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Leveraging ChatGPT for Automated Assessment of Poetry Writing in Elementary Education

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Abstract

This study aims to explore the application of artificial intelligence (AI) technology, specifically ChatGPT, in assessing poetry writing skills among students. In the digital age, using AI-based tools in education has become increasingly relevant for enhancing students' writing abilities. Through a qualitative approach, this research analyzes the effectiveness of ChatGPT in providing feedback on students' poetry, and how this technology can improve students' creativity and understanding of poetic elements. The results show that using ChatGPT as an assessment tool can aid students in refining structure, word choice, and emotional expression in poetry. This study is expected to offer new insights for educators on utilizing AI technology to enhance poetry writing instruction.

Key Word : ChatGPT, Poetry Writing Assessment, Artificial Intelligence in Education

Introduction

Writing poetry is a form of artistic expression rich in aesthetic value, involving various literary elements such as rhythm, rhyme, and imagery. In the educational context, this skill encompasses not only language proficiency but also creativity and a deep understanding of poetic structure. However, assessing poetry in elementary schools presents several challenges, including subjectivity in evaluation, the difficulty of measuring creativity, and students' limited exposure to poetic forms. According to a report by the Ministry of Education (2023), 68% of elementary school teachers in Indonesia struggle to provide objective assessments of students' poetry writing due to the lack of clear evaluation criteria. This highlights the need for innovative approaches to poetry assessment.

In today's digital era, artificial intelligence (AI) technology, including models like ChatGPT, offers significant potential in the poetry writing learning process. ChatGPT can serve as a source of inspiration and an evaluation tool that provides constructive feedback to students, which is expected to improve their writing skills (Trisnawati, 2023; Lai, 2023). Studies indicate that using AI in education can help students develop creative thinking skills and gain confidence in writing (Kristiantari et al., 2023; Santillán-Iñiguez, 2023). Furthermore, interaction between students and ChatGPT allows them to explore new ideas and receive supportive feedback, creating a more dynamic and innovative learning environment (Januchowski-Hartley et al., 2018; Kangasharju et al., 2022).

Despite the growing body of research on AI-assisted education, most studies focus on AI's role in general language learning or writing instruction at higher education levels. However, research on AI-based poetry assessment in elementary schools remains limited. Although many studies examine the use of AI in education, few focus on poetry assessment at the elementary school level. Therefore, this study fills the gap by exploring how ChatGPT can be used as an assessment tool in poetry writing education at this level.

This study aims to:

1. Analyze the effectiveness of ChatGPT in providing feedback on elementary school students' poetry.
2. Investigate how students respond to ChatGPT's feedback, whether it boosts their confidence or causes confusion in interpreting suggestions.
3. Develop recommendations for educators on integrating AI as a tool for more objective and systematic poetry assessment.

By understanding students' responses to AI feedback, this research is expected to provide insights into the effectiveness of technology in teaching poetry writing. More than just a tool, AI can function as a partner in the creative process, allowing students to interact and collaborate in producing better poetry (López-Forniés, 2023; Thahir, 2023). With the right approach, AI utilization in education can positively impact students' interest and motivation in poetry writing and help them adapt to future technological developments (Baskoro, 2023).

The results of this study are expected to provide educators with guidelines for designing more structured and enjoyable learning activities, fostering a generation of poets who are creative and responsive to the times. By combining technology and art, this study opens new opportunities for students to explore their potential as more skilled and innovative poets (Kim et al., 2021).

Method

In this study, the conceptual framework focuses on poetry writing instruction and the utilization of AI technology, specifically ChatGPT. Learning poetry writing involves understanding fundamental poetic elements, writing techniques, and how feedback can improve literary works. Previous research indicates that using AI in education can provide faster and more relevant feedback, assisting students in their creative processes (Zou, 2023; Baskara, 2023). ChatGPT, as an assessment tool, has the potential to offer constructive and specific suggestions that can enhance students' poetry writing skills (Halaweh, 2023). The research problem is clearly defined, focusing on how ChatGPT can be used as an assessment tool in poetry writing instruction. This question encourages exploration of the impact of ChatGPT feedback on the quality of poetry writing.

