

## **CHATGPT'S IMPACT ON ENVIRONMENTAL LITERACY THROUGH DAHL'S CHILDREN'S LITERATURE IN ISLAMIC PRIMARY SCHOOL**

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### **ABSTRACT**

This study explores the impact of using ChatGPT on environmental literacy among fifth-grade students at State *Madrasah Ibtidaiyah* 1 Bengkulu City, Indonesia. This research employs a mixed-methods approach and analyzes four works by Roald Dahl—*Giraffe and the Pelly and Me* (2007), *James and the Giant Peach* (2007), *Fantastic Mr. Fox* (2007), and *Danny the Champion of the World* (2009). The environmental themes in these works are analyzed through the critical framework of Matthew Arnold, which highlights the moral relationship between humans and nature. The study involves two groups: an experimental group using ChatGPT to explore environmental themes, and a control group utilizing traditional teaching methods. Environmental literacy is measured through pre-test and post-test assessments, supported by student questionnaires and teacher interviews. Quantitative findings show a significant improvement in the experimental group ( $p < 0.05$ ), indicating that the use of ChatGPT enhances students' understanding of ecological issues. Qualitative data reveals higher student engagement and a positive perception of ChatGPT as a learning tool. From an Arnoldian perspective, these narratives prove effective in cultivating environmental appreciation by emphasizing the moral connection between humans and nature. Overall, this study demonstrates how AI-based tools, combined with children's literature, can enrich the learning experience and promote sustainable thinking among elementary school students.

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## 1. INTRODUCTION

Indonesia confronts pressing challenges in environmental conservation, with species extinction rates surpassing those of both the United States and Australia (Taqiyya, 2023). This alarming trend is largely attributed to low public awareness and minimal environmental literacy, particularly among the younger generation (Khasanah et al., 2024). Given the crucial role that youth play in promoting sustainable practices, it is essential to improve environmental literacy. This can be achieved through the implementation of effective educational strategies.

One promising approach lies in children's literature focused on environmental themes, which can engage young readers and instill pro-environmental values from an early age (Bhagwanji & Born, 2018). However, the situation is further complicated by Indonesia's low reading literacy rates. According to 2023 OECD (Organisation for Economic Co-operation and Development) report, Indonesia ranks sixth out of eight Southeast Asian countries in reading proficiency among 15-year-olds (Kemendikbudristek, 2024).

This low ranking has significant implications for children's literacy, particularly in the domain of environmental education. The lack of a robust reading culture is evident in regions such as Bengkulu Province, which ranks 28th out of 34 provinces for reading interest (Annur, 2024). As defined by Husamah et al. (2023), reading literacy is the foundation of language and literature education. However, its decline presents a significant obstacle to fostering essential environmental awareness in young students.

To enhance environmental literacy in primary education, integrating reading skills and environmental content with advanced technology is crucial (Al-Ghonmein & Al-Moghrabi, 2024). ChatGPT can play a role here. It supports students in grasping nature-themed children's stories in English, adding interaction and engagement (Khasanah, 2024). Research on ChatGPT's use highlights its potential to boost environmental literacy via children's literature in Indonesian schools. This chatbot helps students engage with environmental narratives. Environmental topics thus become clearer, meaningful, and closely linked to daily life (Demirkol & Malkoc, 2023; Erita et al., 2024).

In case of research gaps, recent studies by Jauhiainen and Guerra (2023) and Turmuzi (2024) indicate the potential of generative AI technologies, such as ChatGPT, to enhance interactive learning experiences. However, their application in the context of environmental literacy remains underexplored. Researches by Maisarah et al. (2023) and Caré (2024) provide valuable insights into social themes in children's literature by authors like Roald Dahl, but do not address environmental issues directly. This gap in the literature underscores the need for research that merges technology with environmental education to engage students more effectively.

This research utilizes four children's stories by Roald Dahl as primary materials for analysis: *Giraffe and the Pelly and Me* (2009), *James and the Giant Peach* (2007), *Fantastic Mr. Fox* (2007), and *Danny the Champion of the World* (2007). Each story offers unique narratives that explore themes of environmental stewardship and human-nature relationships.

In *Giraffe and the Pelly and Me*, Billy forms an unexpected friendship with a giraffe and a pelican. Together, they clean a wealthy man's windows, illustrating the value of collaboration and harmonious interactions with nature. Similarly, *James and the Giant Peach* narrates the journey of James, an orphan who discovers a magical seed. This seed transforms into a giant peach, propelling him into an extraordinary adventure alongside remarkable insect companions. The story symbolizes the marvels of nature while emphasizing the transformative impact of teamwork and perseverance.

