has the potential to revolutionize how students learn and acquire knowledge. Among the various AI tools, ChatGPT, an AI language model, has emerged as an influential platform that enhances learning by answering questions and generating writing ideas (Haleem et al., 2022). Its application in educational settings has been steadily increasing in recent years (Kalla & Smith, 2023), prompting universities to actively investigate both the opportunities and challenges this technology presents to improve the learning experience (Farrokhnia et al., 2023). While some stakeholders view AI-enhanced learning as a valuable tool for providing personalized and interactive educational experiences, there is still skepticism regarding its effectiveness and implications in the classroom (Shidiq et al., 2023). Additionally, there have been serious concerns raised about the ethical and social implications of AI in education, particularly concerning privacy, data security, and academic integrity (Cotton et al., 2023). In light of these challenges, some researchers stand for the inevitable integration of AI into educational practices, suggesting strategies such as blended learning and open education as effective approaches to navigating the currently evolving educational landscape (Firat, 2022).

The integration of Artificial Intelligence (AI) in education has gained significant attention, particularly with the emergence of advanced language models such as ChatGPT. Prior studies have primarily analysed the perspectives of various stakeholders, including educators (Ogurlu & Mossholder, 2023), teachers (Stepanechko & Kozub, 2023), academic staff (Abu Zahri et al., 2023), and students (Ngo, 2023). While substantial research has investigated the benefits and drawbacks of AI from broader student perspectives (Abdaljaleel et al., 2024; Acosta-Enriquez et al., 2024; Albayati, 2024), there remains a critical gap in understanding the nuanced views specifically of university students. Most existing literature tends to focus on the strengths, limitations, benefits, and challenges associated with ChatGPT (Baskara, 2023; Strzelecki et al., 2024), however, these studies often overlook the evolving experiences and opinions of students regarding their learning methodologies and reliance on traditional textbooks following the integration of ChatGPT into their academic practices.

This research aims to bridge that gap by exploring how university students perceive the use of ChatGPT in their learning process, with a particular focus on whether its application has prompted a shift away from traditional textbooks as primary learning sources. Additionally, this study seeks to respond previous calls for a more comprehensive and empirical investigation into the implications of ChatGPT within educational contexts (Stepanechko & Kozub, 2023). Furthermore, limited research exists regarding how these perceptions vary across different countries and demographics. As educators increasingly consider the potential applications of ChatGPT in various educational settings (Abu Zahri et al., 2023), It becomes crucial to understand how students from various backgrounds perceive and use this technology, to enhance its effectiveness in educational settings.

In the context of Southeast Asia, particularly Indonesia and Malaysia, these two neighboring countries share numerous cultural and linguistic similarities. However, they face distinct challenges and are actively investing in the integration of technology within their educational systems. A significant difference between the two lies in terms of infrastructure.

Indonesia, with a large population exceeding 275 million people in 2024, is spread across thousands of islands, which presents challenges related to internet connectivity and technological infrastructure, especially in rural and remote areas. This situation can hinder the widespread implementation of AI in education.

Conversely, Malaysia generally benefits from better internet connectivity and technological infrastructure, which supports more effective and extensive integration of AI in educational settings. Given these differences, there may be variations in how students from these countries perceive and engage with AI-based tools such as ChatGPT (Firdaus et al., 2023; Jemmy et al., 2024; Jumriah et al., 2024; Tang & Chaw, 2023). Understanding these perspectives is essential for educators and policymakers to effectively incorporate such technologies into teaching practices and curricula (Huang et al., 2024; Trilaksana et al., 2024).

