

Effectiveness of ChatGPT in Improving Essay Writing in The English Language among Secondary School Students

Intan Qudwatun Hasanah Herman¹, Sofia Insyirah Sanusi¹, Nur Haziirah Nabiilah Mohamed Yahya¹

¹ Alsagoff Arab School, 111 Jalan Sultan 199006, Singapore

*Corresponding author: intanqudwatunhasanah_herman@alsagoff.edu.sg

ABSTRACT

This study aims to investigate the effectiveness of ChatGPT in essay writing among secondary school students. Previous research has shown that AI learning tools have played a part in a student's essay writing. This study examines the effectiveness of ChatGPT in different aspects of writing; language, vocabulary and content and the changes of grades when students use ChatGPT. The study was undertaken through two research methods: the close readings of relevant published articles and surveys given to secondary school students from both madrasah and non-madrasah schools. While doing data collection, several challenges were encountered, such as time constraints, which limited the depth of analysis into actual essays. A more thorough examination of the essays themselves could have provided a more comprehensive understanding of ChatGPT's impact on writing skills. This essay concludes that ChatGPT is effective in improving essay writing to a certain extent, if students use it judiciously and effectively. ChatGPT alone is insufficient to enhance a student's writing. Students' manner integration would also determine their success in their writing.

Keywords: *effectiveness of Artificial Intelligence (AI) in education, ChatGPT, essay writing*

INTRODUCTION

This study examines the influence of Artificial Intelligence (AI) on essay writing among secondary students. AI, which includes technologies like machine learning and natural language processing, is being used to enhance the learning process and develop educational tools. The research delves into the effectiveness of AI tools and platforms, identifying potential benefits or drawbacks associated with their implementation. It also explores how AI enhances students' growth and performance in writing. Through a comprehensive review of existing literature and case studies, this research evaluates AI's impact on essay writing and its future implications for students. This study aims to contribute to ongoing discussions surrounding the integration of AI technologies in enhancing students' ability to write essays.

METHODOLOGY

We gathered responses from students of madrasah and non-madrasah schools to get their unbiased opinions. The surveys were conducted virtually via Google Forms. Additionally, our readings are sourced from various branches of the National Library, and other research papers are from reliable sources such as the Minister of Education, MOE, to strengthen our research efforts further. We used primary and secondary sources to avoid biases and provide a broader range of data for analysis.

RESULTS AND DISCUSSION

The data collected are analysed in a qualitative method to study;

(1) the respondents' responses to survey questions regarding the ways ChatGPT has improved or otherwise, their essay writing. The data on the impact ChatGPT has on students' essay writing are processed using the Likert scale format (Rensis Likert, 1932); a rating scale used to measure opinions, attitudes, or behaviours. It consists of a statement, or a question and respondents choose the option that best corresponds to how they feel about the statement or question.

(2) The number of students who see a change in their exam grades after using ChatGPT.

Table 1. Survey Responses

Statements	Answers
Do you use ChatGPT in assisting your essay writing for English?	46.8% - 'Yes' 53.2% - 'No'
ChatGPT helps improve your language skills	12.8% - Strongly agreed 38.5% - Agreed 37.2% - Remained Neutral 7.7% - Disagreed 3.85% - Strongly Disagreed
ChatGPT helps improve your vocabulary.	20.5% - Strongly agreed 43.6% - Agreed 23.1% - Remained Neutral 6.4% - Disagreed 5.1% - Strongly Disagreed
ChatGPT really does help in gaining content for essay writing.	16.7% - Strongly agreed 42.3% - Agreed 34.6% - Remained Neutral 5.1% - Disagreed 1.3% - Strongly Disagreed

The Effect of Incorporating ChatGPT in Assignments on Exam Grades

We included this question in the survey to determine whether students' use of ChatGPT for essay writing support truly benefits them and whether it is reflected in their exam results. This factor might be influenced by how students utilise the tool. They might rely too much on, and copy information generated by ChatGPT blindly which causes no change in their exam results.

