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CHALLENGES, POTENTIALS AND ETHICAL IMPLICATIONS OF CHATGPT USAGE IN HIGHER EDUCATION

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Abstract

Since its launch in 2022, ChatGPT has changed the dynamics of world in general and education in particular due to its transformative potential. A debate is ongoing in the academic realms about benefits, challenges and ethical implications of ChatGPT. Within this context, the current study aims to review the latest academic debates in the extant literature on the perceptions about the usage of ChatGPT in the realms of education, its potentials, challenges and ethical implications. We collected 39 published articles on ChatGPT from January 2023 July 2025 appeared in peered reviewed journals. Our purpose was to critical review and synthesize the potentials, challenges and ethical implications of the ChatGPT usage in higher education settings. The findings suggest that usage and acceptance of ChatGPT among teachers and learners has become widespread in the spheres of higher education. The benefits of using ChatGPT in higher education are personalized and immediate learning, language skill enhancement, content creation, facilitating engagement, providing writing support and feedback. ChatGPT can empower students and their learning experiences. The potential threats associated with the use of ChatGPT in higher education are plagiarism and cheating, algorithm biases, privacy issues, spread of false and incorrect information, academic integrity and hindering of critical thinking skills among the educators and learners. The study concludes that while AI-driven technology and ChatGPT cannot be avoided in the higher education settings, the higher education institutions and policy makers should design a clear policy about ChatGPT usage in higher education. The study advocates for strategies to epitomize ChatGPT integration into educational settings. Training of the faculty on sustained basis and awareness raising among the students about the ethical and responsible usage of this new technological reality can be an effective approach to avoid the pitfalls of ChatGPT. Future studies can examine the challenges faced by higher education institutions in policy implementation on ChatGPT usage in higher education institutions.

INTRODUCTION

Since its launch in November 2022, the AI-drive tool ChatGPT has sparked considerable interest in higher education regarding its potential benefits, challenges and ethical implications. The usage of ChatGPT has changed the nuances of education at almost every academic level and has replaced many existing technological tools of information searching notably Google and Wikipedia. Within a span of two months ChatGPT reached 100 million active users monthly, making it the fastest-growing AI application in history (Crompton & Burke, 20224). The Artificial Intelligence (AI) based technology has altogether changed the dynamics of the world in general and education in particular (Klimova and de Campos, 2024). The ChatGPT as Open AIs newest tool has recently become a hot topic in the field of Artificial Intelligence (AI) due to its fast and worldwide popularity since it was released for free in November 2022 (Kalyan, 2024). Researchers around the world have studied ChatGPT about its widespread usage in teaching and learning and research. ChatGPT offers both opportunities and challenges in education spheres and has also raised about the ethical and responsible usage of this new technology in education and other spheres of human societies. Its potential and threats and challenges have sparked global debates both in the academic and media.

Generative AI tools (GenAI) tools offer a broad range of useful functions ranging from content creation, prompt responses, to solving complex problems and generating ideas on any topic immediately. Despite these potentials of the GenAI specifically the ChatGPT, concerns have also been raised by educators, administrators, students, researchers and parents about the potential pitfalls, limitations and challenges of using these AI-driven technology in the realms of higher education particularly with respect to academic integrity, algorithm biases, misinformation and hindering of critical thinking skills. In this article we will discuss the existing nature of ChatGPT usage among the educators and students, the potential benefits the ChatGPT offers and the threats, challenges and ethical implications associated with the usage of ChatGPT in education.

