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Structured Infographic Worksheet through Lesson Study in Improving Madrasa Students' Writing Skills in Indonesian Language Subject

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Abstract:

This study examines the implementation of structured infographic worksheets within a lesson study framework to improve the writing skills of 10th-grade Madrasa students in Indonesian language classes. The participants included 30 students from a Madrasa in East Java, selected for their varied proficiency levels to represent a typical class composition. These students often deal with challenges in writing descriptive texts, including difficulties with vocabulary selection, grammatical accuracy, and organizing coherent ideas. This study uses a qualitative approach to evaluate how visual tools like structured infographic worksheets can enhance student engagement, collaboration, and writing performance. Data were collected through interviews guided by structured protocols, detailed observation sheets, and rubric-based analysis of student work, all organized around the lesson study cycle (Plan, Do, See). The data were analyzed using thematic analysis to identify patterns of improvement. The findings reveal substantial enhancements in content organization, language use, coherence, and creativity. When integrated with collaborative lesson study practices, structured infographic worksheets effectively meet the educational needs of Madrasa students and improve their writing skills.

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Introduction

Developing writing skills is a critical education component, especially for students in Madrasas, where religious and secular education are emphasized. However, many Madrasa students need help writing, particularly descriptive texts, which require the ability to clearly and vividly detail objects and ideas. The students have to deal with everyday challenges, such as limited vocabulary and diction, making it difficult to express nuanced ideas accurately. Additionally, grammatical issues, such as sentence structure and subject-verb agreement, often hinder their ability to construct coherent and error-free sentences. Another significant problem is the development of ideas and the logical flow of sentences, which can result in disorganized writing that needs coherence and depth (Aboe et al., 2020; Luthfiyati et al., 2023). These difficulties impact students' ability to convey descriptions effectively and meet academic standards. Addressing these challenges through research on structured infographic worksheets within lesson study is essential for creating teaching strategies that engage students and improve their writing skills.

Previous studies have extensively explored various methods for improving writing skills, including the use of visual aids, collaborative learning strategies, and the incorporation of technology in the classroom (Hasanah & Fawaid, 2023; Putra et al., 2022; Sukenti et al., 2022). Visual aids, such as infographics, have been shown to enhance students' understanding and retention of information, which is crucial for improving writing skills (Fallahi, 2012; Sholeh et al., 2021). Collaborative teaching methods like lesson study have also been recognized for their effectiveness in allowing teachers to refine their instructional techniques through ongoing feedback and reflection (Dewantari et al., 2021; Rajamoney, 2021; Salsabila et al., 2024). However, literature focusing on students' specific challenges in writing descriptive texts still needs to be expanded. Previous studies have noted that descriptive writing can be difficult due to the need for detailed observation, precise vocabulary, and coherent structuring (Daulay et al., 2023; Ramzan et al., 2023). Students often struggle with using varied and appropriate diction, organizing sentences logically, and accurately describing objects and experiences (Haryanti et al., 2023). Despite research on general writing strategies, the specific use of structured infographic worksheets within the context of lesson study in Madrasas has yet to be thoroughly explored (Altinyelken, 2021; Toba & Noor, 2019). This research aims to fill this gap by investigating how these innovative tools can be tailored to meet the needs of Madrasa students, offering new insights and practical solutions for educators.

This research aims to investigate the effectiveness of structured infographic worksheets, implemented through lesson study, in improving the writing skills of Madrasa students in Indonesian language classes. The research seeks to answer the following questions: How do structured infographic worksheets influence the writing performance of Madrasa students? What role does lesson study play in enhancing the effectiveness of these worksheets? Additionally, the study aims to explore the challenges and opportunities associated with integrating these tools into Madrasas's curriculum. By addressing these questions, the research intends to provide evidence-based recommendations for educators in Madrasas on effectively utilizing structured infographic worksheets to enhance student writing skills, thereby contributing to the overall quality of education in these institutions.

