Elevating Student's Paraphrasing Skills Through Paraphrases Matrix and Chatgpt

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Abstract
The rapid advancement of artificial intelligence (AI) tools in recent years has brought about a revolutionary transformation across different industries, including corporate usage, academic pursuits, and everyday tasks. Nevertheless, the growing dependence on AI tools, particularly ChatGPT, among university and college students to finish coursework and assignments has generated significant concerns regarding its consequences on students' writing skills and critical-thinking abilities. To tackle these urgent issues and enhance students' language proficiency and analytical reasoning skills, a ground-breaking solution has been formulated through the development of a Paraphrases Matrix. This novel approach engages students in restructuring activities, fostering understanding of ChatGPT's capabilities, limitations, and ethical considerations in language learning. The primary objective of this initiative is to minimise the potential adverse effects of AI tools on students' academic progress while also maximising their advantages. Students can utilize ChatGPT proficiently to rephrase content and incorporate citations in their research work, thereby preventing plagiarism. Hence, by integrating ChatGPT into English language paraphrasing activities within academic settings, this initiative aims to foster a balanced and informed approach to AI utilization among students. The uniqueness of this technique resides in its versatile methodology, which combines theoretical understanding with practical implementation. Students are led through the process of paraphrasing by using carefully designed worksheets. Through this meticulously crafted paraphrasing activity worksheet, students are guided through the process of paraphrasing while simultaneously engaging with ChatGPT-generated outputs. This innovative blend of traditional pedagogy with innovative AI technology not only enhances students' paraphrasing skills but also promotes critical thinking and responsible AI usage. Furthermore, this research has significant societal implications by preparing students for the increasingly AI-dominated environment of the future. It improved students' academic performance, strengthened their confidence, and provided lifelong learning, all while promoting integrity among students and society.
Keywords: Academic Writing, Artificial Intelligence (AI), Chatgpt, English Language, Paraphrasing Activity

Introduction

Many believe that ChatGPT is one of the best artificial intelligence tools released to the general public (Roose, 2022). Chatbot in ChatGPT is also considered the most advanced artificial intelligence tool (AlAfnan *et al.*, 2023). However, they further argued that there is a heated discussion on the use of ChatGPT for academic submissions and work as school teachers and university professors, probably grading a submission that is generated by an artificial intelligence tool but claimed to be the original work of a school or university student. Imran and Almusharraf (2023), in their study, believe that more academic integration and exploration into scientific writing for ChatGPT's ethical implications in writing tasks is needed. The ethical implications of writing tasks for students using ChatGPT are crucial for their development as responsible and informed users of AI technology, preparing them for ethical decision-making in their academic and professional pursuits.

Recently, the ChatGPT platform has attracted the admiration of many users, especially students, because of its ability to answer questions automatically, quickly, and in detail. A GPT chatbot is a powerful software application designed to emulate human-like conversations based on user requests (Fitria, 2023). Also, ChatGPT can help to improve the quality of the users writing by identifying potential errors, inconsistencies, or gaps in the argument, especially in academic and scientific writing (Huang & Tan, 2023). Therefore, ChatGPT can be tremendously helpful, as it can readily help users with grammar and sentence structure, suggest appropriate vocabulary choices, and much more. However, according to Chen (2023), issues of ghostwriting by ChatGPT involving academic ethics, originality, and authorship should be further investigated and highlighted in the academic world. There should be a focus on educating students on the basic principles and ethical considerations involved in academic research. It is also important to emphasize the transparency of their work by acknowledging the use of any AI at any stage of their research (Dergaa *et al.*, 2023).

Therefore, this innovation was created in order to teach writing with the integration of ChatGPT, which can provide a structured and effective approach for educators and also for students. This innovation will help educators understand how AI can assist in writing tasks. It also encourages students to critically evaluate AI-generated content with the guidance of educators.

