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The Influence of Using ChatGPT on Students' Narrative Writing at MTs N 1 Pesawaran

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ABSTRACT

This research explores the impact of incorporating ChatGPT into students' narrative writing abilities at MTs N 1 Pesawaran. It employs a quasi-experimental approach with a pre-test and post-test setup across two groups: an experimental class and a control class. The experimental group received instruction on narrative writing supported by ChatGPT, while the control group followed traditional teaching methods. Writing tests were used to gather data, which was then analyzed statistically, including checks for normality, homogeneity, and t-tests. The results reveal that students in the experimental class scored significantly higher on the post-test than those in the control class. These findings imply that ChatGPT can be a valuable resource for boosting students' writing skills, especially in structuring ideas, expanding vocabulary, and crafting well-organized narrative texts.

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INTRODUCTION

Language plays a fundamental role in human communication, enabling individuals to express ideas, emotions, beliefs, and cultural values across different linguistic backgrounds. As Harmer states, language frequently functions as a means of communication among people who do not share the same first or second language, which underscores its central role in connecting diverse communities. In educational

settings, language also serves as a crucial medium through which learners construct and convey meaning, both orally and in written form. Among global languages, English holds a prominent position as an international language that is widely taught and used in many countries, including Indonesia, where it is introduced in early schooling and serves as a key academic requirement (Brown, 2001).

Writing is one of the essential English skills and plays a significant role in students' academic development. In the digital era, writing proficiency is increasingly required for online communication, academic tasks, and future professional needs. Effective writing enables students to organize ideas, communicate clearly, and avoid misunderstandings. However, many students continue to experience difficulties in writing, particularly in generating ideas, using appropriate vocabulary, applying accurate grammar, and constructing coherent narrative texts. Preliminary observations at MTs N 1 Pesawaran indicate that students often perceive writing as challenging and uninteresting, and most struggle to develop narrative structure and express ideas logically (Creswell, 2018).

These challenges demonstrate the need for innovative and engaging instructional approaches. Considering that today's learners are digital natives, integrating technology into writing instruction has become increasingly relevant. ChatGPT, an advanced artificial intelligence (AI) language model, offers features such as idea generation, vocabulary support, structural guidance, and immediate feedback, which can facilitate students' writing processes. Previous research (Radford et al., 2019; OpenAI, 2023) has highlighted the potential of AI-based tools in enhancing learners' writing performance. However, empirical evidence on the influence of ChatGPT specifically on junior high school students' narrative writing performance, particularly within Indonesian Islamic school contexts, remains limited.

In addition, existing studies predominantly focus on academic or general writing, often involving university or senior high school students. Few studies use quantitative methods, such as pre-test and post-test designs, to examine improvements in narrative writing. The limited use of AI tools like ChatGPT in narrative writing instruction at madrasah institutions further underscores the significance of conducting research in this context (Diasamidze & Tedoradze, 2024).

Given these gaps, this study examines the influence of using ChatGPT as a learning tool to enhance students' ability to comprehend and write narrative texts. ChatGPT provides real-time scaffolding that supports idea development, narrative organization, vocabulary enrichment, and revision, enabling students to improve their writing more effectively.

Accordingly, this research aims to determine whether the integration of ChatGPT contributes significantly to improving ninth-grade students' narrative writing performance at MTs N 1 Pesawaran (Flower & Hayes, 1981). According to above description, our research question is:

1. Does the use of ChatGPT significantly influence the narrative writing skills of ninth-

grade students at MTs N 1 Pesawaran?

METHOD

Design

This research was conducted at MTs N 1 Pesawaran during the odd semester of the 2025/2026 academic year. The study employed a quantitative, quasi-experimental approach. According to Creswell (2018), an experimental design aims to examine potential causal relationships between variables by administering a treatment to an experimental group and comparing the outcomes with a control group that does not receive the treatment. In this study, two groups were involved, and each completed a pre-test to establish baseline comparability. The primary objective was to determine the influence of the treatment on the dependent variable. Experimental research fundamentally involves manipulating one variable to observe its effects on another, thereby enabling researchers to identify causal influences (Harmer, 2004).