The central argument of this research is that integrating structured infographic worksheets within a lesson study framework will significantly improve the writing skills of Madrasa students. This hypothesis is based on the idea that infographics, which combine visual and textual information, can make abstract writing concepts more accessible and engaging for students. Additionally, the collaborative and reflective nature of lesson study enables teachers to continuously improve their instructional methods continuously, further enhancing the effectiveness of the worksheets. If the research findings support this hypothesis, it could have important implications for teaching writing in Madrasas. It could promote the adoption of more innovative and student-centered teaching methods that are better suited to the needs of Madrasa students. This study seeks to validate these approaches and provide a model for their implementation in similar educational settings, thereby contributing to the advancement of educational practices in Madrasas.

Research Method

The unit of analysis in this study focuses on 30 Madrasa students in the 10th grade in Indonesian language classes, explicitly examining how structured infographic worksheets can enhance their writing skills. The 10th-grade students are chosen based on their developmental stage, as this grade marks a critical transition where students are expected to build upon foundational writing skills acquired in earlier years and move toward more advanced writing competencies. Additionally, the 10th-grade curriculum in Indonesian language classes often strongly emphasizes descriptive and analytical writing, making this group particularly suitable for studying interventions to improve writing skills. Conducted in a Madrasa located in East Java, Indonesia, where traditional teaching methods are prevalent, this research offers valuable insights into integrating innovative teaching tools in an educational setting that balances religious and general education.

This context offers a rich backdrop for investigating innovative instructional methods. The case study involves integrating structured infographic worksheets within a lesson study framework to promote collaborative teaching practices among educators. This program is particularly relevant as it targets improving students' writing skills, a critical development area in their academic journey. Emphasizing Madrasa students underscores the necessity of adapting modern educational tools to align with Islamic schools' cultural and educational norms, thereby enhancing overall student outcomes (Dewantari et al., 2021; Putra et al., 2022).

This study employs a qualitative research design, utilizing a case study approach to explore the impact of structured infographic worksheets on the writing skills of Madrasa students. This qualitative design is particularly appropriate as it allows for a deep and nuanced exploration of this educational intervention's teaching and learning processes. The case study method is ideal for examining the real-life context in which the infographic worksheets are implemented, providing rich, context-specific insights that might not be captured through quantitative methods. The qualitative approach also supports a detailed examination of how the lesson study cycle—Plan, Do, See—is employed by teachers to refine and improve the use of infographic worksheets. By focusing on a single Madrasa, this study can thoroughly analyze the interactions between the lesson study process, the structured infographic

worksheets, and the resultant student outcomes, offering valuable contributions to educational practice and theory (Maamuujav et al., 2020; L. J. Martin et al., 2019; M. Martin, 2018).

A structured infographic worksheet is a visual learning tool designed to guide students through the writing process by breaking down complex information into digestible and organized visual segments. These worksheets typically include components such as graphic organizers for brainstorming, sections for drafting key points, visual prompts to stimulate ideas, and checklists to ensure coherence and completeness in writing. The purpose of using structured infographic worksheets in this study is to support students in planning, organizing, and refining their descriptive writing by visually mapping out their thoughts and ideas, thereby aiding in better content organization, language use, and creativity. This method encourages active learning and engagement, helping students build essential writing skills more effectively.

This study's primary sources of information include Madrasa students, teachers, and structured infographic worksheets. Students provide essential perspectives by reflecting on how the worksheets influenced their writing skills and learning experiences. Teachers contribute by offering insights into the collaborative planning, execution, and reflection stages of the lesson study cycle, describing how these stages helped refine their teaching strategies. The structured infographic worksheets are analyzed to assess their design, content alignment with learning objectives, and effectiveness in facilitating student learning. Additionally, the study draws on relevant academic literature related to lesson study, visual learning, and educational interventions to contextualize and support the findings. This triangulation of sources—combining firsthand accounts, document analysis, and literature review—ensures a comprehensive and reliable examination of the research problem, leading to well-rounded conclusions (Damyanov & Tsankov, 2018; Otten et al., 2015).