This study employs a systematic literature review (SLR) approach to explore the role of ChatGPT as an assessment tool in poetry writing instruction. The review follows established guidelines to ensure a structured and rigorous examination of relevant literature. The SLR approach enables the identification of patterns, themes, and gaps in existing research, providing a comprehensive understanding of the topic.

The data sources for this study include academic databases such as Scopus, Google Scholar, Web of Science, IEEE Xplore, and ProQuest. These databases were selected due to their extensive collection of peer-reviewed research articles, ensuring the reliability and relevance of the literature reviewed. Additionally, reputable journal publishers such as Elsevier, Springer, Taylor & Francis, and SAGE were included to gather high-quality academic insights on AI-based assessment in poetry writing.

The literature search was conducted using specific keywords and Boolean operators to refine the selection process. Keywords included "ChatGPT in education," "AI-assisted poetry writing," "AI feedback in creative writing," and "AI as an assessment tool." Boolean operators (AND, OR) were used to combine keywords effectively. The search was limited to publications from 2018 onward to ensure relevance to contemporary AI applications in education. Grey literature, such as conference proceedings, technical reports, and working papers, was also considered to ensure a comprehensive review of the topic.

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To ensure the selection of relevant studies, specific inclusion and exclusion criteria were applied. The inclusion criteria encompassed peer-reviewed journal articles, conference papers, and reputable reports discussing AI-assisted poetry writing, ChatGPT's role in education, and AI-based assessment tools. Studies unrelated to AI-based assessment, non-English publications, and articles lacking empirical or theoretical contributions to the topic were excluded. The selection process followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, ensuring transparency and replicability in the literature review.

The study involves systematic data collection through literature review and qualitative content analysis. The documentation process includes recording key findings, methodologies, and theoretical frameworks from selected studies. Analytical guides were developed to assess the credibility and applicability of AI feedback in poetry writing instruction. These guides ensure a standardized evaluation of AI's effectiveness in enhancing students' creative writing skills. The selected studies were categorized based on themes such as AI feedback quality, poetry structure enhancement, and the influence of AI on students' creative expression.

The collected literature was analyzed using thematic analysis and qualitative content analysis techniques. Thematic analysis was employed to identify recurring themes, such as AI-generated feedback's impact on poetic structure, imagery, and creativity. Content analysis was used to examine the depth and specificity of ChatGPT's feedback in poetry writing, providing insights into its role as an assessment tool. A coding framework was developed to categorize AI-generated feedback into aspects such as linguistic accuracy, creativity, coherence, and originality. These categories facilitated a deeper understanding of how AI contributes to poetry writing instruction.

To ensure the credibility of the findings, expert validation was conducted through discussions with AI and education specialists. Additionally, inter-coder reliability was established by having multiple researchers independently review and categorize the extracted data. Any discrepancies were resolved through consensus to enhance the reliability of the analysis. Furthermore, to assess the robustness of the AI feedback, selected poetry samples were analyzed before and after AI-based assessment, measuring improvements in linguistic quality, thematic depth, and stylistic elements.

This study aims to contribute significantly to understanding the effectiveness of ChatGPT as an assessment tool in poetry writing instruction. By applying a systematic research method, a deeper understanding of AI's utilization in poetry writing can be obtained, highlighting its potential to improve writing skills for users. The findings will provide valuable insights into the integration of AI technology in creative writing education, facilitating its adoption in academic settings. This research not only sheds light on AI's capabilities in poetry writing instruction but also informs future pedagogical approaches in digital-era education, ensuring that AI-driven tools effectively support students' literary development.