In contrast, *Fantastic Mr. Fox* portrays Mr. Fox and his family as they cleverly outwit three farmers determined to capture them. This narrative underscores resourcefulness and bravery in the face of adversity, while simultaneously promoting a respect for the natural world and its inhabitants. Meanwhile, *Danny the Champion of the World* presents a heartwarming tale of Danny and his father, who collaboratively devise an ingenious plan to catch pheasants. The story intricately weaves themes of courage, familial love, and environmental stewardship.

Collectively, these four narratives are rich in adventure and moral insights. They provide valuable entry points for discussing environmental themes with young learners. This research aims to leverage these stories to enhance fifth-grade students' environmental literacy, fostering a deeper appreciation for the environment and its interconnectedness with human life. The fifth-grade students

were selected due to their being at an ‘optimal’ developmental stage, balancing cognitive maturity and academic engagement. At this age, students possess a sufficient understanding of the impact of gadget use, yet are not burdened by the academic pressures associated with preparing for final examinations (Herwin et al., 2022).

The importance of this study even extends globally. It proposes effective strategies for fostering environmental awareness among younger generations. Here, teachers around the world can create more interactive and engaging learning experiences by using ChatGPT. Educators must be able to integrate GenAI (Generative Artificial Intelligence) to create spaces and support systems that enable students to engage thoughtfully with GenAI in the classroom (Chen et al., 2023). For instance, by encouraging students to ask questions and discuss environmental themes in literature with AI, this approach can stimulate curiosity and enhance student engagement. Such strategies are applicable across diverse educational systems, emphasizing both local and global environmental relevance. This research not merely enhances students’ understanding of environmental issues, but also helps shape a generation attuned to worldwide ecological challenges.

In this context, the present study seeks to explore two key questions:

1. How do the four of Roald Dahl’s children’s literature convey environmental messages within the context of ecological awareness?
2. To what extent does the use of ChatGPT as a medium for teaching children’s literature enhance students’ environmental literacy in comparison to conventional teaching methods?

## 2. METHOD

This study employs a mixed-methods approach to assess the impact of ChatGPT on environmental literacy among fifth-grade students at State Islamic Primary School 1 Tanjung Jaya, Bengkulu City, Indonesia. A mixed-methods design integrates quantitative and qualitative data, allowing for a more comprehensive understanding of the learning process (Clark & Ivankova, 2016; Creswell & Creswell, 2018). The study also explores implicit environmental themes in four selected works by Roald Dahl, analyzed through Matthew Arnold’s critical framework, which emphasizes themes as reflections of morality and beauty in literature (Abrams, 1999).

For the quantitative component, a quasi-experimental design was used, involving two groups of 25 fifth-grade students each. Leedy & Ormrod (2015) state that quasi-experimental design is a research method used to explore causal relationships between variables without randomizing participant assignments to experimental and control groups. This design compares pre-existing groups, such as two different classes, to identify differences after a specific treatment or intervention.

Table 1. Pre- and Post- test Score Comparison

Group	Pre-test mean	Post-test mean	Mean difference	t-value	p-value
Experimental group	X1	Y1	D1	t1	p1
Control group	X2	Y2	D2	t2	p2

(Source: Leedy & Ormrod, 2015)

In the table:

X1, Y1, X2, Y2 represent the pre-test and post-test mean scores for both groups.

D1, D2 are the differences between the pre-test and post-test means.

t1, t2 are the calculated t-values from the t-test.

p1, p2 are the p-values that help determine if the differences are statistically significant.

In this case, the experimental group engaged with ChatGPT to explore environmental themes in Dahl’s books, while the control group participated in traditional teacher-led discussions without technological assistance. This design allows for a comparison of the effectiveness of technology-based versus traditional learning methods (Sugiyono, 2022). Table 1 summarizes the assessment process.

Table 2. Assessment Process for Two Student Groups

Group	Learning method	Number of students	Pre-test	Intervention	Post-test	Survey/ interview
Experimental group	Learning with ChatGPT	25	Yes	Discussion with ChatGPT	Yes	Yes
Control group	Traditional learning	25	Yes	Discussion without ChatGPT	Yes	Yes

The study collected data via pre-tests and post-tests to measure students' understanding of ecological issues. Student engagement was evaluated through surveys, and qualitative insights were gathered through semi-structured interviews with two English teachers. These interviews focused on ChatGPT's influence on students' learning motivation, participation, and understanding of environmental concepts.

