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Exploring University Students Perception and Experience of AI chatbots for Academics

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Abstract

Artificial intelligence has become crucial in education with the proliferation of technology. The contemporary education scenario is witnessing the growth of numerous service providers to offer a diverse range of services to augment student skills and enhance the quality of academic outcomes. Students prefer AI chatbots for their academic work, due to instant availability and compatibility with smartphones. The present study explores the university students' perception and experience of AI chatbots in their academics. The data were collected using in-depth interviews with university students to gain a deeper understanding of their experience with AI chatbots for their academic purposes. Purposive sampling is used to recruit the participants for the study. Thematic analysis was used to analyze the interview transcripts. The study findings highlighted that university students use AI chatbots for a variety of purposes including routine academic assignments, presentations, and largely for time optimization. The major themes of this study include Ethical and Critical Concerns, AI Mentorship, Academic Support and AI Literacy in Academia. The findings indicate that while the features available in AI chatbots can improve student skills, on the other hand, they may also contribute to deteriorating creativity among them.
Keywords: AI chatbots, AI and education, AI experiences, ChatGPT, University students.

Introduction

The widespread adoption of Artificial Intelligence (AI) applications, particularly chatbots, is rapidly increasing across various sectors, driven by ongoing technological advancements. In the era of Artificial Intelligence (AI), the majority of the sector has been widely dependent on AI, particularly in education, it was rapidly expanding (Roos, 2018). This study (Chen L, 2020) highlighted the adoption and utilization in the education sector, particularly in educational institutions. One of the fields which can benefit from utilising this technology is the educational sector. Amongst the AI technologies, AI chatbots are the most commonly used applications to support students by teaching and learning (Okonkwo et al., 2020). Chatbots are software programs that work with the principle of natural language processing (NLP) and machine learning algorithms (ML). Chatbots are classified based on user interface, algorithms and with the underlying technologies (Gupta, 2020). Apart from the technological part, chatbots are like conversational agents. The ideology behind these types of bot is to figure out what the user's objectives are and understand the prompt to provide a thoughtful answer.

Chatbot technology is used across various sectors, providing quick and personalized services to both employees and students (Okonkwo & Ade-Ibijola, 2021). Most familiar Conversational AI chatbots used by students are ChatGPT, Deepseek, Gemini, Meta basically, are large language

models (LLM) for academic and personal purposes. However, these chatbots may discourage original thinking by promoting reliance on automated responses rather than encouraging creativity (Schei et., 2024). From the academic perspective, Students use chatbots for writing assignments, Clearing doubts, simplifying explanations, availability and accessibility of chatbots. Furthermore, AI powered text based conversational chatbots are intended to mimic human conversations through voice interaction and text based chats by giving information in a conversational manner (Labadze et al., 2023). Therefore, the adaptation of Chatbots are simple, easy, and clear due to its mimicking human conversations and personalized service features.

The present study attempts to explore the perception and experience of AI chatbots usage among university students. Specifically, it seeks to understand how students perceive the impact of these tools on skill development, learning processes, and the reliability and accuracy of information. Furthermore, the research explores the impact of AI chatbots on student motivation, confidence in writing and speaking, and overall engagement with learning resources. While acknowledging the benefits, this study also critically examines the perceived drawbacks associated with AI chatbots usage.

Further, this study also emphasizes significant understanding of using AI chatbots among various disciplines of students from university and how efficiently they can use AI chatbots for their academic purposes. The Information collected from students of various disciplines using AI Chatbots has provided deeper insights.Several studies have focused on specific fields without incorporating diverse educational disciplines (Ngo, 2023). This study includes a varied sample of participants from different academic backgrounds. By collecting data across multiple disciplines, the research examines the role of AI chatbots in various fields and evaluates their effectiveness in diverse academic contexts. Ultimately, this study investigates the efficiency of chatbot applications across different disciplines.