Novelty and Inventiveness

a. Paraphrases Matrix: A Groundbreaking Approach to Guided Learning

In the context of higher education, students must acquire effective paraphrasing techniques to show understanding and express concepts in their own words. This has been employed in language classrooms worldwide, particularly to help students with their writing. Particularly, it is intended to assist the students in becoming ready for research writing, and the goal of paraphrasing is to enable the students to avoid plagiarism issues. Ultimately, this may enable students to rephrase texts by utilizing their ideas rather than simply duplicating content from external sources when citing information in research writing. However, it is crucial to emphasize that conventional teaching approaches frequently lack interactivity and are unable to give students a structured strategy for acquiring this skill. In light of this, the Paraphrases Matrix presents a novel and innovative approach towards directed learning that completely transforms how students engage with and practice paraphrasing.

b.   AI-Powered Personalized Learning with ChatGPT: Revolutionizing Language Education

AI is valuable in many fields, and more people are realizing it could revolutionize how humans learn. AI-powered language learning solutions promise personalized learning tailored to students' needs. One novel concept involves the utilization of ChatGPT, an advanced natural language processing model (Dergaa *et al.*, 2023), in language classes to enhance the students' skills in paraphrasing. However, educators have raised many concerns and challenges with the implementation of AI in the classroom. The AI tends to provide incorrect answers, even for seemingly straightforward mathematics problems (Roose, 2023). Teachers are reluctant to be in a position where they have to grade a written assignment generated by ChatGPT and assign a grade to a student (AlAfnan *et al.*, 2023). Moreover, the utilization of AI to compose scientific papers is unethical, and its reliability is currently doubtful (Chen, 2023).

Prior studies have both supported and opposed the usage of ChatGPT, but there has been very little research on the integration of AI in teaching writing skills, specifically paraphrasing abilities for research writing. Recent literature on ChatGPT has demonstrated that students require more structured instruction and more opportunities to actively participate during classes (Niloy et al., 2023). Their research on the effects of AI on students' creative writing found that using ChatGPT had a negative correlation with students' creative writing skills at the university level. They suggested that teachers should alter their current methods of task allocation so that ChatGPT does not hinder students' creativity too much. Dergaa *et al.* (2023) further suggest that AI in education may encourage teachers to rethink teaching techniques by assigning critical thinking and problem-solving problems beyond AI capabilities. Moreover, over the past five years, there has been increasing interest in the use of AI in writing. Particularly in 2023, numerous researchers have been drawn to explore this topic, recognizing that many aspects of AI-assisted writing remain under-explored (Jen & Salam, 2024).

Hence, it is imperative to resolve this inconsistency, and the Paraphrases Matrix, in conjunction with ChatGPT, is accessible to aid in both classroom exercises and the current body of knowledge. Indeed, it fulfills these requirements by offering a comprehensive framework that combines theoretical principles with practical implementation. The use of the Paraphrases Matrix is a novel approach that provides students with a structured tool to practice and refine their paraphrasing skills systematically.

Practicality and Usefulness
a.   Classroom Learning Materials

Developing writing skills among tertiary students requires them to possess sufficient language proficiency and critical thinking skills, particularly in academic writings, as any written claim necessitates supporting literature. This circumstance thus calls for a specific approach or technique to assist students with paraphrasing. Previous studies show that engaging students in paraphrasing activities could promote a deeper understanding of the material, fostering critical thinking and analytical skills (Hirvela & Du, 2013; Akbar, 2020). In other words, implementing Paraphrases Matrix as classroom learning material can eventually assist students in enhancing their writing skills as it encourages students to rephrase information in their own words, thus sharpening their paraphrasing and composition skills. Furthermore, through the incorporation of ChatGPT within the matrix, students encounter exemplary paraphrased excerpts. This exposure enables them to compare their own paraphrases, discerning differences and similarities to facilitate valuable learning experiences. Therefore,

incorporating the Paraphrases Matrix into writing classes should be recognized as a valuable addition to potential learning tools.

b.   Paraphrasing Skill-Building Instruments

The use of Paraphrases Matrix as a learning tool has proven to be effective in building paraphrasing skills among students. The step-by-step guidance incorporated in the tool provides them with comprehensive approaches to paraphrasing. It leads them through linguistic transformations, encompassing synonym usage, sentence structure variations, and modifications in word formation. While students are required to practice independently, the integrated instructional techniques provide them with an opportunity to monitor their progress in enhancing paraphrasing skills. By engaging students actively in the process of paraphrasing through the matrix, educators can address individual challenges and provide targeted feedback, thereby enhancing overall paraphrasing proficiency among students. In sum, the Paraphrases Matrix stands out as a practical and valuable paraphrasing skill-building instrument that contributes significantly to language learning and development.

