

The Legitimate Use of ChatGPT to Ensure Academic Integrity in Higher Education

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Abstract

This study aimed to describe the legitimate usage of ChatGPT to ensure academic integrity in higher education. The objectives of the current research study were to investigate the efficacy of ChatGPT in enhancing students' capacity to generate relevant material, to examine the capability of students to access the relevancy of content generated by ChatGPT, to explore the impact of ChatGPT on student learning capacity. This study involved the students of BS at the University of Jhang. The sampling technique used in this was purposive sampling. The data were collected through document analysis (assignments prepared using ChatGPT) and interviews (based on the skills developed in the assignment). The major findings of my research study were that students produced original and relevant material in the assignments by iteratively generating ideas, evaluating them, and adding their own insights. Different cognitive and evaluative skills were developed in the students by assessing the relevancy of ChatGPT-generated content. This study's findings revealed several benefits of using ChatGPT as a learning tool, including increased understanding of complex concepts, improved critical thinking and problem-solving skills, and enhanced engagement and motivation after frequent use of ChatGPT for academic purposes. Analysis of assignments showed that ChatGPT provided personalized feedback and explanations, helping students fill knowledge gaps and clarify doubts.

Keywords: Academic Integrity, ChatGPT, Legitimate Use, Assignment, Skills Development

Introduction

This study concerns the specific challenges related to ensuring academic integrity in this technologically advanced world, by examining the historical development and adoption of AI

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technologies in higher education. Furthermore, the review consists of plagiarism detection methods, existing literature on academic institutional policies, and ethical considerations associated with AI integration into higher education.

Understanding the current state of affairs in higher education, including the prevalence of online learning and digital assessment tools, provides essential context for evaluating the potential impact of ChatGPT on academic honesty. Many artificial intelligence (AI) tools (e.g., CopyAI, Rytr, Writesonic, GoCharlie, Scalenut, HyperWrite, Moonbeam, Writefull, etc.) have been invented to mitigate this demand, which provides content for academicians and researchers that have no error. According to Inuusah, the focus of the new wave of AI is to reshape the education market globally (2023).

To preserve academic integrity in higher education settings, this study aims to contribute insights and recommendations for the responsible and ethical use of ChatGPT. Technology and academics are interdependent and no one can separate them. The era of traditional human manipulation in the educational area is becoming outdated with the arrival of technology (Inuusah, 2023). The pursuit of commendable academic writing by faculty and students has become famous in the 21st-century educational landscape due to its novelty (Chanyoo, 2018; Schillings, 2018).

OpenAI gave rise to Chat GPT, an innovational tool based on GPT-3 (Inuusah, 2023). GPT-3 shows the summarization of long documents in such a way that makes sense like human creation and gives useful information. In the development of electronic environments, artificial intelligence (AI) applications have gained more significance, and they are transforming the procedures in which we interact with technology. After GPT-3 there is a modified form of artificial intelligence called ChatGPT (Generative Pre-trained Transformer-3) (Debby, 2023). Artificial intelligence is a language model developed by OpenAI. This is specially designed to generate text like a human in a casual style and was introduced in 2021. ChatGPT has the potential to help with writing tasks like drafting emails, reports, articles and creative content. It can provide creative prompts and suggestion for brainstorming and content development. It is also a language translator that can translate text between different languages and thus facilitating communication and understanding across various cultures (Chen, 2023).

AI has gained significant attention in the media, technology, and industry and education. Transformer architecture is the base of GPT-3, and since then it been mostly used in natural language processing tasks. GPT-3 is distinguished by its size, with 175 billion parameters, this makes it one of the largest language models currently available (Debby, 2023; Meyer, Urbanowicz, Martin, O'Connor, Peng,... & Moore, 2023). It is considered for its ability to perform a wide range of language tasks, including translation of language, summarization of text, question answering, and text generation, with little or no task-specific training.