Few studies primarily highlight the use of ChatGPT (Ngo, Qadir, Shoufan, 2023) while neglecting other AI chatbots, such as Gemini, Copilot, Deepseek, and Grammarly, within the academic sector. This academic study focused on AI chatbots and how efficiently they can be used to maintain academic integrity. Chatbots provide several benefits such as student motivation and engagement but also should have concern about academic integrity and plagiarism contents, university requires to develop the policies and teach students for strategies to ensure ethical use of AI chatbots (Cotton et al, 2023). This study also examined the ethical use of AI among students across diverse educational disciplines. Based on the findings, teachers and policymakers can develop guidelines to promote ethical AI usage while preventing plagiarism and ensuring academic integrity.

Research Objective

1. To examine students' perceptions of how AI chatbots contribute to the improvement of their skills.
2. To explore the impact of AI chatbots on student motivation, confidence in writing and speaking, and engagement in learning.
3. To evaluate students' opinion on the reliability and accuracy of AI chatbots.

Research Question

1. How do university students perceive the impact of AI chatbots on their improvement of skills?
2. What are students' opinions about the effectiveness of AI chatbots in increasing their

motivation, confidence in writing and speaking, and engagement in learning?
3. What are students' perceptions of the reliability and accuracy of the content provided by AI chatbots?

Literature Review

AI chatbots have emerged as a widely used and essential tool among university students, facilitating various aspects of Personalized learning, availability and skill development. Contemporary studies emphasize the importance of AI in various academic settings to enhance student learning engagement. AI can enhance personalisation and improve learning by facilitating education, fostering collaborative environments and intelligent tutoring systems (Pedro, 2019). The versatility of these chatbots allows students to personalize their learning experiences, tailoring the use of AI Chatbots to their specific academic requirements (Chen L, 2020, Zaharuddin et al., 2024). Students have identified that a major benefit of chatbots is their accessible interface and the ability to provide support at any time, 24/7 (Roca et al., 2024). The study found that (Syarifah & Fakhruddin, 2024) AI tools serve multiple functions, including grammar checking, generating storylines, developing ideas for writing topics, and providing initial feedback. ChatGPT, QuillBot, Jenni AI, Grammarly, and StoryAI as the most commonly utilized chatbots among students. As AI chatbots continue to evolve, their integration into academic environments is likely to further enhance students' engagement and efficiency in the learning process.

AI chatbots support time management, resource access, and skill development, enhancing communication and collaboration in a non-judgmental environment. A considerable number of students agreed that ChatGPT can help them save time, access a wide range of information, receive individualized tutoring and feedback to improve their learning and retention (Ngo, 2023). The incorporation of AI chatbots holds significant potential in promoting skill development. The research demonstrates the considerable potential of integrating AI-based chatbots into educational practices to enhance student motivation and skill development (Neji et al., 2023). Chatbots facilitate interactive and engaging learning experiences that foster improved communication, collaboration, and feedback, both in online and offline learning environments (Almusaed et al., 2023). Furthermore, studies highlight that the responsive and adaptive nature of AI communication within chatbots effectively engages students. These interactions provided a supportive environment for language practice, allowing students to develop their skills without the apprehension of judgment (Anjum et al., 2025). Moreover, the chatbot-driven learning environment fosters improved student communication and collaboration, contributing to the development of essential skills in an inclusive, non-judgmental manner.

AI chatbots can improve the language learning skills including language competence, communication skills and grammar skills among the students compared to traditional interactions. English as a foreign language (EFL) learners' speaking skills and willingness to communicate increased due to the AI mediated learning as compared to traditional peer interaction (Fathi et al., 2024). The study found that Kim (2019) the participants who are part of a chatbot-assisted learning group showed a greater improvement in grammar skills than those who are part of a human-instructed group. Furthermore, chatbot improvements such as tailored error correction and user-centric features creates engaging and fruitful language learning. The study highlights the

opportunities for integrating improvements in AI based learning and provides information for including chatbots in language learning classes (Yuan Y, 2023). In general, AI chatbots enhance language learning by improving their communication skills and grammar.