Nevertheless, this study focuses on selected institutions from both Indonesia and Malaysia that are in major urban centers. In these contexts, students are expected to have equal access to the Internet and AI tools, thus minimizing the impact of infrastructure disparities on the research findings. Given the increasing integration of ChatGPT in educational settings, this study aims to explore how university students first learn about ChatGPT and its interaction with traditional learning resources, particularly textbooks. To address these aims, two research questions have been formulated:

1. How do students initially encounter and learn to use ChatGPT?

2. What are students' perspectives on using textbooks versus ChatGPT as learning resources?

As AI technology becomes more prevalent in education, understanding students' perspectives on their interactions with such technology is crucial. By exploring the use of textbooks compared to ChatGPT, educators and and researchers can gain valuable insights into optimizing the use of AI's application in educational contexts. The findings of this research will help universities leverage AI to enhance the learning experience while addressing the challenges associated with its integration.

RESEARCH METHODOLOGY

This study employs a qualitative research design to investigate university students' interactions with ChatGPT as a learning resource compared to traditional textbooks. Data were collected through semi-structured interviews involving 12 participants, six students from Indonesia and six from Malaysia. Participants were selected through purposive sampling, with a focus on those enrolled in the Faculty of Education who were actively using ChatGPT for academic purposes. The semi-structured interviews were chosen to allow for flexibility in gathering participants' responses while ensuring that key topics were covered.

The interview questions were open-ended and aimed at getting a detailed description of participants' initial encounters with ChatGPT, their frequency of use, and their perspectives on the advantages and disadvantages of ChatGPT versus traditional textbooks. The interviews were conducted offline, transcribed verbatim, and subsequently analyzed using thematic analysis, as outlined by Braun and Clarke (2019). This process involved familiarization with the data, coding, theme identification, and refining these themes to ensure they accurately represented the dataset. The findings were compared between

Indonesian and Malaysian students to identify both similarities and differences in their experiences and perspectives regarding ChatGPT.

Ethical approval for the study was obtained from the appropriate institutional review board before data collection. Informed permission was obtained from all participants, ensuring they were fully aware of the research's purpose, their rights, and the precautions to keep their responses confidential. Participants were informed that their data would be anonymized to protect their privacy and that no personally identifiable information would be linked with their responses in any published material. Overall, this methodology provides a solid foundation for understanding the students' experiences and perceptions related to AI-assisted learning resources, providing valuable insights for educators and policymakers in the field of education technology.

FINDING AND DISCUSSION

Findings

The findings reveal two major themes regarding students' learning resources after using ChatGPT. First, the study looks at how students discovered and began using ChatGPT. It then looks at their attitudes toward traditional textbooks versus ChatGPT as learning tools. To demonstrate these points, participant quotes are labeled as 'I' for Indonesian students and 'M' for Malaysian students.

Initial Exposure to ChatGPT: The Role of social media and Peer Influence

The majority of participants (9 out of 12) learned about ChatGPT through social media platforms such as YouTube, TikTok, Instagram, and X (formerly Twitter). These platforms featured posts, threads, and videos that highlighted ChatGPT's features and applications, which attracted students' interest. One participant mentioned:

"I play Twitter a lot. So, the first time I heard about ChatGPT was through Twitter. People were saying how bad it is, how good it is. So, it made me more interested in it." (M2)

Another participant expressed a similar perspective, saying:

"After ChatGPT became popular, many social media accounts started sharing tips and tricks on how to use it for study purposes. On Instagram, there's an account called ChatGPT Mastery." (I1)

Social media played a significant role in encouraging students to learn more about ChatGPT. The fascinating content they discovered online attracted their interest, led them to independently research the tool using search engines like Google or by experimenting directly with ChatGPT. As one student explained:

"My primary source of learning about ChatGPT was by asking ChatGPT itself. I asked how it finds sources when I ask something." (I1)

Another participant described how Instagram reels influenced their decision to try out ChatGPT:

"I mostly encountered ChatGPT through Instagram reels. Watching videos that showed how to use it made me curious to try it out myself, like asking for a recipe for Tom Yam. Sometimes it's accurate, sometimes it's not." (M1)

Some students also learned about ChatGPT from their peers or classmates, especially in the context of completing assignments or sharing useful study tools:

"I found out about ChatGPT from a friend. At that time, I was working on an assignment and feeling stuck, trying to come up with ideas for writing and completing tasks." (M6)

"I actually learned about ChatGPT during my time at university. Ever since starting university, people have been talking about AI, and I found out about it from a friend." (I6)

For a few students, their first exposure toChatGPT occurred in an academic setting, particularly through their lecturers. These lecturers introduced ChatGPT as a potential study tool or provided a brief overview of its features:

"A year ago, one of my lecturers, Mr. A, introduced us to ChatGPT. Initially, I didn't understand what it was, but after researching it myself, I realized how useful it could be for my studies." (I1)

"One day, one of my lecturers, Mr. A, used it as an example of what to search for and how to use it. It was just a little introduction to it." (I4)

These themes highlight the various ways in which students first learned about ChatGPT, primarily through social media, peer interactions, lecturer introductions, and their personal curiosity and research. Interestingly, while many students discovered ChatGPT through similar channels, some Indonesian students reported learning about it from their lecturers, but no Malaysian students mentioned such exposure. The gap demonstrates varying levels of engagement among lecturers in integrating AI into their educational practices in the two countries. Through these initial experiences with ChatGPT, students gradually changed their reliance from traditional textbooks to AI as their main source of information. This shift underlines the increasing influence of AI on their learning habits and reflects broader changes in how students approach their studies in the age of artificial intelligence.

ChatGPT: A More Accessible Learning Tool Than Textbooks

The study reveals a nuanced integration of AI with traditional learning methods among university students. While participants utilized both ChatGPT and textbooks, there was a distinct preference for textbooks when seeking detailed, in-depth, and reliable information.

Most students (8 out of 12) reported using printed books and e-books for comprehensive study, while ChatGPT was primarily used for quick assistance with assignments. This complementary relationship between ChatGPT and traditional textbooks is well articulated by one participant, who stated:

"Sometimes textbooks don't fully provide accurate information. Books are focused on one title or topic. But with ChatGPT, even though we must ask detailed questions to get the correct information, ChatGPT can complement the shortcomings of textbooks. However, ChatGPT cannot stand alone in developing a topic. So, it still needs to be supported by textbooks." (I2)

Another participant echoed this sentiment, highlighting how both resources work together effectively:

"If you have difficulties with traditional textbooks, or inquiries about certain topics, you can ask ChatGPT for ideas or further study. I think they can complement each other." (M6)

Interestingly, despite the value they placed on textbooks, students frequently turned to ChatGPT first because of its accessibility and speed. This transition suggests a growing reliance on AI as a primary learning resource:

"I think traditional books are no longer the best resources for studying. When we, as students, use a traditional book, it takes more time to look for the answer. Maybe it's not to the point. But if we use AI, like ChatGPT, we ask A, and the answer is all A, straight to the point. I'm a person who likes to be to the point." (I1)

This initial use of ChatGPT is not without strategy, as another student mentioned:

"I start with ChatGPT to get a general idea, then go to the textbook for more detailed information." (I2)

The shift from traditional textbooks to AI tools like ChatGPT is particularly evident among students when time is a critical factor. For example, one Malaysian student stated:

"I would use ChatGPT first because textbooks take a lot of time. I have to go through the pages to find what I want." (M2)

Similarly, an Indonesian student noted:

"When I can't find the information in a textbook quickly, I turn to ChatGPT for faster results." (I2)

This pattern of behaviour underscores how ChatGPT has become the initial go-to resource for many students, especially when they need quick and concise answers. Despite this rising dependency on AI, many students still acknowledge the importance of textbooks, often using them to verify and supplement the information obtained from ChatGPT. As one Indonesian student pointed out:

"I use both the book and ChatGPT. Maybe ChatGPT for the narrative text, like the opening sentence, and then the book for theoretical review." (I1)

A Malaysian student similarly described this complementary approach:

"The textbook helps to understand the facts, and ChatGPT is used for additional insights. The textbook is the primary resource, while ChatGPT serves as a secondary tool." (M3)

However, a comparison of responses between the two countries revealed differences in usage patterns. Indonesian students were more inclined to rely on ChatGPT and online sources, gradually moving away from traditional textbooks. Conversely, Malaysian students showed a stronger preference for textbooks, particularly for in-depth study and exam preparation. They viewed ChatGPT as a tool for quick answers rather than a primary learning resource.