The literary analysis of Dahl's works used Matthew Arnold's framework to uncover the implicit environmental themes (Abrams, 1999). According to Arnold's ideas, the researcher has developed an analytical framework focused on three main components, visualized in the following diagram:

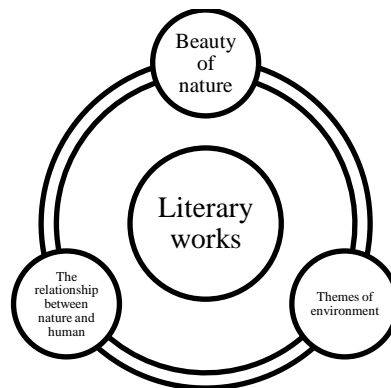


Figure 1. Conceptual Framework for Analyzing Dahl's Works through Arnold's Theory.  
(Source: Based on M.H. Abrams, 1999).

Figure 1 above illustrates that Arnold's theory connects nature not only to aesthetics but also to moral values. In Dahl's works, nature serves as a symbol of deeper moral and ethical themes, which will be analyzed through his depiction of nature and its relationship with the characters. Additionally, Arnold emphasizes the moral significance of the human-nature relationship in literature. In Dahl's stories, the interactions between characters and nature reflect moral responses to the environment.

This analysis also explores how implicit environmental themes emerge in Dahl's works' narratives. According to Arnold, literature conveys moral values through these elements, without explicit statements, a concept I apply in analyzing Dahl's works. The framework in the diagram is derived from Matthew Arnold's theory as discussed in M.H. Abrams' *A Glossary of Literary Terms* (1999). The visual representation organizes the analysis based on Arnold's perspective, providing clarity and structure for the study. Thus, the theory and analytical framework are valid, rooted in a well-established source in literary studies.

Subsequently, quantitative data from the pre-tests and post-tests were analyzed using descriptive statistics, while qualitative data from the teacher interviews were analyzed through thematic analysis (Braun & Clarke, 2021). Ethical considerations, including parental consent and confidentiality, were strictly observed (Sugiyono, 2019; Moleong, 2021).

### 3. RESULT AND DISCUSSION

This section provides an intrinsic analysis of the environmental themes within four of Dahl's children's works, focusing on the interconnections between humans, animals, and nature. Additionally, the study evaluates the impacts of ChatGPT-based literature learning in comparison to traditional teaching methods. Finally, the research examines English teachers' thematic perspectives on integrating ChatGPT into teaching children's literature. It provides valuable insights into its pedagogical impact.

#### 3.1. Intrinsic Analysis of Environmental Themes in Four of Dahl's Children's Literature

##### 3.1.1. Giraffe and the Pelly and Me

In *Giraffe and the Pelly and Me*, Roald Dahl vividly portrays the collaboration between humans and animals, a theme that resonates with Matthew Arnold's theory, which connects nature to both aesthetic and moral values. Arnold's perspective emphasizes how literature symbolically explores the human-nature relationship, fostering deeper moral reflections. Dahl aligns with this view by presenting animals and humans working together harmoniously, reflecting values of environmental stewardship.

"We are the Window-Cleaners!" sang out the Monkey. "We will polish your glass, till it's shining like brass, and it sparkles like sun on the sea!" (p. 10).

This line highlights the animals' enthusiasm and commitment to preserving cleanliness. It reflects Arnold's idea that literature imparts moral values subtly, in this case, through the depiction of teamwork and collective effort to protect the environment. The narrative conveys how such collaboration between humans and animals embodies moral responsibility and shared accountability.

"Who needs ladders at all, when you're thirty feet tall? Not Giraffe, and not Pelly! Not me!" (p. 10).

This above quote demonstrates the resourcefulness of nature by emphasizing the unique abilities of the giraffe and pelican. Dahl underscores how natural features can offer eco-friendly solutions without technological interventions. Arnold's moral framework aligns with this perspective by encouraging reliance on nature's wisdom as a guide for ethical behavior.

"The Pelly needs fish. The Monkey needs nuts, and I am a Geraneous Giraffe... cannot eat anything except the pink and purple flowers of the tinkle-tinkle tree" (p. 15).