ChatGPT has an exceptional capability to answer any question thrown its way, and its extraordinary popularity reflects an unquenchable demand for this application. It was released in November 2022 and within just five days of its launch on garnered over one million subscribers (Baidoo-Anu, & Ansah, 2023; Maad, 2023), setting it apart from other platforms that took significantly longer to reach the same milestone. Moreover, in a mere six weeks since its launch, ChatGPT's valuation skyrocketed to \$29 billion, a testament to its remarkable potential and innovation in the field (Maad, 2023).

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ChatGPT is a natural language processing (NLP) tool that utilizes different language modeling techniques to predict subsequent words with high precision, attributed to its access to billions of parameters and extensive data volumes (Taecharungroj, 2023). Although other verbal models, such as BERT, RoBERTa, and XLNet, aim to attain related goals, their skills have been outclassed by ChatGPT-3.5 (Lund, 2023). It is due to its widespread data provisions and competent design that ChatGPT can handle increasingly complex queries, going beyond simple inquiries.

Additionally, ChatGPT-4 was introduced in March 2023 (Weitzman, 2023) which has significant developments in cognitive and conciseness as compared to ChatGPT 3.5. However, it is significant to consider that the output generation speed of ChatGPT-4 is slower than ChatGPT-3.5 (OpenAI, 2023). Both the 3.5 and 4 duplications of ChatGPT have gained great interest from universities worldwide as tools for teaching, learning, and supporting students in academia (Nautiyal, Albrecht, & Nautiyal, 2023).

Different universities have started to explore how to incorporate this AI-driven solution into their pedagogical approach, recognizing its potential to convert old-style teaching methods, enhance student involvement, and foster educational experiences. However, some academics and researchers express their concerns regarding the potential ethical consequences of using AI in educational environments, such as information privacy, algorithmic bias, and the possible reduction of human interaction, among others (Flanagin, 2023; Thorp, 2023). Consequently, the scholarly community is actively investigating the most efficient and responsible methods to integrate ChatGPT in education settings.

The use of artificial intelligence (AI) techniques raises concerns about the future. Human ability to critically evaluate information in the future is at risk due artificial intelligence techniques. As the next generation will have everything readily available to them, there is a danger that they may not be able to verify the accuracy of the information they receive from these technologies, resulting in a weaker generation that struggles to complete complex tasks. This shows that the current generation uses such applications to improve their work and the next generation may rely solely on AI tools to complete their tasks without exerting effort. Therefore, it's crucial to educate the next generation about the limitations and potential biases of AI and how to evaluate the information it provides.

Huge potential of ChatGPT to provide readily available content is a threat for the academic integrity. It can generate human-quality, well-structured, coherent and grammatically correct text. The students can use such text in their assignments and research papers. This undermines the development of skill like academic writing, creativity and originality, problem solving and critical thinking. Thus, to address such issues and to teach the legitimate use of ChatGPT to the students of higher education, current study was designed.

Objectives of the Study

The objectives of this study were

- i. To investigate the efficacy of ChatGPT in enhancing students' capacity to generate relevant material.
- ii. To examine the capability of students to access the relevancy of content generated by ChatGPT.
- iii. To explore the impact of ChatGPT on student learning capacity.

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Literature Review

Academic integrity refers to the ethical and honest pursuit of knowledge and scholarship in academic settings (Poitras Pratt, & Gladue, 2022; Amzalag, Shapira, & Dolev, 2021). An operational definition could include specific behaviors such as properly citing sources, avoiding plagiarism, and adhering to the rules and guidelines set by educational institutions regarding exams, assignments, and research.