The students' responses highlight a trend towards favouring ChatGPT over textbooks due to its accessibility and ability to provide concise answers. This indicates a potential change in learning resources from traditional textbooks to AI-powered tools like ChatGPT, reflecting the changing dynamics of educational practices.

Discussion

ChatGPT has changed the way people learn. While research indicates that students are increasingly relying on AI tools like ChatGPT (Klingbeil et al., 2024; Maniar, 2023), many lecturers have yet to fully adapt their teaching methods to reflect this change. This misalignment creates a gap between the ways students engage with resources and the traditional methods still prevalent among lecturers. To address this gap, the study explores university students' experiences with ChatGPT, how they first learn ChatGPT and their perspectives on using it compared to traditional textbooks. The findings reveal that social media platforms like YouTube, TikTok, Instagram, and X (formerly Twitter) have significantly contributed to introducing most students to ChatGPT, highlighting their potential as effective channels for disseminating AI tools. These platforms not only raise awareness but also offer practical guidance on using AI for educational purposes such as writing, generating ideas, or summarising papers. This reflects the influence of social media in adoption of artificial intelligence and shaping students' learning behaviours.

The findings align with several studies highlighting the role of social media in spreading information about ChatGPT. For instance, Lian et al., (2024) analyse public attitudes toward ChatGPT by examining sentiments and themes in Chinese social media discussions, revealing a focus on its technical support, effectiveness, impact on work, and effects on education and technology. This study underscores the significant role of social media in information dissemination, with limited influence from official media and government channels. Similarly, Wibowo et al., (2024) explore the response of Indonesians to #ChatGPT through social network analysis on Twitter, emphasizing how AI advancements have become a prominent topic in Indonesian media. The study uses Social Network Analysis (SNA) to measure the centrality and involvement of various actors, including

individuals and companies, in the information exchange about ChatGPT. It finds that User Generated Content (UGC) reflects audience acceptance of ChatGPT and can serve as a platform for promoting various innovations. While previous studies have explored the role of social media in spreading information about ChatGPT, this study contributes to the understanding of how students are leveraging social media to engage with ChatGPT for academic purposes, offering a fresh perspective on the use of social media for learning about AI technology.

Besides social media, peer interactions have also been crucial in introducing students to ChatGPT, particularly in the context of completing assignments and finding study resources. Previous studies have highlighted the importance of peer interactions in facilitating the use of ChatGPT. For example, more experienced students often share tips and strategies for effectively using the tool (Li et al., 2024), and peer interactions can foster collaborative learning, where students work together to solve problems using ChatGPT, making their experience more engaging (Sandu et al., 2024). Additionally, peers can provide immediate feedback on ChatGPT usage, helping others refine their approach and improve their skills (Crompton & Burke, 2024). However, this study contributes a new understanding by revealing that, despite learning about ChatGPT from their peers in academic settings, students are not receiving detailed instruction from their universities on how to use the tool. This gap suggests that while peer interactions play a significant role, there is a lack of formal guidance, highlighting an area where educational institutions could better support students in leveraging AI technology for academic purposes.