This passage emphasizes biodiversity and the symbiotic relationships that sustain ecosystems. It illustrates how each species contributes to the balance of nature. Arnold's concept of moral engagement with nature is evident here, as the narrative encourages an appreciation of ecological balance and mutual dependence among species.

"We use water and soap, plus some kindness and hope" (p. 11).

This line underscores the importance of simple, natural materials in daily practices. Dahl's narrative suggests that environmentally friendly actions do not need to be complex; they require only a genuine respect for nature. This aligns with Arnold's idea that moral lessons in literature often emerge from depictions of modest, ethical practices that foster harmony between humans and the environment.

"We're a fabulous crew, we know just what to do, and we never stop work to drink tea" (p. 10).

This final quote encapsulates the spirit of cooperation and teamwork. The collective effort among humans and animals symbolizes an ideal relationship where coexistence leads to shared success. Arnold's theory supports this portrayal by suggesting that literature reveals the moral significance of such partnerships, inspiring readers to reflect on their role in environmental conservation.

Through the selected story, Dahl crafts a narrative that subtly weaves environmental and moral themes, exemplifying Arnold's assertion that literature conveys values through symbolism and

metaphor. This harmonious integration of nature and morality encourages readers to embrace environmentally conscious practices while reflecting on their ethical responsibilities to the natural world

### **3.1.2. James and the Giant Peach**

This children's literature explores environmental themes through the journey of James and the giant insects inside the magical peach. Here, the peach symbolizes life created by nature and serves as a sanctuary for James. Arnold's theory, which emphasizes the moral values of the human-nature relationship, aligns with this depiction of the peach as a source of hope and ethical renewal.

"The garden... was large and desolate, and the only tree in the entire place... an ancient peach tree that never gave any peaches" (p. 2).

This quote portrays James's connection to the old peach tree. It ultimately offers him a new beginning. The tree's presence in a barren landscape reflects Arnold's view of nature as a moral force capable of restoring vitality and hope, even in the harshest conditions.

"Each time the tips of his fingers were just about to touch them, they vanished into the earth!" (p. 3).

This phrase illustrates the magical planting process, highlighting the mystery and wonder inherent in nature. Arnold's perspective on nature's ability to inspire awe and convey deeper moral truths resonates here, as the narrative reveals nature's power to generate life and revive what seems lost.

"He could see the peach swelling larger and larger as clearly as if it were a balloon being blown up" (p. 3).

The rapid growth of the peach symbolizes hope and refuge, demonstrating how nature provides a haven for living beings to thrive. In Arnold's framework, this growth reflects the moral significance of nature's ability to nurture and sustain life.

"And now it was so big it looked like an enormous butter-colored pumpkin dangling from the top of the tree" (p. 4).

This description emphasizes nature not only as a source of sustenance but also as a protector for the vulnerable. Arnold's idea of nature as a force of preservation and ethical guidance is evident, illustrating how it safeguards life in times of need.

"Almost without knowing what he was doing, as though drawn by some powerful magnet, James started walking slowly towards the giant peach" (p. 3).

This quote reflects nature's intrinsic allure, a concept closely tied to Arnold's assertion of the moral connection between humans and the natural world. The deep bond depicted here underscores humanity's instinctive attraction to nature's beauty and marvels, reinforcing its role as a source of ethical inspiration.

### **3.1.3. Fantastic Mr Fox**

In *Fantastic Mr. Fox*, Dahl portrays the conflict between Mr. Fox and three farmers attempting to capture him. It symbolizes the resilience of nature and animals against human exploitation. Here, Arnold's theory stresses the moral and ethical lessons derived from the relationship between humans and nature, a theme that resonates throughout the narrative.

"Mr. Fox was too clever for them. He always approached a farm with the wind blowing in his face... the wind would carry the smell of that man to Mr. Fox's nose from far away" (p. 4).

This quote emphasizes Mr. Fox's natural instincts and intelligence in evading threats. It illustrates the adaptive qualities of animals in the face of danger. In Arnoldian terms, this reflects the moral strength of nature. It teaches humans the value of resilience and resourcefulness when confronting adversity.

“They’ll never get as deep as this. Well done, everyone!” (p. 7).

This line showcases the determination and collaboration of Mr. Fox and his family as they dig to escape the farmers. Through this, Dahl displays the strength and resilience of nature. Arnold’s concept of literature as a medium for conveying moral truths aligns with this depiction, as the story demonstrates the virtues of unity and perseverance in overcoming challenges.