The design used in this study was essential for establishing internal validity, or the extent to which reliable conclusions can be drawn regarding the effect of the treatment on the dependent variable. As Creswell (2018) notes, an experimental design serves as a structural framework that guides the research process in generating credible findings. This study implemented a pre-test–post-test format within a quasi-experimental design, which is widely recognized for its capacity to support causal inference in authentic educational contexts where random assignment is not feasible. As Shadish, Cook, and Campbell (2002) explain, quasi-experimental designs enable researchers to investigate causal relationships through intentional interventions and structured comparisons while applying methods to reduce bias and strengthen the overall validity of the results.

In this research, students first completed a pre-test in which they wrote a narrative text without assistance from ChatGPT, allowing the researcher to assess their baseline writing ability. Following the intervention, a post-test was administered to both the experimental and control groups.

Participants

The participants were ninth-grade students at MTs N 1 Pesawaran. Cluster random sampling was applied based on teacher recommendations and comparable English proficiency across classes. Two classes were selected: Class IX F as the experimental group (34 students) and Class IX E as the control group (33 students), resulting in a total of 67 participants.

The participants were generally 14–15 years old, which is the typical age range for Indonesian ninth graders. The sample consisted of approximately 55% female and 45% male students. All students shared similar educational backgrounds and had learned English since elementary school as part of the national curriculum. None of the students reported prior formal experience using AI-based writing tools, ensuring that

their exposure to ChatGPT occurred only during the intervention (Liu & Guo, 2023).

Instrument

The instrument used in this study was a writing test designed to measure students' narrative writing performance. According to Creswell (2018), instruments function as tools for observing, recording, and measuring data. In this study, the instrument consisted of a narrative writing task administered in both the pre-test and post-test. Students' writing was evaluated using an analytical scoring rubric adapted from Brown (2001), which assessed content, organization, grammar, vocabulary, and mechanics (Marzuki, Martono, & Sari, 2023).

RESULTS AND DISCUSSION

Results

The descriptive results of the study showed that both the experimental and control classes started with almost the same level of ability in narrative writing. The pre-test mean score of the experimental class was 61.91 (SD = 8.79), while that of the control class was 61.21 (SD = 9.68). This similarity indicates that the two groups were comparable before treatment. After receiving different treatments, the post-test results revealed a significant improvement in both groups. The experimental class, which was taught using ChatGPT, achieved a higher post-test mean score of 85.32 (SD = 7.50). In contrast, the control class, which received conventional instruction, only reached a posttest mean score of 72.88 (SD = 6.96).

Table 1. Descriptive Statistics of Pre-test and Post-test Scores

Class	Mean	SD
Experimental (Pre-test)	61.91	8.79
Experimental (Post-test)	85.32	7.50
Control (Pre-test)	61.21	9.68
Control (Post-test)	72.88	6.96

The gain score analysis showed that the experimental group improved by 23.41 points, whereas the control group improved by only 11.67 points. This result indicates that the integration of ChatGPT led to a greater increase in students' narrative writing performance compared with traditional instruction.

Table 2. Gain Score Analysis

Class	Gain Score
Experimental	23.41
Control	11.67

Before conducting the hypothesis test, assumption checks were performed. The Shapiro–Wilk test indicated that all significance values were greater than 0.05, confirming normal distribution across groups.

Table 3. Test of Normality (Shapiro-Wilk)

Group	Statistic	df	sig
Pre-test Experimental	0.921	33	0.087
Post-test Experimental	0.842	33	0.081
Pre-test Control	0.912	34	0.064
Post-test Control	0.894	34	0.078

Levene's Test also showed non-significant results (p = .204), indicating homogeneity of variances.