A considerable amount of the students use AI chatbots more in academic environments including research purposes. Students' perception of AI chatbots as a valuable tool in various educational contexts, including exam preparations, assignments, research tasks and presentations (Zia et al., 2024). The study outcome suggests that the use of ChatGPT facilitated the development of students' knowledge in writing a research plan (Alshwiah, 2024). AI chatbots play a crucial role in academic settings by assisting students in overcoming intellectual roadblocks and generating new ideas. They facilitate the brainstorming process, enabling students to explore diverse perspectives particularly in research.

A key ethical concern while training chatbots can contribute to the influence of chatbot's responses may lead to algorithmic bias in responses. Features considered by Machine Learning (ML) models often lead to biases (Kordzadeh et al., 2022). Furthermore, chatbots contribute to race related conversations including stereotypes, historical inequalities and biased representations focused on language structure instead of social and cultural context and the lack of transparency in decision making of algorithms (Schlesinger et al., 2018). Even though ChatGPT can help with education by encouraging tailored learning, it can also have negative effects such as producing inaccurate or biased information (Baidoo-Anu & Ansah, 2023). ML models typically rely on variables for predictions or decision making. However, certain features by Machine learning models often contribute to discriminatory, unfair or inaccurate outcomes. Emerging contemporary chatbots such as ChatGPT, often generate irrelevant or unrelated links, leading to inaccurate references (Gravel, 2023). The Output generated by language models may lack proper references as they lack access to the direct sources of information or not be trained to format the correct citations and references (Cotton et al., 2024). For instance, when users request reference links from ChatGPT, the majority of the provided links are often unrelated (Day, 2023). AI language models may not always compute accurate content; it is essential to evaluate the essay for errors or inaccuracy. For validity, cross-verify the information with the relevant sources. (Cotton et al., 2024). Chatbots are widely known for generating several kinds of information, whereas it lacks reliability of the information.

Despite the increase of chatbots in the academic sector, they contribute to mitigation of creativity, critical thinking and human interaction (Alshwiah, 2024). ChatGPT can assist with homework, projects, math problems, proofreading, and essay outlines. However, over reliance on this technology to complete assignments without a solid foundational understanding can significantly diminish a student's educational growth (Saurini, 2023). Chatbots have extensive information to provide to a user. On the other hand, over-dependence may hinder the surface level knowledge to understand the complexity of the information.

The negative aspects of using AI chatbots include a reduction in social connections, and excessive reliance on technology can be detrimental as well. AI chatbots may have numerous drawbacks for students, such as an over-reliance on technology, prolonged screen time, privacy issues, false information, a lack of personal connection, and restricted customisation (Rahman et al., 2023). Over reliance on AI chatbots and these technologies might negatively affect individual confidence and real human connections (Parsakia, 2023). However, educators face some disadvantages including concerns about originality, the risk of plagiarism and limited engagement with humans (Gokcearslan et al., 2024).

Perhaps universities could establish guidelines and frameworks to offer guidance on the ethical use of chatbots. Despite the benefits of student engagement these chatbots contribute to significant

concerns on academic integrity. Universities should regulate policies and procedures to guarantee ethical usage of ChatGPT due to its questions about academic integrity and plagiarism (Cotton et al., 2023). Policies are significant to protect academic integrity and students must learn how to incorporate AI-generated content with ethical integrity (Tseng and Warschauer, 2023, Dai et al., 2023). Students might benefit from paying attention to potential benefits and barriers when using AI chatbots, to ensure potential and ethical usage (Cotton et al., 2024).