Figure 1. Methodological Framework of Lesson Study in Improving Writing Skills through Structured Infographic Worksheets

Figure 1 shows that data collection in this study is systematically organized around the lesson study cycle—Plan, Do, See—ensuring that each phase is carefully documented and analyzed. During the "Plan" phase, data is gathered through collaborative planning sessions using detailed observation sheets to record the interactions and decisions made while designing lessons and creating structured infographic worksheets. In the "Do" phase, classroom observations are conducted using structured checklists focusing on student engagement, participation, and interaction with the worksheets. For the "See" phase, reflective discussions among teachers are guided by question lists that help evaluate the effectiveness of the lessons and identify areas for improvement. Additionally, interviews with students and teachers use semi-structured interview guides to gather in-depth insights into their experiences. The analysis of student work samples is performed using rubrics designed to assess specific writing skills such as coherence, content organization, and language use. These instruments ensure a comprehensive and transparent data collection process and will be included as supplementary materials for reference (Fatimah & Santiana, 2017; Prestridge et al., 2021).

Data analysis in this study follows a detailed thematic approach, closely aligned with the stages of the lesson study cycle—Plan, Do, See. To technically conduct the analysis, the data from planning sessions, classroom observations, and reflective discussions were processed in several steps. First, all qualitative data were transcribed and coded using open coding to capture relevant details and insights. This process involved identifying specific segments of text that corresponded to themes related to collaborative decision-making, student engagement, and writing skill improvements. Next, codes were categorized into broader themes through axial coding to uncover relationships and common patterns across the data sources. For example, themes such as "enhanced student engagement" and "effective content structuring" emerged from observing how students interacted with the structured infographic worksheets and how teachers adapted their strategies during lesson study cycles.

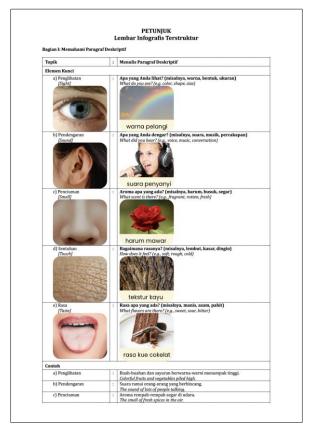
NVivo software was employed to organize and cross-check coding for consistency and deeper analysis, facilitating efficient theme development and verification. Observational data and student work samples were analyzed using rubrics to assess alignment with lesson objectives and quantify improvement in specific writing skills. The step-by-step thematic analysis thus provided clear insights into how each phase of the lesson study contributed to teaching and learning enhancements (Kaya-Hamza & Beheshti-Fezile, 2017; Ozdamli & Ozdal, 2018).

Results and Discussion

Structured Infographics, Lesson Study, and Writing Skills

Infographics in education can be categorized based on design, purpose, and educational impact. The design aspect focuses on visual elements like color schemes, typography, and layout, which are crucial for making infographics appealing and easy to understand. The infographic's explanatory, comparative, or persuasive purpose also significantly affects its effectiveness. Educational impact is measured by how well the infographic facilitates learning, such as improving comprehension, retention, and application of information. Research indicates that well-designed infographics can significantly enhance students' understanding and retention of information, leading to

improved academic performance (Elaldi & Çifçi, 2021; Ozdamli & Ozdal, 2018). This study focuses on how these aspects of infographics can be leveraged in structured worksheets to aid in developing writing skills among Madrasa students, particularly in the Indonesian language subject.



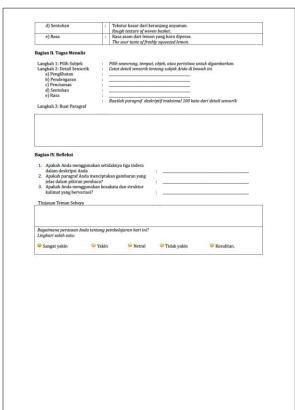


Figure 2. An Example of Structured Infographic Worksheet

Figure 2 illustrates an example of a structured infographic worksheet designed to enhance students' descriptive writing skills through sensory engagement. It features labeled icons corresponding to the five senses: *sight, sound, smell, touch,* and *taste*. These visuals guide students to think about specific sensory details they can use when composing a descriptive paragraph. The worksheet prompts students to identify what they see, hear, smell, feel, and taste in their chosen topic, supporting the development of vivid and detailed writing. Additionally, the worksheet includes sections for brainstorming sensory details and constructing a paragraph from them. There are reflection questions to help students assess whether they effectively used multiple senses and created explicit imagery to encourage critical thinking skills. A peer review section invites feedback from classmates, and students can express their confidence in their work by selecting an emoji representing how they feel about their writing. This structured approach fosters comprehensive descriptive writing.