“The big tree under which Mr Fox had dug his hole... was toppled like a matchstick” (p. 5).

This quote reflects the environmental impact of human exploitation, often carried out without regard for consequences. By highlighting the destruction of nature, Dahl critiques human behavior that prioritizes personal gain over ecological preservation. Arnold’s idea that literature should evoke a moral response to nature is clear here. Readers are encouraged to consider the ethical implications of such actions.

“The machines went to work, biting huge mouthfuls of soil out of the hill” (p. 6).

This depiction of machinery tearing through the land illustrates how humans frequently disrupt ecosystems for convenience. It raises awareness of the need to maintain ecological balance. According to Arnold, such narratives serve a moral purpose by fostering reflection on humanity’s responsibility toward nature. Those urge readers to act with greater environmental awareness.

“We’ll have him out in five minutes with mechanical shovels” (p. 6).

This line highlights human disregard for the environment and the far-reaching impact of their actions. Dahl uses the conflict between Mr. Fox and the farmers to emphasize the importance of respecting animal habitats and preserving ecosystem balance. Arnold’s belief in the moral significance of the human-nature relationship is evident here. The story critiques the shortsightedness of exploiting natural resources without considering long-term consequences.

#### **3.1.4. Danny the Champion of the World**

The selected children’s literature explores the close bond between characters and nature. It also critiques wildlife exploitation, placing these themes at the heart of the narrative. Danny and his father’s relationship with the environment highlights its beauty and challenges. This resonates with Matthew Arnold’s view of literature as a moral force reflecting human-nature interactions.

“It is a most marvellous thing to be able to go out and help yourself to your own apples whenever you feel like it” (p. 17).

This quote underscores Danny’s deep appreciation for nature, emphasizing gratitude for its offerings. The act of picking apples symbolizes freedom and harmonious coexistence with the natural world. In this context, Arnold’s theory is highly relevant, as the narrative fosters moral values by portraying nature as a source of simplicity and respect.

“The sense of loneliness was overwhelming, the silence was as deep as death” (p. 7).

Here, the forest’s dual character—mystical yet intimidating—is vividly depicted. This highlights nature’s transformative power, offering both allure and tension. According to Arnold, such portrayals in literature reflect humanity’s emotional and moral responses to nature. They allow readers to explore these complex dynamics.

“Putting them to sleep in this nice painless way” (p. 14).

This dialogue critiques the practice of poaching while promoting empathy toward wildlife. By advocating humane treatment of animals, the story aligns with Arnold’s belief that literature should impart ethical lessons. Thus, it invites readers to reflect on compassion as a key aspect of human interaction with nature.

“The real poachers don’t shoot pheasants... they would be on you in a second” (p. 15).

This statement highlights the complexities faced by rural communities, where survival needs often conflict with conservation laws. It critiques exploitative human tendencies while advocating for a balanced approach to wildlife interaction. Arnold’s emphasis on literature as a moral guide is

evident here. It supports readers to consider the ethical dimensions of their relationship with the environment.

“There’s always plenty of pheasants in the clearing” (p. 6).

This line illustrates nature’s dual role as a provider of sustenance and a source of shared familial experiences. Through these moments, Danny and his father deepen their bond. Arnold’s notion that literature bridges aesthetic appreciation with moral significance is evident. Here, it inspires readers to cherish and nurture such connections.

This above analysis explores how Roald Dahl’s children’s literature addresses environmental themes. It highlights the interconnectedness of humans, animals, and nature, emphasizing collaboration and sustainability. Aguilar (2022) in her study agrees that the re-reading of children’s literature narratives by Roald Dahl inspires environmental consciousness and agency in young readers. Each selected quote emphasizes a core message: respecting and safeguarding the environment is an essential responsibility for all. In most of his children’s literature, Dahl imparts an environmental ethic, emphasizing that humans must foster a harmonious relationship with the natural world (Gao, 2023).

Furthermore, Arnold’s moral theory is applied to reveal how literature fosters ethical values. Nature is portrayed as a symbolic guide for moral reflection. The study also examines the use of ChatGPT in teaching children’s literature. It underscores the technology’s role in enhancing student engagement and understanding of environmental themes.