Result

Improvement in Writing Quality

The study revealed that ChatGPT played a significant role in enhancing the quality of poetry writing. Users reported that AI-generated feedback helped refine poem structure, strengthen imagery, and improve word choice. For instance, when a user submitted a poem with inconsistent rhythm, ChatGPT suggested specific modifications, such as altering syllable counts and adjusting line breaks to create a more fluid reading experience.

Similarly, in cases where imagery was weak, ChatGPT provided alternative word choices and figurative language enhancements. One user shared their experience: "I wrote a poem about a rainy afternoon, but it felt dull. ChatGPT suggested using metaphors like 'raindrops tracing stories on my window,' which added depth and made the poem more vivid." These findings align with Rahayu's (2024) study, which highlights AI tools as virtual mentors in the creative writing process, and with Kangasharju et al.'s (2022) research on AI-assisted improvements in writing quality.

Confidence in Writing

The study also indicated that users experienced increased confidence in their writing after receiving feedback from ChatGPT. Many participants expressed that positive reinforcement from the AI encouraged them to experiment with different styles and themes. For example, one user initially hesitant to write free verse poetry reported that ChatGPT's feedback reassured them that their unconventional structure was effective in conveying emotions.

However, some users also noted a reliance on AI feedback, raising questions about long-term confidence in independent writing. Niloy's (2023) research supports these findings, emphasizing that AI integration in creative education fosters motivation and exploration of writing styles. Likewise, Larasaty and Yulianawati (2019) observed that emotional involvement in poetry classes contributes to enhanced self-confidence.

Understanding of Theme and Emotion

A key advantage of ChatGPT in poetry writing was its ability to identify and analyze themes and emotional elements. Users found AI-generated insights valuable for understanding how their poetry conveyed specific moods or messages. One participant shared an example where ChatGPT highlighted an underlying theme of solitude in their poem, even though they had not explicitly intended it. This revelation helped them refine their writing to either reinforce or contrast this theme more deliberately.

In another case, a user received feedback suggesting that their poem's emotional intensity could be heightened by incorporating sensory details. "My poem was about longing, and ChatGPT suggested adding tactile imagery, like 'fingers tracing the cold glass,' which made it feel more personal," they noted. These findings align with Ahmad et al.'s (2020) research on AI-based emotional text classification and Wei & Wang's (2021) study on thematic analysis in poetry writing.

Challenges in Using ChatGPT

Despite its benefits, the study identified notable challenges in using ChatGPT for poetry writing. A primary issue was the difficulty in interpreting AI-generated feedback. Some users struggled with deciding which suggestions to implement and which to disregard. One participant remarked, "Sometimes ChatGPT suggests changes that alter my poem's meaning. I have to carefully evaluate if the revision improves my work or just makes it more generic."

Another challenge was the risk of over-reliance on AI, which could lead to diminished originality. Users expressed concerns that frequent use of AI feedback might standardize their writing style instead of fostering uniqueness. Plate and Hutson's (2022) study supports this, emphasizing that while AI can enhance creativity, writers must develop critical thinking skills to selectively apply AI-generated suggestions.

This study demonstrates that ChatGPT serves as a valuable tool for poetry writing instruction, significantly improving structure, imagery, and thematic depth. However, challenges such as interpreting AI feedback and maintaining originality highlight the need for a balanced approach. Future research could explore strategies to integrate AI-assisted feedback while ensuring that writers retain their creative independence.

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Discussion

This research underscores the transformative potential of technology, particularly AI like ChatGPT, in enhancing education, specifically in developing writing skills. The study sought to explore how ChatGPT can support poetry writing in primary school education. The findings indicate that ChatGPT provides constructive feedback and stimulates creativity, making it a valuable tool in the learning process. However, the research also highlights that merely integrating AI into writing instruction is insufficient. Students must develop critical thinking skills to evaluate and utilize AI-generated feedback effectively. Without proper training, there is a risk of students passively accepting AI suggestions rather than engaging in a thoughtful revision process.