AI chatbots may enhance critical thinking among students, for educators and developers this may help to emphasize the creation of chatbot systems and enhance the pedagogical practices, without disrupting the role of teachers. In common, the main objective is to ensure that AI serves to enhance human capabilities and reduce dependence on technology. AI developers must learn how pedagogical implications contribute to the academic sector. Furthermore, educators should learn AI-powered chatbots implications and how efficiently students' can use the tools in an academic environment (Pedro, 2019). Instead of relying on chatbots for intellectual ideas it is crucial to incorporate your own ideas and analysis to your work. This enhances your work and contributes to your understanding of the topic (Cotton et al., 2024). Instead of directly copying answers from ChatGPT, students should use this tool as a consultant service or a reference source. This helps students' emphasis on their critical and lateral thinking while they mitigate from over reliance on AI technology (Ngo, 2023). Checking factual accuracy and originality of the Chatbot contents using plagiarism detection tool (e.g. GPT-2 Output Detector Demo) to detect whether it was human written or by chatbots (Cotton et al, 2024). The use of chatbots in education provides both significant benefits and challenges. On the other hand, they offer personalized tutoring, student engagement and increased efficiency of learning. However, barriers such as technology limitations and insufficient pedagogical implications may lead to misguidance. Furthermore, ethical issues related to algorithmic biases and over-reliance on technology requires significant consideration.

Methodology

This study uses a Qualitative approach for examining the students motivation and engagement of using AI chatbots through In-depth-interviews for gaining deeper understanding. This qualitative study ensures a rich and comprehensive understanding of the AI chatbots for academic purposes, going beyond surface-level observations to examine the student's perception and experience.

In this study, data is collected using a purposive sampling technique. This method involves intentionally selecting participants who meet specific criteria relevant to the research. The primary criterion for this study is that participants must be users of AI chatbots for academic purposes. In this study, The method used for analysing the data is Thematic analysis which categories codes, themes and patterns in the perception and experience of chatbots usage collected from the samples. In-depth interviews are conducted to collect the data of experience and perception of AI chatbots among university students.

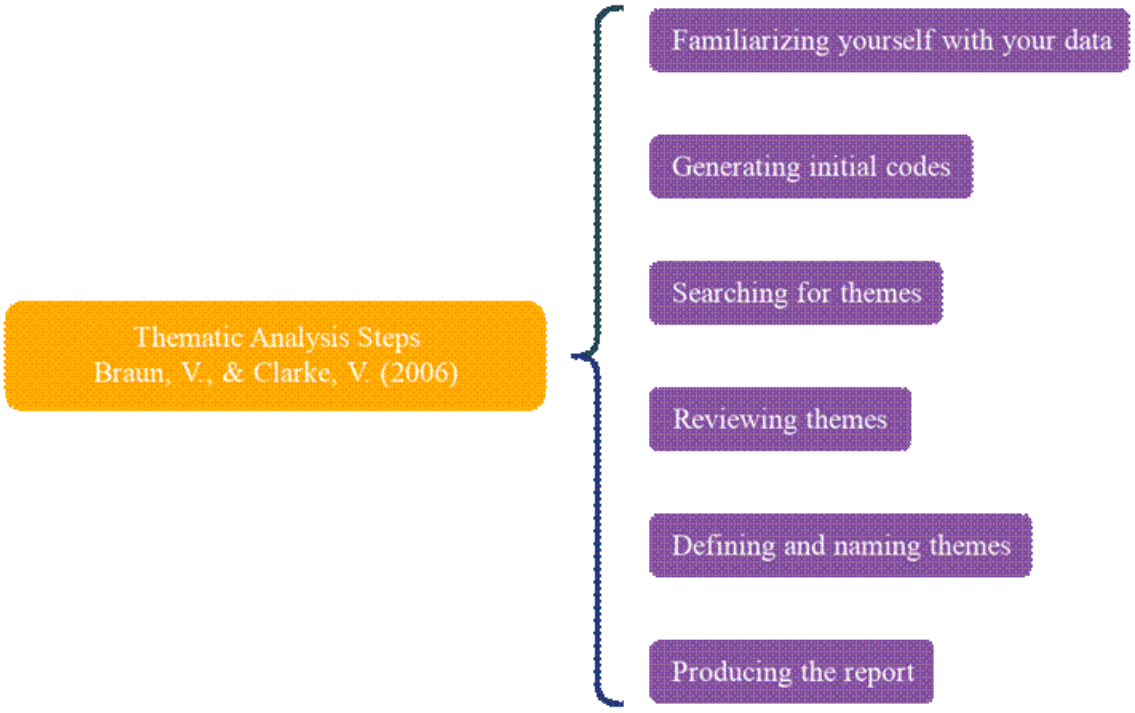
In-depth semi structured interviews conducted over 18 university students who consented to be interviewed. Prior to being verbatim transcribed, All interviews were audio recorded. Every data transcripts have been reviewed to ensure the accuracy of coding themes. Researchers agreed that the data collected were that 18 interviews reached saturation, sufficient and meaningful to answer the research question (Braun & Clarke, 2006).