### **3.2. Assasement of ChatGPT-Based Children’s Literature Learning Compared to Traditional Method**

The results of this study reveal the differences between the experimental and control groups based on their performance and participation throughout the learning process. The experimental group, which utilized the ChatGPT-based intervention, showed a noticeable improvement in post-test scores. Their pre-test average was 70, and the post-test average increased to 78, resulting in an improvement of 8%. In contrast, the control group, which followed traditional learning methods, started with a slightly higher pre-test average of 72, with a post-test average of 76, reflecting a 6.2% improvement. This indicates that while both groups experienced positive changes, the experimental group exhibited a higher rate of improvement. This result aligns with Prasetya and Syarif’s (2023) study, which highlights ChatGPT as an effective language learning tool. However, they emphasize its application in self-directed learning environments.

Statistical analysis supports these findings. The paired t-test for the experimental group showed a highly significant improvement, with  $t = -6.54$  and  $p = 9.28 \times 10^{-7}$  ( $p < 0.001$ ). This highlights the effectiveness of ChatGPT-based learning in boosting academic performance. The control group also showed significant progress, with  $t = -2.35$  and  $p = 0.027$  ( $p < 0.05$ ). However, its improvement was less pronounced, as indicated by the lower t-value and higher p-value.

Furthermore, one of the significant observations in this study is the difference in survey participation between the two groups. The experimental group recorded an average participation score of 4.5 out of 5, suggesting high levels of engagement in the post-test survey process. This high level of participation can be attributed to the innovative and interactive nature of using ChatGPT, which likely increased the students’ interest and motivation to participate in the evaluation process. Here, there is a slight difference in the findings compared to Al-Shloul et al. (2024), as activity-based learning enhances student engagement, motivation, and academic achievement, while ChatGPT supports interactive learning and offers personalized feedback. Conversely, the control group had a lower participation score of 3.9. It indicates that the traditional methods may not have elicited the same level of enthusiasm and engagement.

When examining engagement level, another critical metric, the experimental group again outperformed the control group. The engagement score for the experimental group was 4.3 out of 5, reflecting a significant level of involvement and attention to the learning activities. The integration of ChatGPT likely fostered a more interactive and dynamic classroom environment, allowing students to feel more connected to the learning material (Al-Shloul et al., 2024). On the other hand, the control group exhibited a slightly lower engagement level of 3.7, which suggests that the more

conventional teaching methods may not have generated the same level of excitement or active participation among students.

The difference in the improvement percentage between the experimental and control groups suggests that the innovative teaching approach using ChatGPT had a positive impact on the students' learning outcomes (Prasetya & Syarif, 2023). With an 8% improvement compared to 6.2% in the control group, the data implies that students in the experimental group were better able to grasp and retain knowledge. It is likely due to the personalized feedback and the interactive nature of ChatGPT. The experimental group showed increased engagement and survey participation. This reinforces the idea that ChatGPT created a more stimulating and motivating learning experience. As a result, their performance improved. To enhance clarity and provide a comprehensive understanding, the study includes bar charts to visualize these results. These charts clearly depict the greater impact of ChatGPT-based learning compared to conventional methods.

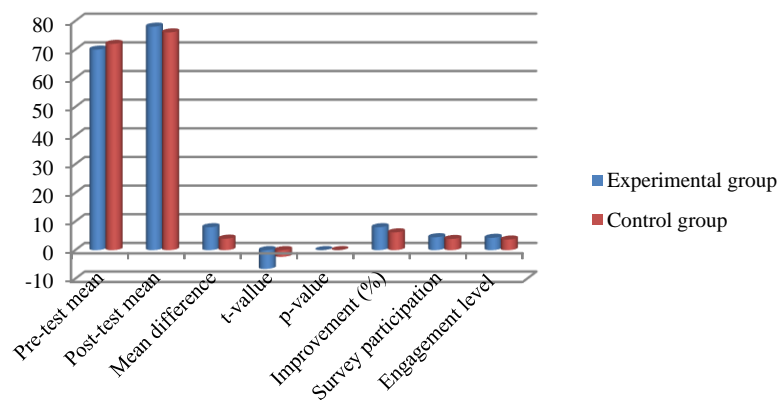


Figure 2. The Results of Assessment Process

In conclusion, while both groups showed progress in their learning, the experimental group demonstrated higher engagement, participation, and academic improvement. These findings suggest that integrating modern technology, such as ChatGPT, into classroom learning can significantly enhance students' understanding and enthusiasm. The study conducted by Ali et al. (2024) demonstrates that ChatGPT has a significant impact on enhancing student engagement and accessibility, while also highlighting key issues that need to be addressed in education. The study underscores the potential benefits of adopting innovative educational tools. It particularly fosters student engagement and improves learning outcomes. The results of this research advocate for further exploration into the use of AI-based interventions to support and enrich conventional teaching methods.