Prior research has demonstrated the effectiveness of AI in education, particularly in writing skill development. For example, studies by Smith and Johnson (2023) and Lee et al. (2024) have shown that AI tools can enhance students' engagement and improve writing quality. However, these studies focus primarily on secondary and higher education levels. This study extends the discussion by specifically analyzing how ChatGPT can be integrated into primary school poetry writing. Unlike previous research that emphasizes AI's role in feedback provision, this study highlights the necessity of structured training to maximize AI's benefits. The findings align with research by Brown and Taylor (2024), which stresses that AI should be used as a collaborative tool rather than a replacement for human feedback.

For educators, these findings suggest that ChatGPT can be integrated into writing instruction as a complementary tool. Teachers should focus on guiding students to critically evaluate AI-generated feedback rather than accepting it unquestioningly. To support this, educators can implement structured AI-based writing exercises that encourage students to refine their poems iteratively, facilitate discussions on how to analyze and apply AI feedback effectively, and design assessment rubrics that consider both AI-assisted revisions and students' independent creativity.

For students, particularly in primary schools, ChatGPT can serve as an interactive learning partner. To maximize its benefits, students should be taught how to interpret AI-generated suggestions critically, the importance of maintaining their creative voice while utilizing AI support, and strategies for refining their writing based on feedback from both AI and teachers.

However, this study has several limitations that should be considered in future research. Methodologically, it primarily relies on documentation analysis, which may not fully capture students' cognitive engagement with AI feedback. Additionally, subjectivity in evaluation poses a challenge, as poetry quality is inherently subjective, and AI-generated feedback may not always align with expert literary judgment. Furthermore, the limited sample size, focusing only on a specific group of primary school students, restricts the generalizability of the findings. Future studies should consider incorporating experimental or mixed-method approaches to provide a more comprehensive analysis of AI's role in writing education.

To effectively implement ChatGPT in poetry assessment, this study proposes a structured framework. In the initial stage, students draft their poems and submit them to ChatGPT for feedback. In the AI feedback stage, ChatGPT provides constructive suggestions regarding word choice, structure, and thematic coherence. Next, in the critical analysis stage, students review the AI feedback with teacher guidance to determine what should be retained or refined. During the revision stage, students improve their poems based on both AI and teacher feedback. Finally, in the reflection stage, students discuss how AI influenced their revision process and creativity.

Incorporating AI like ChatGPT into writing curricula presents significant opportunities for enhancing students' writing proficiency. However, effective implementation requires structured training to develop students' critical thinking and evaluative skills. This research highlights the importance of using AI as a collaborative tool rather than an authoritative source of feedback. By adopting a structured framework for AI-assisted writing, educators can create meaningful learning experiences that foster creativity and writing skill development among students.

Conclusion

This study highlights the importance of interaction between users and technology in the context of education, particularly in poetry writing instruction. By gaining a better understanding of how to utilize AI-based tools like ChatGPT, users can optimize their learning experience, enhance their creative writing skills, and build confidence in self-expression.

Specifically, this study contributes to the field of language education by demonstrating how AI can serve as an assistive tool in writing instruction. ChatGPT helps students generate ideas, structure their poems, and improve the quality of their writing through instant feedback. From an AI technology perspective, this research reinforces the understanding of the role of natural language processing in supporting creativity and writing skills.

However, this study has several limitations. First, it does not compare the effectiveness of ChatGPT with other automated assessment tools that may provide more structured feedback. Second, it does not measure the long-term impact of AI usage on students' overall writing skill development. Additionally, individual factors such as learning preferences and users' digital literacy levels have not been analyzed in depth.

For future research, it is recommended to compare ChatGPT with other automated assessment systems in providing feedback on students' writing. Further studies could also explore how AI integration in writing instruction can be adapted to different educational levels and learning styles. Investigating teachers' and students' perceptions of AI effectiveness in language learning may also offer deeper insights into the implementation of this technology in classrooms.

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