Data Analysis

Figure 1

depicts that the steps involved for performing thematic analysis by using

(Braun & Clarke, 2006) method



The process involves 6 steps which is familiarizing yourself with your data, generating initial codes and searching for themes. These themes are then reviewed and refined to ensure coherence before defining and naming themes clearly. Finally, the themes are integrated into a structured report, providing a comprehensive report. (Braun & Clarke, 2006).

Ethical and critical concerns

The theme Ethical and critical concerns emerged prominently in the analysis. The theme encapsulates the range of ethical and critical considerations raised by university students' regarding the use of AI chatbots. This theme encompasses students' concerns and challenges of using AI chatbots. Furthermore, it comprises issues with reliability, over-dependence on

technology and mitigate critical thinking in academic environments. Ethical implications such as algorithmic bias, misinformation and diminished human communication interaction were also raised. One of the significant concerns highlighted by students is reliability and accuracy of the information given by AI chatbots. As one student said,

"Many information are real & true. But, some information available are not very perfect".

This code illustrates the students' awareness that chatbots can be considerate whereas the information they provide are unreliable. Moreover, Students expressed concerns about the Algorithmic biases, with one interviewee said,

"even if stereotyping spreading through chatbots. Like, oh, some racist ideas. It is giving the dominant perspective."

This quote illustrates the stereotypic viewpoint of chatbots and emphasizes the ethical challenges of chatbots.

AI Mentorship

This theme depicts the chatbot's role as a mentor in education. Furthermore, through engaged feedback and constructive criticism. It encourages students' academic growth and adaptability whereas AI chatbots support personalized learning, brainstorming ideas, decision making and skill development. A considerable amount of students use chatbots for correcting their mistakes. If students encounter difficulties, chatbots can assist them in resolving issues. A student stated that,

"The main problem that we have while asking questions to teachers and Peers is that we have self doubt. We will think that they will judge us based on our questions, but while asking ChatGpt we can open our mind. We can ask any kinds of simple questions and silly questions and without the fear of judgment, we can get more knowledge".

The transcript illustrates how chatbots consider the students' mindset and provide them with feedback and a judgement - free learning environment. As one student further added,

"It is like another teacher for us in all the stuff"

highlighting how chatbots serve as valuable, accessible education tools and offer support similar to traditional educators. Beyond academics, students rely on chatbots as personal assistance. For instance, during an interview a student shared that I have learned from the chatbots how to be kinder or more polite to others.

"It has helped me how to be sometimes. We cannot say, few things. We would think it is very rude, right? So I would ask how to reply to this more politely and it helps me for send a reply".

Academic Support

The theme academic support emphasizes how AI chatbots assist students with academic activities and enhance efficiency in academic workflows. Students' preferably use chatbots for free accessibility, which helps them to reduce academic pressure by simplifying tasks and supportive

workload management. Students' use chatbots for learning assistance, managing their time, and to receive immediate responses to their queries enabling them to resolve problems quickly. As one student mentioned,

"about 90% of the students using chatbots because of the academic pressure".

Students' depend on chatbots for managing their time and learning assistance. Furthermore, one student added,

"For Getting outline of the things I need chatbots"

highlights the role of chatbots in reducing academic stress. By providing guidance on essential information, chatbots reduce the stress for organising and searching the information independently.