c. Integration into Teachers' Lesson Plan

The Paraphrases Matrix offers a useful and applicable paraphrasing exercise that may be implemented in lesson plans for teachers. Using an organized structure that guides students in rephrasing sentences and concepts, it facilitates a more profound comprehension of language complexities and stimulates creative expression. Furthermore, it plays a crucial role in preventing plagiarism in writing. Students are equipped with various stages of paraphrasing improvement through lecturer or educator feedback and paraphrased sentences generated by artificial intelligence when using the matrix. This not only enhances their writing proficiency but also instills a heightened awareness of the importance of academic integrity. As educators continue to seek effective strategies for plagiarism prevention, the Paraphrases Matrix proves to be a valuable resource within the broader context of teaching writing skills, fostering originality and ethical academic conduct.

d. Student Assessment

As a student assessment tool, the Paraphrases Matrix offers a structured approach to evaluating students' paraphrasing skills. This matrix can give a thorough assessment of students' paraphrasing skills by utilizing ChatGPT, providing in-depth information on their command of language and expression while concurrently addressing the critical issue of plagiarism. Using ChatGPT to generate alternative paraphrases serves as a dynamic tool for assessing students' ability to rephrase and articulate ideas based on their understanding in their own words. Moreover, with the feedback of the associated educators on the paraphrases, students have a better opportunity to recognize and improve upon their paraphrasing mistakes. Hence, the implementation of the Paraphrases Matrix as a paraphrasing activity can also serve as a potential and practical method for assessing writing skills and significantly reducing plagiarism concerns in academic settings.

Presentation and Demonstration

The Paraphrases Matrix (see Figure 2) serves as an organized framework intended to methodically assist students in navigating the process of paraphrasing. It provides a systematic method that combines theoretical knowledge with real-world application, giving students a concise strategy for enhancing their paraphrasing abilities. This matrix also enables students to approach paraphrasing tasks with confidence and clarity by dividing the paraphrasing process into simple phases. Figure 1 below demonstrates the steps for using the matrix table:
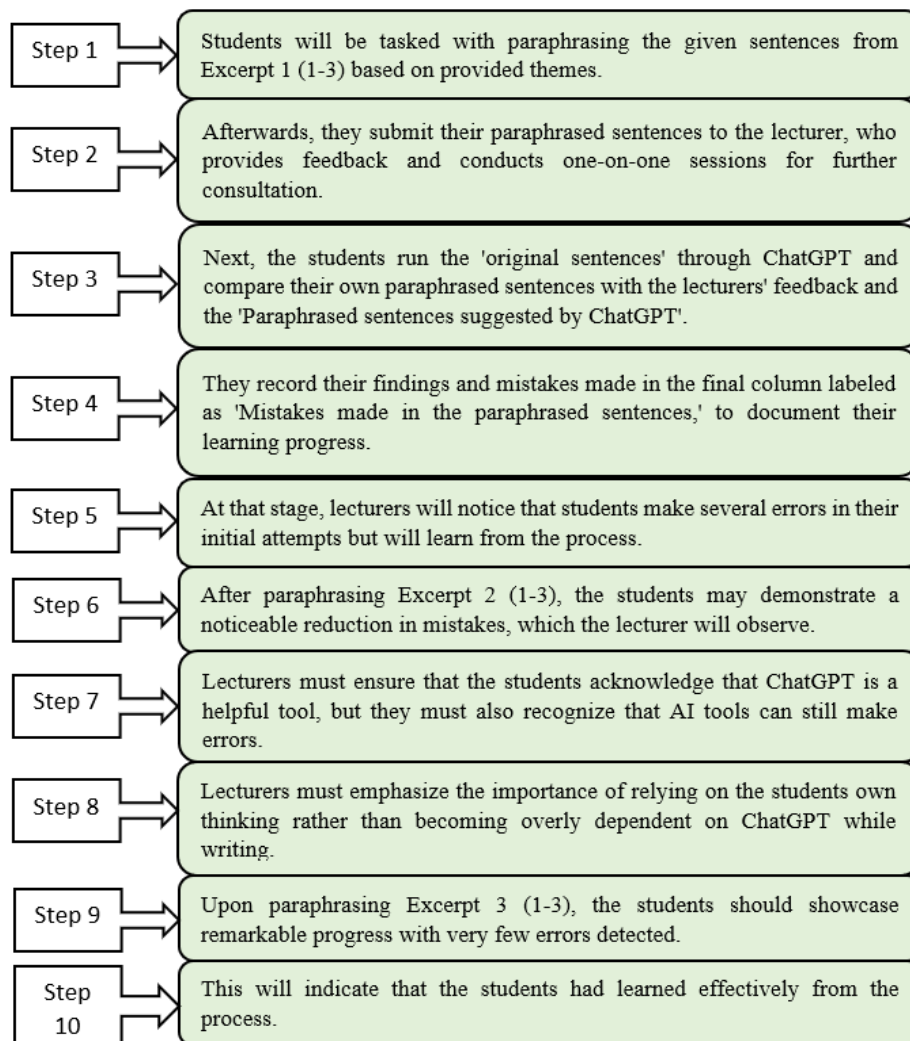
Step	Description
Step 1	Students will be tasked with paraphrasing the given sentences from Excerpt 1 (1-3) based on provided themes.
Step 2	Afterwards, they submit their paraphrased sentences to the lecturer, who provides feedback and conducts one-on-one sessions for further consultation.
Step 3	Next, the students run the 'original sentences' through ChatGPT and compare their own paraphrased sentences with the lecturers' feedback and the 'Paraphrased sentences suggested by ChatGPT'.
Step 4	They record their findings and mistakes made in the final column labeled as 'Mistakes made in the paraphrased sentences,' to document their learning progress.
Step 5	At that stage, lecturers will notice that students make several errors in their initial attempts but will learn from the process.
Step 6	After paraphrasing Excerpt 2 (1-3), the students may demonstrate a noticeable reduction in mistakes, which the lecturer will observe.
Step 7	Lecturers must ensure that the students acknowledge that ChatGPT is a helpful tool, but they must also recognize that AI tools can still make errors.
Step 8	Lecturers must emphasize the importance of relying on the students own thinking rather than becoming overly dependent on ChatGPT while writing.
Step 9	Upon paraphrasing Excerpt 3 (1-3), the students should showcase remarkable progress with very few errors detected.
Step 10	This will indicate that the students had learned effectively from the process.