The excessive reliance on ChatGPT as a substitute for their critical thinking and problem-solving skills may hinder their ability to develop a deeper understanding of the subject matter, which can negatively impact their academic performance (Abbas, 2023). Table 2 proves how ChatGPT has not impacted most of the respondents' exam results.

Table 2. ChatGPT's influence on exam grade

	Frequency	Percentage
There is change	38	48.7%
There is no change	40	51.3%

Hence, it can be concluded that although ChatGPT does improve vocabulary, essay writing

and support students in gaining content in essay writing, it also seems to suggest that ChatGPT may not have a lasting impact on students as their performance in their essay writing examination does not prove likewise.

This seems to suggest that the mechanic does not bring about a positive outcome in their exam results. Grades often reflect various aspects of learning beyond just the content itself. Presentation skills, critical thinking, and the ability to apply knowledge are crucial aspects. ChatGPT does not address these aspects. Additionally, a student's grade can also be influenced by factors such as participation, comprehension of the material, and adherence to rubrics, which are not influenced by ChatGPT. Students may still struggle with understanding concepts or engaging in classroom discussions. Furthermore, effective learning requires active participation and engagement, which cannot be substituted by merely relying on AI machines.

Significant challenges and drawbacks of using ChatGPT

Despite the many benefits, it is important to recognize the significant challenges ChatGPT may pose for students. There is a concern that relying too much on AI could weaken their ability and motivation to learn independently. This concern seems valid, as many survey respondents reported using ChatGPT for essay writing. Dr. Shane Snipes, in *Transforming Education with AI: Guide to Understanding and Using ChatGPT in the Classroom* (2024), also notes that this reliance can harm student motivation and self-regulation.

In terms of content generation, over half of the respondents agreed that ChatGPT is helpful, but their exam scores did not reflect this, as 51.3% reported no improvement. This may be due to the AI's lack of accuracy and tendency to produce generic content. When students use inaccurate information, it hinders their ability to analyse and use it effectively in essays, resulting in low quality work. This aligns with research by Barry Pomeroy (2023), who found that AI often fabricates information and lacks proper citation, which negatively affects essay quality and leads to little or no improvement in results (Theobald, 2024).

CONCLUSION

The implications of this research on the effectiveness of ChatGPT in improving essay writing among secondary students are significant. Data shows that ChatGPT helps students improve language, vocabulary, and content knowledge, suggesting that integrating AI tools into the curriculum could provide personalised support. However, ethical concerns like over-reliance on AI and the lack of critical thinking arise when more than half of respondents reported that they do not see an improvement in their exam grades. In conclusion, while ChatGPT enhances certain essay writing skills, its overall impact on exam grades appears limited. Most respondents noted improvements in vocabulary and content, but their exam results did not reflect this. ChatGPT can improve essay writing if used wisely. However, the tool itself does not guarantee better results: how students use it determines the quality of their work.

REFERENCES

- Artificial intelligence in education. (n.d.). MOE. <https://www.moe.gov.sg/education-in-technology-journey/edtech-masterplan/artificial-intelligence-in-education> Accessed on 20 April 2024
- Abbas, M. (2023). Uses and Misuses of ChatGPT by Academic Community: An Overview and guidelines. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.4402510> Accessed on 3 May 2024
- Snipes, S., PhD. (2023). Transforming Education with AI: Guide to Understanding and Using ChatGPT in the Classroom. Dr. Shane Snipes, PhD. Accessed on 14 June 2024
- ChatGPT vs Professor: The Good, Bad, and Bizarre of Machine Writing by Barry Pomeroy (n.d.). http://barrypomeroy.com/academic/chatgpt/essays/sample_chapter.htm Accessed on 14 June 2024
- Wikipedia contributors. (2024, September 20). Rensis Likert. Wikipedia. https://en.wikipedia.org/wiki/Rensis_Likert