Various studies have confirmed that AI-integrated tools, particularly Chat GPT, if used properly can enhance teachers' teaching and students' achievement and comprehension, which in turn uplifts academic integrity. While students are using ChatGPT for their assistance they must ensure citation in their written work (Alyasiri, Salman, & Salisu, 2024). Transparency regarding the use of AI technologies is promoted by this strategy (Felzmann, Fosch-Villaronga, Lutz, & Tamò-Larrieux, 2020; Zerilli, Bhatt, & Weller, 2022). Students who utilize AI tools to generate code should be obliged to cite the specific tools they used (Lau, & Guo, 2023, August) and explain how they employed them (Barrot, Llenares, & Del Rosario, 2021). Cheating with AI tools undermines the honesty and authenticity of the grades that students earn (Rane, Paramesha, & Desai, 2024; Tripathi, & Thakar, 2024). If grades do not accurately reflect students' skills and knowledge, concerns could be raised about the credibility of the assessment process within academic institutions (Urhahne, & Wijnia, 2021; Ying, 2023). Such erosion of integrity not only damages the reputation of the institution (Rane et al., 2024; Boston, Kassow, Masood, & Miller, 2023) but also hinders students' prospects of securing employment or gaining admission to graduate schools (Horta, & Li, 2023; Huang, & Curle, 2021; Lee, 2021).

Strategies for Users of ChatGPT in academic Writing

ChatGPT and other AI language models offer significant potential for academic writing, but their usage must be approached responsibly. The following guidelines may help authors and educators harness the benefits of AI while upholding the principles of scholarly writing, academic integrity, and ethical use of technology in education. Guidelines for users of ChatGPT in academic writing:

- i. **Proofreading and editing:** Even though ChatGPT can assist in generating content, it is essential to proofread and edit the AI-generated text thoroughly (Liyun, Yujia, Minyun, Yinan, & Jianhua, 2024; Wang, Pan, Yan, Su, & Luan, 2023; Özçelik, 2023). Authors should take responsibility for the final quality and coherence of their work (Halaweh, 2023).
- ii. **Use of ChatGPT transparently:** When submitting academic work involving ChatGPT, authors should transparently disclose the extent ChatGPT assistance in the writing process (Lipuma, & León, 2024; Raman, 2023). This disclosure can help readers and reviewers understand the AI tool's contribution and the author's original input.
- iii. **Combining multiple AI inputs:** Avoid relying solely on a single AI tool for content generation (Cao, Liu, Yan, Dai, Yu, & Sun, 2023; Huang, & Tan, 2023). Instead, consider using multiple AI models or sources to validate and diversify the generated content. This approach can enhance the quality and reliability of the output.
- iv. **Limitations of ChatGPT must be considered:** Be aware of the limitations of ChatGPT and other AI language models (Zhou, Ke, Qiu, Huang, & Zhang, 2023; Sallam, 2023). Recognize that ChatGPT is not a substitute for human expertise, critical thinking, or domain-

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specific knowledge (Fulbright, & Morrison, 2024; Cropley, 2023; Kitamura, 2023). Authors should contribute their insights and analysis to augment the AI-generated content.

v. **Ethical considerations in training data:** When creating custom AI models or fine-tuning ChatGPT, be mindful of the data used for training. Ensure that the data is ethically sourced, does not continue biases, and adheres to the principles of responsible AI development (Stahl, & Eke, 2024; Wu, Duan, & Ni, 2024; Ray, 2023).

vi. **Continuous learning and adaptation:** As AI technology evolves, keep informed about the latest advancements and best practices in AI use in academic writing (Yanamala, Suryadevara, & Kalli, 2022; Ghamrawi, Shal, & Ghamrawi, 2024). Stay adaptable and open to incorporating new guidelines to ensure AI tools' responsible and effective use of ChatGPT.

Method

This research involves a qualitative research approach. Purposive sampling method was used. The sample included the students of BS at the University of Jhang. The research design involved was document analysis (assignments prepared by the use of ChatGPT) and interview (based on the skills developed in the assignments). In document analysis, assignments were collected from the BS students of the University of Jhang. They prepared these assignments with the use of AI tools such as ChatGPT. Then interviews were conducted from the students who prepared these assignments.

Findings

By document analysis (assignments prepared by the use of ChatGPT) and interview (based on the skills developed in the assignments) tool analysis, the findings of the current study are described as:

By analyzing assignments prepared with the use of ChatGPT students stayed curious, and passionate about the long-term benefits and opportunities that come with knowledge. They developed self-learning skills by actively engaging with ChatGPT to seek guidance, ask targeted questions, and iteratively refine their understanding and approach to assignments. Analysis of assignments revealed that Students who engaged critically with ChatGPT responses, evaluating and refining them, tend to generate more relevant information. They produced relevant and original material by iteratively generating ideas, and adding their own insights.