Figure 1: Student's Paraphrasing Process

		Original Sentences	Paraphrased Sentences	Lecturer's Feedback	Paraphrased Sentence Suggested by ChatGPT	Mistakes Made in the Paraphrased Sentences
Excerpt 1 Topic #1	1	In-text Citation #1				
	2	In-text Citation #2				
	3	In-text Citation #3				
Excerpt 2 Topic #2	1	In-text Citation #1				
	2	In-text Citation #2				
	3	In-text Citation #3				
Excerpt 3 Topic #3	1	In-text Citation #1				
	2	In-text Citation #2				
	3	In-text Citation #3				

Figure 2: Paraphrases Matrix

Market and Commercial Potential
a. Commercial Potential
The Paraphrases Matrix is an instructional tool that imparts to learners the ability to accurately paraphrase information, enabling them to convey ideas using their unique vocabulary and sentence structure. This endeavor holds substantial commercial prospects as it can serve as a fundamental module, establishing the basis for a series of interrelated modules. The subsequent modules can effectively tackle diverse facets of academic writing and language proficiency, constituting a valuable ecosystem of educational resources.

b. Copyright
This product was successfully registered for copyright under the Intellectual Property Corporation of Malaysia (MyIPO) on October 27th, 2023. Figure 3 illustrates the certificate of registration.

Figure 3: Copyright of Paraphrases Matrix

Impacts to Students and Society
The implementation of the Paraphrases Matrix as a paraphrasing tool has a variety of beneficial impacts on students and society alike, contributing positively to the learning environment and academic integrity. For students, the use of this tool can enhance academic performance as they have better opportunities to develop stronger writing skills. This condition thus leads to improved grades and academic achievement. Moreover, the implementation of this tool is also evidenced by a boost in students' confidence. Mastering paraphrasing skills can result in an enhanced sense of self-assurance among students, empowering them to express ideas effectively. In addition, increased confidence is linked to the engaging nature of paraphrasing activities, which helps students better understand the material, allowing them to explain complex concepts in their own words. Furthermore, adopting these skills through paraphrasing activities nurtures a culture of lifelong learning, encouraging students to continually refine their abilities to comprehend and articulate ideas in various contexts beyond the classroom. Therefore, such benefits aid them in future academic and professional endeavors.