AI Literacy in academia

The theme illustrates the significance of empowering students and educators on AI literacy to ensure the ethical and effective use of AI in an academic environment. It emphasizes the need for awareness, education and responsible use of AI by setting limits to reduce over-dependence of chatbots. This ensures students' maintain critical cognitive skills and avoid over - reliance of AI - generated solutions. Furthermore, The theme also emphasises how important it is for chatbots like ChatGPT to include disclaimers that explain AI's limitations and potential biases of technology. As one interviewee stated,

"We have to educate our students on how to use this in an effective manner, such as how to process the information, assess if it is right or wrong, and determine whether the information created by AI is biased."

This demonstrates how critical thinking and skill development are essential for students to evaluate AI-generated information and promote ethical usage of AI in their academic work. As another student added,

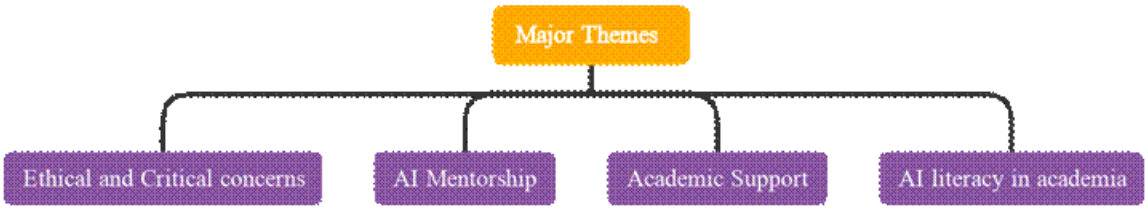
"if you know how to use that as a weapon, you can like get much more development or maybe much more progress in your Lifestyle."

highlights the importance of AI used ethically and effectively, not only for academic purposes but also for personal and professional development.

Findings

Figure 2

Shows that the major themes evolved from the thematic analysis performed from the data



In this study the thematic analysis of the qualitative data provided four major themes which are 1) Ethical and critical concerns 2) AI Mentorship 3) Academic Support 4) AI literacy in academia.

Discussion

The purpose of this study is to explore perception and experience of AI chatbots usage among university students. The findings of the study illustrate AI chatbots have both negative and positive aspects in the education environment. The findings demonstrate that the theme of ethical and critical concerns align with some previous studies. It indicates the lack of reliability, algorithmic bias, misinformation and lack of scientific symbols to perform calculations. AI chatbots have some limitations in existing AI systems such as biases in data training, privacy concerns, misinformation and hallucination of the systems (Baidoo-Anu & Ansah, 2023, Qadir, 2023). Hallucinations contain false or misleading information and presented as fact generated by an AI (Ji et al., 2022).

Participants found that one of the significant concerns of AI chatbots is ethical and critical concerns which includes over-reliance and copy pasting mechanism of AI chatbots induces the creative block of the students by blindly copying the content from AI chatbots. It may diminish the creative and critical thinking of the students. ChatGPT affects students' creative writing abilities such as originality, content presentation and accuracy (Niloy et al., 2024). This undermines critical thinking and limits the development of a deep understanding of topics. AI chatbots often provide information in a narrow scope, which could lead students to only have a superficial grasp of the subject, rather than gaining comprehensive knowledge. Participants confirmed that for deeper understanding of the particular topic or fact they prefer to rely on human tutors or human intelligence. Students acknowledge that the responses provided by

ChatGPT's are not always accurate and emphasize the necessity for possessing a solid foundation to use it effectively. However, They also recognize that ChatGPT cannot replace human intelligence (Shoufan, 2023).

Despite the negative aspects, Participants confirmed that one of the other crucial concerns is AI mentorship which include tailored learning, engaged feedback, personal assistance, brainstorming ideas and giving analytical support. In the thematic analysis, A considerable number of students stated that, One of the major concerns with AI chatbots is giving the safe space to the students for learning language skills and clarifying simple questions without the fear of judgement (Anjum et al., 2025). AI chatbots act as a digital educator especially for students using personalized learning and for improving their language proficiency. It provides proper guidance for students in their learning process with valid criticism. The findings stated that the chatbots particularly in education

provide personalised learning and interactions to students. This enhances the students' engagement and information retention (Labadze et al., 2023).