Perceptions about ChatGPT in Higher Education

Since 2022, ChatGPT usage in higher education has become widespread and is being increasingly used both by students and teachers. Studies from around the world and different educational contexts have shown the increasing use of ChatGPT among students, teachers and researchers. Mogaviaand *et al* (2023) studied the perspectives of researchers, educators, learners, parents, and general users about the educational applications of ChatGPT. The results of the study particularly in higher education show ChatGPT has significant potential in helping researchers, educators, and students. Shoufan (2023) studied perception of 56 senior students (66% males) of ChatGPT on embedded systems in a computer engineering program. The study takes a quantitative account of students' perceptions of using ChatGPT. Almost 96% of the students find ChatGPT interesting or very interesting. Around 83% of them feel motivated to use it. In contrary, there are perceptions of uncertainty as well. The study also reveals ChatGPT is not the replacement of human intelligence, prior knowledge is pre-requisite to use it. However, students find the tool user friendly with prompts. In their study about the perceptions ChatGPT in higher education and influencing factors, Mamo *et al.* (2024) have shown that 40% of the respondents were positive, 51% were neutral, and 9% were negative. In a similar vein, studies conducted to measure the level of acceptance of the usage of ChatGPT by academic community as well as the motivating factors influencing their intention to use the ChatGPT has revealed that the academic community is employing the technology in the teaching and research and that performance expectancy was the motivating factor behind the use of new technology like ChatGPT (StrzeleckI *et al.*,2024).

Similar findings were found in context of Pakistan about the usage of ChatGPT in higher education. Zafar, Shaheen and Rehan (2024) on the usage of ChatGPT and its impacts on the academic performance of students in higher education have noted that 51% students regularly used ChatGPT and perceived to be useful in providing personalized tutoring but the participants also believe that over-dependence on ChatGPT limits students' critical

thinking skills and also raise issue for academic integrity. Other studies have shown that ChatGPT is used to complete academic tasks, and providing personalized tutoring. Likewise, studies on students' and faculty perceptions on the use of ChatGPT in academics have noted that the majority of the faculty and students from a large research university used the ChatGPT and that the use of ChatGPT is inevitable in higher education realms. Further the usage of this technology created challenges for higher education and that generative AI has value in education (Petricini, Wu & Zipf, 2024). In the studies on the perspectives on the university students on the on the academic integrity and ethical challenges about the use of ChtGPT in higher education Alghazo *et al., (2024) have noted that most students perceive ChatGPT as a beneficial tool for* tool for improving their learning, significant concerns remain about academic integrity, over-reliance on artificial intelligence (AI), and the accuracy of information provided by ChatGPT. In similar manner, Hong (2023) explored the functions mechanism, misconceptions and issue associated with using ChatGPT on foreign language teaching and learning. Other studies have also shown that teachers normally have positive attitudes towards the use AI-powers tools like ChatGPT in teaching and assessment (Adiguzel *et al.* (2023).

In sum, the studies on the usage of ChatGPT reveal a nuanced and shaded picture of both potentials and pitfalls of the use of ChatGPT. Two major strands of thinking are prevalent in the academic discourse on ChatGPT usage in higher education. The proponents advocate the potentials and benefits the ChatGPT offers in the realms of higher education. The opponents on the other hand have raised concerns about the potential pitfalls, threats and ethical implications this AI-driven technology has created in education. We will briefly discuss these two strands of thoughts in the extant academic literature on the use of ChatGPT in higher education and ethical implication associated with the emergence of the AI technology in higher education.

ChatGPT and its Potential Benefits in Higher Education

In the extant academic literature on ChatGPT, various studies have shown that the ChatGPT has huge potential to transform the teaching, learning and research in the higher education. The advocates of ChatGPT in higher education state that the ChatGPT has the –potentials to empower students and enhance their educational experiences in learning. In their study on influence of AI text generator on the critical thinking skills in business schools, Essien *et al.* (2024) have noted that the AI tools proved to be effective at the level of understanding. The potentials offered by ChatGPT are providing opportunities for students to be life-long learners, facilitating with alternative ideas, access to information and to stimulate social interactions (Bozkurt *et al.*, 2023). In language learning skills, ChatGPT is more effective for students to enhance their communication skills (George & George, 2023). Studies have also shown various motivating factors among the students in the adaptation of ChatGPT including significant impacts of students' trust, effort expectancy, and performance expectancy in their attitude towards ChatGPT (Shuhaiber, Kuhail & Salman, 2025). Many recent researches conducted in academia throw light on the applications of ChatGPT. Mogavia *et al* (2023) find that among the study participants 78.11% accounts for content creation and editing. It is also helpful for doctoral students in doing literature review. Additionally, it widely helps in data analysis. Teachers use chatGPT for students' evaluation and plagiarism check. Chan and Hu (2023) have shown that, the participants showed a good understanding of the capabilities and limitations of GenAI technologies, as well as a positive attitude towards using these technologies in their learning and research. ChatGPT is also considered as a tool which enhances students' self-efficacy and motivation to learn, foster a personal connection between the student and the learning material, resulting in improved knowledge retention.