On a societal level, the implementation of the Paraphrases Matrix contributes to the promotion of academic integrity. This is exemplified by the potential outcomes of reducing instances of plagiarism, promoting a culture of ethical writing, and encouraging original thought. This leads to the creation of written content of higher quality. Since the decrease in plagiarism yields more authentic and informative publications, it thereby benefits readers and researchers. Additionally, graduates with strong paraphrasing skills contribute significantly to the workforce, enhancing it with proficient communicators and writers who play a crucial role in driving innovation and productivity.

Conclusion and Recommendation
The integration of AI tools like ChatGPT into scholarly writing and research processes offers several benefits but also raises important limitations and ethical considerations that educators should carefully weigh. Therefore, this innovation offers a guideline on how to integrate ChatGPT into academic writing but still ensures quality, accuracy, and responsible usage, as overdependence on ChatGPT risks degrading scholarly writing abilities, analytical skills, and original thinking.

Developing best practices for ethical usage and transparency around AI collaboration is very crucial for all educators. The educators must clearly explain to students the appropriate and ethical uses of AI for paraphrasing. Set distinct policies and guidelines. This innovation encourages developing paraphrasing skills through practice first before relying on ChatGPT, as it is important to teach students strategies on how to paraphrase properly.

In summary, this research contributes to the cognitive load theory as it offers understanding of AI's role in language learning by examining the impact of using AI tools and structured matrices on students' cognitive load. It investigates how these tools can reduce the cognitive burden associated with paraphrasing, allowing for more efficient learning processes. This research also offers practical, contextual strategies for educators to improve students' paraphrasing abilities as it provides a framework for utilizing AI tools to assist in developing

students' abilities to understand and generate paraphrases. It bridges the gap between theory and practice by providing methods to teach writing that can be directly implemented in the classroom.

All in all, while promising, human guidance remains essential for substantive, rigorous and original scholarly writing with ChatGPT assistance. The core tenets are ethical usage, academic integrity, preserving student learning, and human oversight of AI assistance. Also, with proper guidance, ChatGPT can aid paraphrasing while upholding educational rigor.

References
AlAfnan, M. A., Dishari, S., Jovic, M., & Lomidze, K. (2023). Chatgpt as an educational tool: Opportunities, challenges, and recommendations for communication, business writing, and composition courses. *Journal of Artificial Intelligence and Technology, 3*(2), 60-68.

Akbar, M. T. (2020). Students' Paraphrasing in the Literature Review Section of Research Proposal. *Jambura Journal of English Teaching and Literature*, 1(1), 1-15.

Chen, T. J. (2023). ChatGPT and other artificial intelligence applications speed up scientific writing. *Journal of the Chinese Medical Association, 86*(4), 351-353.

Dergaa, I., Chamari, K., Zmijewski, P., & Saad, H. B. (2023). From human writing to artificial intelligence generated text: Examining the prospects and potential threats of ChatGPT in academic writing. *Biology of Sport, 40*(2), 615-622.

Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. *In ELT Forum: Journal of English Language Teaching*, *12*(1), 44-58.

Huang, J., & Tan, M. (2023). The role of ChatGPT in scientific communication: Writing better scientific review articles. *American Journal of Cancer Research, 13*(4), 1148.

Hirvela, A., & Du, Q. (2013). "Why am I paraphrasing?": Undergraduate ESL writers' engagement with source-based academic writing and reading. *Journal of English for Academic Purposes*, 12(2), 87-98.

Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. *Contemporary Educational Technology, 15*(4), ep464.

Jen, S. L., & Salam, A. R. H. (2024). A Systematic Review on The Use of Artificial Intelligence in Writing. *International Journal of Academic Research in Progressive Education and Development*, 13(1), 1819–1829.

Niloy, A. C., Akter, S., Sultana, N., Sultana, J., & Rahman, S. I. U. (2023). Is ChatGPT a menace for creative writing ability? An experiment. *Journal of Computer Assisted Learning*.

Roose, K. (2022). *The brilliance and weirdness of ChatGPT*. The New York Times. https://www.nytimes.com/2022/12/05/technology/chatgpt-ai-twitter.html