The findings of the present study has significant concerns about academic support which includes academic activities such as task simplification, learning assistance, time management and continuous availability of assistance. Moreover, In contrast to search engines, chatbots provide an interactive environment for students creating a more engaging environment for the students. According to (Hwang & Chang, 2023) chatbots can contribute to interactivity and learning key concepts with deeper engagement. A notable key strength of chatbots is the ability to provide 24/7 responsiveness and facilitate students to access information and get assistance (Chen et al., 2023). The current study added to the literature by illustrated the significance of chatbots in academic environments (Folstad et al., 2018) highlighted that they could establish their services available and affordable. In addressing students' academic pressure, students shift to chatbots for reducing their academic workload and stress (Limna et al., 2023). Furthermore, learning assistance, user-friendly, serves as enhancement tools for efficient information search and fact cross-verification.

The finding of the study demonstrates that the important aspect is AI literacy in academia. Participants stated that students' and educators must know how to use AI in academia and set limitations to use AI. According to (Lo, 2024), It is necessary to teach students' about AI literacy. As supported by students', they should use AI generative tools responsibly and efficiently. Furthermore, future updates should be considered to be used effectively in academia. From the findings of the study, students' should be aware of the concerns and disclaimer from the ChatGPT for information. The findings further supported by (Baidoo-Anu & Ansah, 2023) Educational institutions may need to adapt policies and guidelines to guide and support students' in using chatbots safely and constructively.

Conclusion

The widespread adoption of artificial intelligence chatbots has significantly contributed to the transformation of the educational landscape, fostering a more interactive and accessible learning environment. The major findings of the study revealed that students' using AI chatbots in various academic disciplines to complete their academic tasks. AI conversational chatbots as a pedagogical partner for personalized learning, focus on acquiring knowledge or developing skills and career development, it is the right platform for learning and provides constructive criticism for your further clarifications. Despite the positive aspects, the greater part of the student body stated that one of the significant concerns is lack of reliability and accuracy of chatbot information. Furthermore, it also limits engagement with humans and thinking capability due to over - dependence.

Educators should be aware of the new emerging technologies such as AI chatbots and its future implications. The copy-pasting mechanism of AI chatbot usage induces a creative block and doesn't provide deep knowledge about a particular topic. They must maintain academic integrity, address the critical and ethical concerns of using chatbots in the education sector, and provide guidelines for their effective use. Additionally, they should assign tasks that encourage creativity. Future studies could focus on educators' perspectives on AI chatbots or compare students' experiences across different academic disciplines. This study has some limitations, such as focusing only on university students', which may limit a deeper understanding of the results. For an optimistic future of AI Chatbots we must empower students with chatbot guidelines for

effective use in professional and personal development. Integrating AI into teaching and learning environments is inevitable. One major disadvantage of rapidly evolving technology is the lack of AI literacy among students in academia in a globally connected world. The findings of the present study are significant to Chatbot developers, marketers and policy makers should have critical and ethical concerns such as reliability and algorithmic bias in information.

The thematic analysis of the qualitative data identified four key themes: Ethical and Critical Concerns, AI Mentorship, Academic Support, and AI literacy in Academia. The features that influence the pull effect of AI Mentorship and Academic Support include Judgment, Engaged Feedback, User-Friendliness, Self-Reliance, and Availability. However, Lack of reliability, Over dependence, Reduce thinking capabilities, Crafting the information (exaggerating the content) are the sub-factors that constitute the push effect of Ethical and critical concerns on students' intention towards using chatbots. Despite the pull and push factors, students' consider chatbots as beneficial in their educational environment. For future implications educators should educate students' on AI literacy in academia for a fruitful learning environment. For a positive future of AI chatbots, we must equip students with guidelines to use chatbots effectively for both their professional and personal growth. To maximize the benefit, chatbots should have an ethical balance between technology and human connection.

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