Interestingly, while social media and peer interactions were the primary ways for learning about ChatGPT, some students—particularly from Indonesia—were introduced to the tool by their lecturers. It is important to note that these findings are based on the provided data and may not represent the entire student population in these institutions. Nevertheless, this finding is noteworthy as it highlights a potential difference in the integration of AI tools in education between Indonesia and Malaysia. The fact that Indonesian students mentioned lecturers as a source of introduction, while none of the Malaysian students did, may indicate varying levels of institutional support for AI integration in educational practices. This variation could point to broader differences in how educators across different cultural and educational contexts perceive and utilize AI in the classroom. The differences between Indonesian and Malaysian students in their use and perception of ChatGPT and textbooks reflect the influence of their educational environments and cultural attitudes toward technology. Indonesian students, who were more formally introduced to ChatGPT, tend to use it more frequently and integrate it more into their academic routines. In contrast, Malaysian students, who discovered ChatGPT through informal channels, prefer to use it as a supplementary tool while maintaining a strong reliance on traditional textbooks. These distinctions highlight the importance of context in shaping how students engage with new technologies in their learning processes.

Overall, the findings suggest a clear movement in how students are approaching learning materials, with many moving away from traditional textbooks in favour of AI tools like ChatGPT. This transition emphasized the growing influence of AI on students' learning habits and reflected broader changes in educational practices in the age of artificial intelligence. Research has documented various evolving learning approaches using ChatGPT

such as personalized learning (Albdrani & Al-Shargabi, 2023), adaptive learning (Kiryakova & Angelova, 2023), blended learning (Alshahrani, 2023), experiential learning (Albert et al., 2023), microlearning (Rüdian & Pinkwart, 2023), and self-directed learning (Lashari & Umrani, 2023). This study further confirms the dynamic nature of learning, highlighting how students are increasingly turning to e-books, social media, digital platforms, and AI tools as primary sources of knowledge, replacing traditional physical textbooks.

Given this shift, the depiction of university students carrying heavy books or pointing to book sections in educational pamphlets may no longer accurately represent the reality in many educational settings, where students primarily access their learning resources digitally via laptops or phones. With the decline in carrying physical textbooks, students increasingly use their phones to access resources. This practical implication suggests that phones are convenient for accessing e-books and AI tools, but their small screens could negatively impact students' eye health. Provided that students may not always carry laptops, they might need to use devices with larger screens, such as tablets or iPads, to mitigate potential health risks. Adopting this habit could promote healthier study practices.

This study identifies a shift in the definition of learning for university students, which is no longer confined to interactions between students and lecturers. While acknowledging the vital role of lecturers at university, learning now extends beyond traditional boundaries, transcending the walls of classrooms and overcoming the limits of time, space, and resources, enabling learning to occur anytime and anywhere. In the age of artificial intelligence, learning is evolving into a continuous and dynamic process that occurs anytime and anywhere through diverse AI tools, digital platforms, and resources. These findings have significant implications for how educators might integrate AI into their teaching strategies. Encouraging students to use AI wisely as a supplementary tool while still valuing the depth and rigor of traditional resources can lead to a more holistic approach to learning. As AI continues to evolve, its role in education is likely to expand. However, educators must continue to emphasize the foundational value of textbooks and ensure that students critically evaluate the information from ChatGPT to verify its reliability and accuracy.

CONCLUSION

This study investigates university students' perspectives on their learning sources, showing a major change in how they engage with textbooks. Once the primary source of knowledge, textbooks are now often used to verify the reliability of information from ChatGPT. This shift indicates a growing trend where students increasingly turn to ChatGPT first due to its accessibility, positioning textbooks to a secondary role. Learning is becoming a continuous, dynamic process that can happen anytime, anywhere, supported by a wide range of AI tools, digital platforms, and resources. Considering these changes, lecturers may need to adapt their teaching practices by recognizing students' reliance on AI, emphasizing critical thinking, and fostering a balanced approach to resource use. By aligning their methods with these evolving learning habits, educators can ensure that students remain intellectually engaged and develop the critical thinking skills necessary to navigate the complexities of the AI-driven educational landscape.

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