Table 4. Test of Homogeneity of Variances (Levene's Test)

Levene Statistic	df1	df2	Sig.
1.62	1	65	0.204

An independent samples t-test was conducted to compare the post-test scores of both groups. The results revealed a statistically significant difference, $t(65) = 7.030$, $p < .001$. The mean difference between groups was 12.445.

Table 5. Independent Samples t-Test for Post-test Scores

t	df	Sig. (2-tailed)	Mean Difference	95%CI
7.030	65	0.000	12.445	8.909-15.980

To determine the magnitude of the treatment effect, Cohen's d was calculated. The effect size was 1.65, which is considered very large. This result indicates that the use of ChatGPT produced a strong and practically meaningful improvement in students' narrative writing performance.

In addition, the increase from approximately 62 to 85 in the experimental group reflects a shift from "fair" to "very good" performance according to the narrative writing rubric adapted from Brown (2001). Students demonstrated marked improvements in content development, organization, vocabulary, grammar, and mechanics..

Discussion

The results of this study indicate that the use of ChatGPT significantly enhanced students' narrative writing performance compared with traditional instruction. Although both the experimental and control groups began with equivalent levels of performance, as reflected in their similar pre-test mean scores, the experimental group achieved markedly higher post-test results and gain scores. The assumptions of normality and homogeneity were met, allowing for the use of an independent-samples t-test, which confirmed a statistically significant difference between the two groups ($p < 0.05$). This finding suggests that the improvement was attributable to the instructional treatment rather than random variation (OpenAI, 2023).

The improvement observed in the experimental group is best understood not merely as a general effect of integrating technology, but as a consequence of several key mechanisms through which ChatGPT supported students' writing processes. First, ChatGPT reduced learners' cognitive load by providing immediate scaffolding at critical stages of idea generation and content development. Narrative writing requires learners to attend simultaneously to plot sequencing, character development, linguistic accuracy, and thematic coherence. These demands can overwhelm working memory, particularly in EFL settings. ChatGPT's ability to provide instant prompts, vocabulary options, and storyline suggestions allowed students to allocate cognitive resources more efficiently, thereby strengthening narrative coherence and creativity. This mechanism aligns with Vygotsky's (1978) concept of the Zone of Proximal Development, in which learners progress through guided assistance from a more capable mediator (Radford et al., 2019).

Second, ChatGPT supported the planning, drafting, and revising stages of the writing process, consistent with the cognitive process model proposed by Flower and Hayes. During planning, ChatGPT helped students articulate the narrative orientation, complication, and resolution more systematically by suggesting organizational structures and brainstorming alternatives. During drafting, the tool provided real-time linguistic feedback, including suggestions related to tense consistency, lexical choice, sentence clarity, cohesion, and coherence, which improved textual accuracy. During revision, students used ChatGPT as a self-monitoring tool to refine sentence structures, adjust pacing, and improve narrative flow. This recursive feedback cycle is consistent with prior research (e.g., Diasamidze & Tedoradze, 2024; Seo, 2024), which highlights AI's role in accelerating learners' ability to identify and address weaknesses in their writing.

Third, ChatGPT functioned as a model of proficient narrative writing by exposing students to descriptive language, cohesive storytelling, and appropriate narrative conventions. Through this modeling, learners internalized patterns of effective narrative construction, supporting the findings of Marzuki et al. (2023), who reported that AI tools can enhance learners' autonomy and linguistic awareness. Student observations also suggested that the use of ChatGPT fostered greater confidence and reduced anxiety. This motivational shift supports Liu and Guo's (2023) argument that AI-based tools can increase engagement by providing an interactive, low-pressure environment for language production (Seo, 2024).

The project-based learning (PjBL) approach used in this study may have further amplified these mechanisms. PjBL requires continuous drafting, reviewing, and refining, and ChatGPT provided the micro-level scaffolding students needed throughout these stages. The combination of PjBL and AI-assisted support facilitated iterative learning, collaboration, and stronger student ownership of the writing process (Vygotsky, 1978).