The data obtained from interview revealed that the experience of using ChatGPT enhanced the ability of students to quickly gather relevant information. After making assignments with the use of ChatGPT students become more self-directed learners, confident in their ability to navigate complex information landscapes. Inspiration and suggestions were provided by ChatGPT for exploring relevant material from different perspectives and angles. Findings of analysis of the data gained through interview revealed that students ensured that their assignment included all the required points by carefully checking the instructions and using a checklist while reviewing and editing.

By analysis of the data gained from interview it was revealed that the experience gained from using ChatGPT will help students in the future as ChatGPT improves their ability to organize ideas. Different cognitive and evaluative skills were developed in the students when they used ChatGPT in their assignments. By analysis of assignments and data gained from the interview

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it was found that in higher education academic integrity was ensured when ChatGPT was used by students. Legitimate use must ensure validity, acceptable, authenticity, confirming to established rules, transparency, consistency, and trustworthiness.

Conclusion

Based on the findings the conclusion of the current study is discussed here:

This study explored the legitimate usage of ChatGPT in assignment preparation and its impact on student learning outcomes. The findings suggest that the students who used ChatGPT in their assignment preparation developed essential skills such as self-learning, critical thinking, and effective writing. They demonstrated adaptability, creativity, and originality in their assignments, and improved their writing skills in clarity, organization, and effectiveness by adapting different writing styles and formats.

However, students also faced some challenges while preparing assignments using ChatGPT, such as lack of understanding, limited content, inaccurate information, difficulty articulating thoughts, and authenticity concerns. Despite these challenges, students learned to effectively use ChatGPT as a tool to assist with assignments while maintaining academic integrity and developing their skills.

Overall, this research highlighted the legitimate use of ChatGPT in higher education. The use of ChatGPT influenced the student's ability to generate relevant material. Students used ChatGPT to augment their thinking, rather than relying solely on ChatGPT responses. They produced relevant and original material by iteratively generating ideas, evaluating them, and adding their insights.

The specific factors under which ChatGPT enhances student's capacity to generate relevant material include:

- i. Critical evaluation skills
- ii. Iterative idea generation
- iii. Inspiration and suggestions
- iv. Adaptability
- v. Summarization and paraphrasing
- vi. Self-directed learning

It was found that ChatGPT-generated content was organized by the students in coherent, and logical flow. The relevance and appropriateness of content generated by ChatGPT were evaluated by students with moderate accuracy, depending on their critical thinking skills, subject matter knowledge, and understanding of the task requirements.

Different cognitive and evaluative skills were developed in the students by the process of assessing the relevancy of ChatGPT-generated content. They developed critical thinking by analyzing information, identifying biases, and evaluating arguments. Discernment was enhanced in the students by distinguishing the relevant and irrelevant information. Evaluation and analysis skills were also developed when students assess the credibility, accuracy, and reliability of sources, and break down complex information into manageable parts to understand its relevance. By combining evaluated information students develop coherent understanding. The skills developed through evaluating ChatGPT-generated content, such as improved writing skills, enhanced research and analysis, development of soft skills, and increased accessibility contribute to the student's overall academic growth.

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Overall, it is considered that the use of ChatGPT in classroom activities enhances the student's ability to comprehend complex subjects. ChatGPT was used to generate summaries and outlines of texts, which can help students quickly understand the main points of a text and organize their thoughts for writing purposes. Students reported several benefits of using ChatGPT as a learning tool, including increased understanding of complex concepts, improved critical thinking and problem-solving skills, and enhanced engagement and motivation. Analysis of assignments showed that ChatGPT provided personalized feedback and explanations, helping students fill knowledge gaps and clarify doubts. It also fostered independence and self-directed learning, as students can search for topics at their own pace.

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