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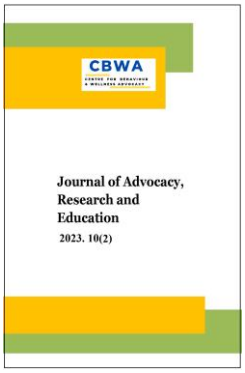

Editorial

Artificial Intelligence Chatbot – ChatGPT and High-Tech Plagiarism Concerns in a Digital Age: Is Detection Possible?

Jacob Owusu Sarfo [a, b, c, d, *]

[a] University of Cape Coast, Cape Coast, Ghana
[b] Centre for Behaviour and Wellness Advocacy, Koforidua, Ghana
[c] Cherkas Global University, Washington, USA
[d] Volgograd State University, Volgograd, Russian Federation

Abstract

The digital age of the 21st century has brought an ascent of artificial intelligence technology used in various sectors. The growth and influence of artificial intelligence technology and tools on education and academic publishing have become an important topic recently. With the latest developments in artificial intelligence chatbots, detecting high-tech plagiarism and ensuring academic integrity in scholarly writing has become a worry with the educational and scientific publishing community. In this editorial, I briefly engaged one of the most popular artificial intelligence chatbots, ChatGPT, to write a paragraph with the prompt – "*Write an original paragraph introducing High-Tech Plagiarism and add in-text citations and a main reference list in APA*." To this end, it generated a text with 235 words and 1,565 characters. Subsequently, I submitted the text to Turnitin and obtained a Similarity Index of 0 % and an artificial intelligence percentage of --%. Additionally, I solicited ChatGPT to authenticate if the paragraph was produced by itself. It confirmed with the feedback, "*Yes, the paragraph introducing "High-Tech Plagiarism" and the associated in-text citations and references were generated by ChatGPT*." This conversation and further checks affirm the findings of previous studies that ChatGPT can produce sophisticated textual outputs that can slip undetected by plagiarism detection tools like Turnitin. Implications are discussed in the paper.

Keywords: Artificial Intelligence Chatbot, ChatGPT, High-Tech Plagiarism, Digital Age, Turnitin, Originality.

1. Artificial Intelligence Chatbot - ChatGPT and High-Tech Plagiarism

Artificial Intelligence (AI) chatbots are gradually becoming prominent in several sectors, including education and scientific publishing (King, ChatGPT, 2023; Kuhail et al., 2023; Sarfo, 2023). As effective conversational technology, AI chatbots exhibit unique intelligence and facilitate writing productivity in an academic environment (King, ChatGPT, 2023). One of the popular AI chatbots in education and scientific publishing is ChatGPT (Lo, 2023; Sarfo, 2023). The development of ChatGPT was founded on large language models since its launch on

*Corresponding author
E-mail address: jacob.sarfo@ucc.edu.gh (J.O. Sarfo)

November 30, 2022, by OpenAI. After its inception, ChatGPT continues to improve its features to provide sophisticated textual outputs that have attracted global user attention (Marr, 2023). According to an editorial on Forbes, "*...the chatbot quickly went viral on social media as users shared examples of what it could do. Stories and samples included everything from travel planning to writing fables to code computer programs. Within five days, the chatbot had attracted over one million users*" (Marr, 2023).

Marr (2023) further argued that ChatGPT has challenged the global definition of AI and its capacities. Specifically, Marr noted that "*this chatbot has redefined the standards of artificial intelligence, proving that machines can indeed "learn" the complexities of human language and interaction*." Although the impact of ChatGPT on several industries and applications cannot be underestimated, dealing with high-tech plagiarism is a real challenge to education and scientific publishing circles (Kuhail et al., 2023; Sarfo, 2023). A common example is a recent finding by Khalil and Er (2023), which observed that 50 essays generated by ChatGPT were seen as original texts by popular plagiarism detectors like Turnitin® and iThenticate®. Both anti-plagiarism tools were developed by "iParadigms LLC" and are well known for detecting plagiarized texts since 1997. Moreover, the authors confirmed that ChatGPT could better demonstrate the authorship of these essays as self-generated, outperforming the well-known conventional plagiarism detection tools like Turnitin® and iThenticate®.

Evidence from Khalil and Er (2023) supports the recent worries surrounding some students and authors depending solely on chatbots such as ChatGPT to quickly and effortlessly produce sophisticated outputs without being detected. Although the use of ChatGPT is not entirely wrong, detecting high-tech plagiarism remains a major concern, as exhibited in my conversation with ChatGPT and subsequent assessment with plagiarism detection tools.