Despite these advantages, the use of AI tools also presents ethical and pedagogical risks that warrant careful consideration. One potential issue is plagiarism, as students may be tempted to copy ChatGPT-generated text without meaningful

modification or understanding. Another concern is overdependence, in which learners rely excessively on AI to generate ideas or linguistic structures, potentially limiting the development of independent writing competence (Hastomo et al., 2025). In addition, AI tools can occasionally produce inaccurate, inappropriate, or overly advanced content, which may confuse learners if it is not mediated through teacher guidance (Trinovita et al., 2025). Therefore, educators should provide explicit instruction on responsible AI use and maintain oversight to ensure that ChatGPT functions as a scaffold rather than a substitute for students' cognitive engagement (Shadish, Cook, & Campbell, 2002).

In conclusion, the findings of this study demonstrate that ChatGPT contributed to improved narrative writing performance through mechanisms that supported cognitive processing, linguistic accuracy, writing organization, and student motivation. While the tool offers substantial pedagogical benefits, its effective and ethical integration into classroom instruction requires active teacher supervision to prevent misuse and to ensure that AI-assisted support strengthens—rather than replaces—students' independent writing development.

CONCLUSIONS

This study examined the effectiveness of ChatGPT in enhancing students' narrative writing performance at MTs N 1 Pesawaran. The pre-test and post-test analyses showed that students who received ChatGPT-assisted instruction achieved significantly greater improvement than those taught through conventional methods. Learners in the experimental group demonstrated clear progress in organizing ideas, structuring narrative elements, and using more appropriate vocabulary and grammar. These findings highlight the potential of ChatGPT as a pedagogically meaningful digital tool to support students' development in narrative writing.

The positive outcomes were largely driven by the ways ChatGPT supported students' writing processes. The tool provided real-time scaffolding that helped reduce cognitive load during idea generation, brainstorming, and early drafting. It also offered immediate linguistic and structural feedback, enabling students to revise and refine their narratives more effectively. In addition, ChatGPT modeled coherent and cohesive narrative structures, allowing learners to internalize narrative conventions more quickly. These supports were especially beneficial for students who previously struggled to generate ideas, sequence events, or construct grammatically accurate sentences.

Despite these promising findings, the study affirms that ChatGPT should be used as a complementary instructional aid rather than a substitute for teacher guidance. Teachers remain central in ensuring that students interpret AI-generated feedback critically, apply it appropriately, and understand ethical boundaries in its use. Meaningful integration of AI in the classroom also requires educators to monitor students' writing behaviors, promote reflective thinking, and reduce the

risk of misuse.

Several limitations should be acknowledged. First, the intervention lasted for six instructional meetings over three weeks, which may not capture the long-term impact of ChatGPT on students' writing development. Longer use may produce different patterns of growth or reveal changes in learner autonomy. Second, this study focused only on narrative writing, which limits the generalizability of the findings to other genres such as descriptive, argumentative, or expository writing. Third, the study did not examine longer-term writing behavior, leaving unclear whether students maintain improved narrative performance after the intervention ends. Fourth, the sample size was limited to one school context, which restricts the broader applicability of the findings. Finally, the study did not include qualitative insights into students' or teachers' perceptions, which could have provided a deeper understanding of the benefits and challenges of using ChatGPT in EFL classrooms.

Given these limitations, future research should employ longer intervention periods, include multiple writing genres, and involve larger and more diverse participant groups. Further studies should also explore students' motivational responses, learning strategies, and potential dependence on AI tools. Investigating teachers' perspectives and classroom management strategies related to AI integration would also contribute valuable insights to the field.

In conclusion, when carefully supervised and thoughtfully implemented, ChatGPT demonstrates strong potential to enhance students' narrative writing performance. It can effectively support idea development, language accuracy, and narrative structure while fostering a more engaging and interactive writing environment. With responsible pedagogical integration, ChatGPT can play an important role in shaping innovative and effective learning experiences for EFL students.

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