### 3.3. Thematic Analysis of English Teachers' Insights on Using ChatGPT in Teaching Children's Literature

The interviews with both English teachers at State *Madrasah Ibtidaiyah* 1 Bengkulu City revealed various aspects related to the use of ChatGPT technology in learning. Both teachers noted significant changes in student motivation and engagement in the classroom, with students appearing more active and enthusiastic (Ali et al., 2024). The findings also show a deeper understanding of environmental concepts. This is evidenced by student discussions on the connection between the stories and environmental issues. Below is the thematic analysis representing the responses of both informants in the table.

Table 3. The Results of Thematic Analysis

Aspect	Teacher 1	Teacher 2
Increased Learning Motivation	“Students seem more enthusiastic about asking questions and responding. ChatGPT adds a new element	“With technology like ChatGPT, students' motivation has visibly increased. They are more eager in class and want to stay engaged.”

Aspect	Teacher 1	Teacher 2
Deeper Engagement	that captures their interest in lessons.” “With ChatGPT, students participate more, even those who are usually passive. The classroom atmosphere becomes more lively and interactive.”	“Student engagement has significantly increased, especially when they can discuss directly with ChatGPT. It offers a unique and enjoyable learning experience.”
Understanding of Environmental Concepts	“They begin to see connections between the story and environmental issues. ChatGPT helps them understand our role in protecting nature.”	“Students become more aware of environmental issues after discussing with ChatGPT, especially in understanding characters and situations related to nature in the story.”
Overcoming Literacy Challenges	“They usually struggle with complex texts, but with ChatGPT, they understand more easily, which nurtures their reading interest.”	“ChatGPT helps students who have difficulty understanding stories. They can ask direct questions, which makes it easier for them to grasp the story’s content and message.”

(Source: Analysis, 2024)

Based on the interviews conducted with two English teachers at State *Madrasah Ibtidaiyah* 1 Bengkulu City, the use of ChatGPT technology has shown a positive impact on student motivation. Teacher 1 observed that students appeared more enthusiastic in asking questions and responding to lessons, as ChatGPT introduced an engaging new element to capture their interest. Teacher 2 further noted that ChatGPT significantly enhanced students’ motivation. The chatbot technology makes them more eager to participate and engage actively in class.

These findings suggest that interactive technology in education, such as ChatGPT, has the potential to boost student interest in learning—a vital foundation for their overall learning process. ChatGPT and other AI technologies hold significant potential to enrich education by facilitating greater access to knowledge and offering a more tailored learning experience (Al-Ghonmein & Al-Moghrabi, 2024).

Beyond increased motivation, both teachers also observed that ChatGPT encouraged more profound student engagement in the learning process. Teacher 1 reported that ChatGPT prompted greater student participation, including from those who were typically passive. The presence of technology created a more vibrant and interactive classroom atmosphere. On the other hand, teacher 2 emphasized that the opportunity for direct discussions with ChatGPT provided students with a unique and enjoyable learning experience.

This indicates that ChatGPT can foster an inclusive and interactive learning environment in which students feel comfortable participating and expressing their opinions. AI has the potential to enhance student learning experiences and support educational processes, yet its integration into education demands thorough ethical consideration (Mhlanga, 2023). Furthermore, the research by Khurma et al. (2024) finds that while ChatGPT has the potential to enhance engagement and learning outcomes, challenges remain. These include its limited ability to empathize, understand context, and the increasing dependence on technology.

Additionally, student understanding of environmental concepts also improved with ChatGPT integration. Teacher 1 noted that students began to see connections between the stories they studied and environmental issues, as well as to understand individual responsibility in protecting nature. Teacher 2 supported this observation, noting that students became more aware of environmental issues. They especially showed improved understanding of characters and situations related to nature in the stories.

The table below outlines the environmental themes explored by students through several of Roald Dahl's children's stories, such as *Giraffe and the Pelly and Me*, *James and the Giant Peach*, *Fantastic Mr. Fox*, and *Danny the Champion of the World*. These themes illustrate how students related environmental values to the messages within each story:

Table 4. Students' insights of environmental values from four children's literatures

Short Story	Environmental Themes
<i>Giraffe and the Pelly and Me</i>	Collaboration between humans and animals. Using nature for practical solutions.
<i>James and the Giant Peach</i>	Trees as sources of life and hope. The wonder of nature providing sustenance.
<i>Fantastic Mr. Fox</i>	Animals fighting human-caused threats. Environmental harm resulting from human actions.
<i>Danny the Champion of the World</i>	Nature as a beautiful resource and sanctuary. Conservation of animals and nature.