2. Conversation on ChatGPT

The author (JOS) conversed with ChatGPT in this section and directly posted their output without edits.

[**JOS:** *Write an original paragraph introducing High-Tech Plagiarism and add in-text citations and a main reference list in APA*.]

ChatGPT: High-Tech Plagiarism, a burgeoning concern in contemporary academia, is marked by the unethical use of technology to copy, replicate, or manipulate digital content without proper attribution or authorization (Smith, 2019). This phenomenon has gained prominence with the proliferation of digital tools and online resources, enabling students, researchers, and content creators to engage in deceptive practices that challenge the principles of academic integrity (Johnson, Brown, 2020). High-Tech plagiarism encompasses various tactics, such as the surreptitious deployment of AI-generated essays, automated paraphrasing software, or the purchase of pre-written papers from online sources (Brown, Jones, 2021). These practices not only undermine the authenticity and originality of academic work but also pose significant challenges for educational institutions seeking to uphold ethical scholarship (Garcia et al., 2018). To address this evolving issue effectively, academic institutions must implement robust policies and educational initiatives aimed at combating high-tech plagiarism while promoting ethical conduct (Roberts, 2022).

References (Note: These references do not exist):

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Roberts, S. (2022). Countering high-tech plagiarism: Strategies for educational institutions. Academic Integrity Journal, 9(4), 325-341.

Smith, J. (2019). The digital dilemma: High-Tech Plagiarism in contemporary academia. Ethics in Education Quarterly, 35(2), 123-139.

4. High-Tech Plagiarism Evaluation and Concerns

Following our conversation, I submitted the generated text from ChatGPT to Turnitin and obtained a Similarity Index of 0%, as shown in Figure 1. A further check on the AI percentage showed --%, meaning "*AI writing detection unavailable*". To confirm Khalil and Er's (2023) assumption that ChatGPT can detect texts detected by self was also tested by entering the same text back to authenticate if the paragraph was produced by itself. It confirmed with the feedback, "*Yes, the paragraph introducing "High-Tech Plagiarism" and the associated in-text citations and references were generated by ChatGPT.*"

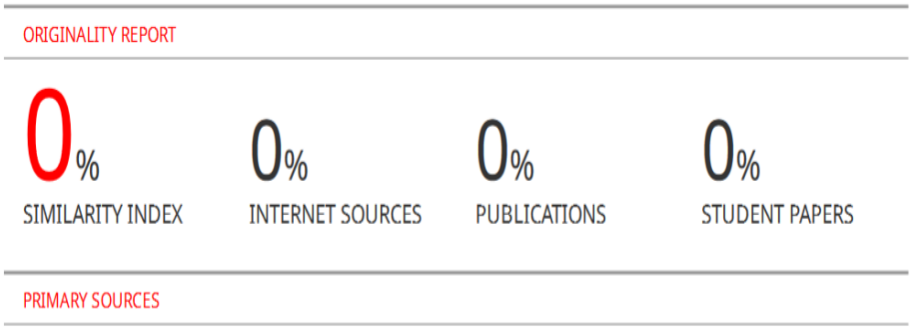

Fig. 1. Turnitin® Originality Report to ChatGPT's Output

4. Limitations and Implications

This paper is not intended to draw any generalisations as it used a single AI chatbot, ChatGPT, one detection tool (Turnitin®), and a single output. Similar to other previous studies by Khalil and Er (2023), this paper only demonstrated the challenges faced by the world's educational and scientific publishing as AI becomes the "new normal." Regarding the implications of this study, there is a need for institutions and educators to transform their teaching and assessment approaches to incorporate creativity and critical thinking rather than replicable tasks that learners can easily outsource to AI tools. Similarly, this paper underlines the need to promote further discussions of AI's ethical and responsible use in education. Notwithstanding the limitations of this paper, the evidence calls for continuous advancements of AI-powered plagiarism detection systems that can keep pace with evolving trends of high-tech plagiarism. This paper further points to a complex debate where technological advances in AI come with immense opportunities and challenges for educational and scientific publishing settings.

4. Declarations

Ethics approval and consent to participate
Not applicable.
Consent for publication
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Authors' ORCID
Jacob Owusu Sarfo https://orcid.org/0000-0003-2859-7278

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