Additionally, ChatGPT's immediate accessibility facilitates students to overcome tight academic schedule However, students' overreliance on ChatGPT may promote superficial learning habits, hampers their social skills and effective communication abilities. It also harms data privacy. It has multiple applications in higher education from content creation, editing, student evaluations, to data analysis in research. Furthermore, ChatGPT as a learning tool can be employed in a variety of learning activities including acquisition of language skills, building up vocabulary and grammar accuracy.

Additionally, it can be helpful in creating personalized learning (PL) and personalized learning environment (PLE). Unlike other online learning platforms this tool provides massive data and continuous guidance to the users. As far as ChatGPT 's support for teaching is concerned, studies have shown it helps in students' assessment, offer suggestions, create lesson plans, generate tasks and scenarios (Hong, 2023). Studies have noted that ChatGPT has many affordances for the learners including personalized feedback and material, providing writing support, offer self-assessment, content creation, facilitating engagement as potential benefits (Crompton & Burke, 2024). Moreover, technology review of Chat GPT for language learning and teaching revealed pedagogical benefits, drawbacks and requirements of ChatGPT for language learning were studied. The findings of the study reveal that ChatGPT helps teachers in variety of ways such as creating text, corrections of grammar, identification of language errors and in carrying out assessment. ChatGPT also interacts with users in helping them understand the tasks by adjusting the language complexity (Kohnke, 2023). Likewise, Chan and Hu (2023) studied the multiple usage of ChatGPT in a higher education setup and found that majority of the participants (67%) use ChatGPT for general purposes not specifically for teaching and learning, 22% use the tool rarely for learning purposes, 29% use it sometimes, while only 10% use it quite often. The study further reveals that participants perceived AI tool with multiple benefits and showed willingness to use it in teaching and learning processes, primarily for writing and research purpose. The key benefits harnessed by participants through ChatGPT includes provision of prompt responses and personalized learning. Additionally, it enhances students writing skills by generating ideas. It is also found beneficial in doing literature review and even in generating hypothesis based on data analysis. Furthermore, this technology has also helped learners in creating art work and production of multimedia as well. Along with benefits of ChatGPT, it also offers challenges to its user. In a study on the use of AI in higher education and challenges and benefits for pre-service teachers, Kalnina, Nimante and Baranova (2024) have noted that less than half of the participants used AI in their studies, many expressed ambivalence and opposition toward the use of AI. However, the participants also expressed that AI use has benefits of language assistance, and accessibility to global knowledge. The study found that challenges the participants expressed in the usage of AI were reduced critical thinking and concerns over plagiarism. ChatGPT can also enhance learning skills of a specific language. In a study on the efficacy of ChatGPT in enhancing English language communication skills, Wang (2025) have noted that the use of ChatGPT contributed to the development of English language communication skills and created a sense of calm and comfort among the user of ChatGPT.

Threats and Challenges of ChatGPT Usage in Higher Education

Despite the huge potential ChatGPT offers in higher education, opponents have raised concerns over the possible pitfalls of using AI-driven technology specifically ChatGPT in higher education settings. A potential risk associated with the use of AI technology in education is plagiarism and academic dishonesty. Students could potentially use these systems to cheat on their assignments by submitting text created by use of ChatGPT. ChatGPT has not thinking faculty unlike human beings. Thus it cannot judge the accuracy of information it generates about any topic. This might lead to the creation and distribution of false and incorrect and misleading information. Algorithm biases can also lead to unfair and biased results on any issue. Perhaps, the biggest concern shown by academic researchers and policy makers and parents about the use of ChatGPT by students is the excessive dependence on ChatGPT for every information and production- a process that would hinder the critical thinking skills and professional growth and academic skills by both teachers and students (Kasneci et al., 2023).