(Source: Analysis, 2024)

These themes provide evidence that students are not only grasping the messages within literature but are also able to relate these to real-world environmental values. This suggests that ChatGPT assists students in linking learning materials with real-world contexts, thereby fostering environmental awareness critical to their futures. ChatGPT allows users to engage with AI in creating diverse content, though it faces certain limitations in comprehension and contextual awareness (Haleem, Javaid, & Singh, 2022).

Regarding literacy challenges, ChatGPT has also shown to be beneficial for students struggling to comprehend complex texts. According to Teacher 1, this technology makes reading comprehension easier for students, which, in turn, nurtures their reading interest. Teacher 2 observed that ChatGPT allowed students to ask direct questions about the text, making it easier for them to understand the story's content and underlying messages.

These observations highlight how AI technologies like ChatGPT can serve as effective tools in enhancing students' literacy skills, particularly in the context of comprehending literary texts. ChatGPT (Generative Pre-Trained Transformer) as a literacy teaching tool for students in the digital era can enhance language skills when used appropriately (Sa'diyah & Savitri, 2024).

Overall, thematic analysis indicates that integrating ChatGPT in education yields numerous benefits in terms of student motivation, engagement, environmental understanding, and literacy skills. These four aspects interrelate and reinforce one another, creating a more comprehensive and meaningful learning experience. Increased motivation fosters more active engagement, which subsequently enhances students' comprehension of more complex concepts such as environmental issues. Likewise, improved literacy skills enable students to engage more deeply and understand materials more effectively (Haleem, Javaid, & Singh, 2022).

The findings from these interviews also hold relevance in the context of experimental research, where the use of ChatGPT showed better outcomes for the experimental group compared to the control group. Consistent with the teachers' observations in the classroom, the experimental group exhibited a significant increase in student engagement and motivation. This reflects the positive impact of the interactive technological approach. This supports the conclusion that ChatGPT is not just a learning tool, but also a catalyst for inspiring and motivating students to engage in more active and participatory learning.

ChatGPT positively influences student engagement, critical thinking, and academic achievement. This highlights the significant role of AI technology, particularly ChatGPT, in enhancing the learning process and motivating students academically (Youssef et al., 2024).

To recapitulate, these research findings underscore the importance of integrating innovative technologies into language and literacy education in schools. With its capability to enhance motivation, engagement, and concept comprehension, ChatGPT paves the way for richer, more interactive learning experiences. ChatGPT holds the potential to transform education by facilitating

a harmonious integration of AI and human educators, ultimately promoting a more inclusive and dynamic learning experience (Mohebi, 2024). This is a crucial step for Indonesian education in tackling literacy challenges and environmental issues. It also helps equip students with the skills and awareness needed for their future.

This study acknowledges limitations, notably the restricted sample size and brief data collection period, which may affect the generalizability and neutrality of findings. Additionally, external factors such as government policies and budgeting, which impact technology implementation in schools, were not addressed. This approach helps contextualize findings and encourages a deeper understanding of the study's limitations, which ultimately supports future research (Ross & Zaidi, 2019).

For this reason, future research should consider a broader sample of schools with varied backgrounds to enrich understanding. However, expanding the sample scope would necessitate significant research funding.

#### 4. CONCLUSION

This study analyzes the impact of using ChatGPT technology in teaching children's literature at Madrasah Ibtidaiyah. The results indicate that ChatGPT significantly enhances student motivation, engagement, understanding of environmental concepts, and literacy skills. The technology creates an engaging learning experience. It encourages students to ask more questions, participate in discussions, and increase their classroom involvement.

ChatGPT helps students understand environmental concepts by linking themes in children's literature to environmental issues. It also simplifies the comprehension of complex texts, thereby improving their literacy skills. The use of this technology also enriches the learning experience, making it more interactive and relevant, while fostering the development of 21st-century skills such as critical thinking and creativity. However, this study acknowledges its limitations, particularly the small sample size and the short duration of data collection. Further research with a broader scope and longer duration is needed to strengthen the validity of these findings. Additionally, external factors such as government policies and infrastructure should be considered to ensure that the implementation of ChatGPT can provide maximum benefits in education.

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