Managing academic integrity, plagiarism and cheating in assignments are yet another pitfall both students and teachers can be prey of in using ChatGPT. Chan and Hu (2023) found that the university faculty have raised concerns related to the accuracy, transparency of the tool as well as the ethical issues attached to it. It also risks the holistic competencies of a person due to over reliance on the tool, while it may replace many jobs in future. Although the tool is of immense importance yet, over dependency on the tool can

hinder creativity and critical thinking skills and can cause superficial understanding of the subject content. Hence, considering ethical and privacy concerns in using this transformative tool is essential in educational settings (Mogavia *et al.*, 2023). The research also bells the alarm regarding the threat to future jobs where humans can be replaced altogether as well as the risk of manipulation and malicious application. For instance, teachers face fear of cheating which can affect assessment. ChatGPT also does not provide the citation thus there is an ethical risk of copy right. Moreover, it is also assumed ChatGPT inherits cultural bias, because of its English origin followed by its translation into other languages. Having said that, ChatGPT requires certain digital competencies including proper understanding of its function, updating oneself with the changings being made in the AI too, identifying the drawbacks and devising robust strategies to overcome them and spreading awareness among the learners about the potential ethical issues related to it.

Ethical Implications of ChatGPT in Education

The widespread usage of ChatGPT among students and teachers has raised critical ethical questions. The excessive and over-reliance on ChatGPT could adversely affect the teaching and learning of students, educators and researchers. It could diminish the face-to-face class room learning, and social learning of students wherein the learners instead of learning in a collaborative class room environment, would be leaning from chatboots. This overreliance on machines and AI-driven technology could hinder the critical thinking faculty of human beings. Plagiarism, biased content, readymade assignments, and lectures could further jeopardize the teaching and learning in higher education institutions. The over-dependence on the ChatGPT can further belittle the face to face teaching of class room and educators. As noted by Hong (2023) that over dependency on the tool can hinder creativity and critical thinking skills and can cause superficial understanding of the subject content. Hence, considering ethical and privacy concerns in using this transformative tool is essential in educational settings (Mogavia *et al.*, 2023). Plagiarism, algorithm biases, false information and privacy issues are some of the major ethical challenges the AI-driven technology has created in the realms of higher education.

Conclusion and Recommendation

Technological advances including the AI-driven ChatGPT are influencing the teaching and learning in higher education realms in nuanced ways. As this review underlines, the usage and acceptance of ChatGPT is widespread both among the students and educators in the realms of higher education. In sum, this review paper analyzed the contemporary research with respect to the usage and application of ChatGPT in higher education and found that ChatGPT has brought transformative changes in education system particularly in higher education, where it offers multiple uses such as, research data analysis, review of literature, creative writing and much more. Yet, the critical question is how students, educators and institutions can use this AI-driven technology in education in a more ethical and responsible way without undermining the face-to face class room teaching and learning and without hindering the critical thinking skills of students and teachers. It is not free of potential risks and challenges. Since it does not provide citation, it is a great risk of copy right violations and has multiple ethical consideration. Having said that, it is need of the hour and AI is inevitable. To make the best use of this technology, researchers, educators and public need to devise certain policies and guidelines that this transformative AI tool would be best utilized in educational settings. Banning is altogether would be a great failure in education but to adapting to this new bounty of technology and to innovate teaching methods is need of the hour (Hong, 2023). Likewise, plagiarized content using ChatGPT is a significant concern in the use of ChatGPT in teaching and learning, which may reduce students' ability to produce imaginative, inventive, and original material (Bhullar, Josh, & Chugh, 2024). Responsible and acceptable use of ChatGPT in higher education is crucial to avoid it adverse effects on teaching, learning, and research. On the basis of the reviewed literature we can make some suggestions that could be useful for students, educators and educational institutions. First, there is an urgent need for clear policies in educational institutions about the ethical usage of ChatGPT in higher education contexts. Second, sensitizing both

students and teachers about the ethical and best way of using ChatGPT in teaching and learning is imperative. Third, educational institutions should think to integrate ChatGPT into curriculum. Fourth, continuous training of teachers on sustained basis about the ethical use of ChatGPT and creating awareness among the students about the ethical guidelines in using ChatGPT could be effective strategy in using the ChatGPT more ethically and responsibly in the realms of higher education. Future research can explore the challenges in implementing ChatGPT policy in the realms of higher education.

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