Lesson study is a collaborative professional development practice where teachers plan, observe, and analyze 'research lessons.' Originating in Japan, it is a systematic process where teachers collaboratively plan a lesson, observe its teaching, and reflect on its effectiveness to improve instructional practices. Interpretations of lesson study vary, particularly in implementation. Some see it primarily as a tool for

teacher development, focusing on improving teaching practices, while others view it as a method to enhance student learning outcomes directly (Noonan, 2019). This research explores lesson study as a collaborative method for teacher improvement and integrates innovative teaching tools like structured infographic worksheets, enhancing students' writing skills in Madrasas.

Writing skills development involves teaching students to express their thoughts, ideas, and knowledge effectively through written language. Writing skills are crucial for academic success and professional communication, but what constitutes effective writing can vary widely among educators (Fawaid & Huda, 2024). Some emphasize grammatical accuracy and coherence, while others focus on creativity and argumentation. This research views writing skills comprehensively, encompassing technical aspects, idea organization, argument presentation, and creative language use (Fawaid & Damayanti, 2024; Musyarafah, 2016). This study aims to enhance these skills among Madrasa students by using structured infographic worksheets within the lesson study framework. By categorizing writing development into content organization, language use, coherence, creativity, and audience engagement, this study evaluates the effectiveness of these worksheets in improving writing skills within the Indonesian language curriculum.

Students' Responses to Structured Infographic Worksheets

Table 1 below summarizes the results of interviews with Madrasa teachers and students concerning their experiences with structured infographic worksheets. Responses are categorized into themes such as "Engagement," "Understanding," "Challenges," and "Perceived Effectiveness," with frequency counts indicating how often each response was mentioned.

Table 1. Results of Students and Teachers's Experience with Structured Infographic Worksheets to Improve Writing Skills (N = 30)

Theme	Response	Frequency	
Engagement	Increased student interest		8
	Visual aids enhanced learning		6
Understanding	Better grasp of writing concepts		5
Challenges	Difficulty in interpreting visuals		3
	Need for more guidance		4
Perceived Effectiveness	Overall positive impact on writing		6
		Total	30

Table 1 illustrates a predominantly positive reception of the infographic worksheets, highlighting their impact on enhancing student engagement and comprehension in writing tasks. It reveals a significant increase in student engagement following the introduction of structured infographic worksheets. Their comments highlight the engagement, understanding, and challenges while using the infographic worksheet as follows:

[&]quot;I really enjoyed using the infographic worksheets because the pictures made the lessons more interesting. It felt easier to follow along and stay focused during class." (AP, male, 10th grade)

Structured Infographic Worksheet...

"The combination of images and text helped me understand writing concepts more clearly. I could visualize what I needed to write, which improved my comprehension." (SH, female, 10th grade)

"Sometimes, I found it hard to interpret the visuals without extra guidance. I needed the teacher to explain how to connect the images with the writing task." (AH, female, 10th grade)

Teachers noted that students appeared more invested in lessons, mainly due to the visual appeal of the materials. They commonly comment on more participation, perceived effectiveness, and challenges during teaching structured infographic worksheets:

"I noticed that students were more engaged when we used the infographic worksheets. They paid closer attention and participated more actively during the lesson." (CR, female teacher)

"Overall, I saw an improvement in students' ability to organize their thoughts and write more descriptively. The worksheets seemed to make writing less intimidating for them." (ES, female teacher)

"A few students needed additional support to understand the visuals. This highlighted the need for me to give more detailed instructions or examples during the lesson." (RD, female teacher)

This heightened interest is noteworthy, as it indicates the success of the "Plan" phase of the lesson study cycle, where teachers collaboratively designed and integrated infographics into their lessons, creating materials that resonate with students (Figure 3). However, Table 1 also indicates that while most students benefited from the visual aids, some encountered challenges in interpreting the visuals, suggesting a need for more targeted instruction during the "Do" phase. These findings underscore the importance of the iterative nature of lesson study, where feedback from the "See" phase can inform subsequent cycles (Figure 4), allowing teachers to refine and adapt their instructional strategies to meet student needs better.



Figure 3. "Plan" Session: Interview with the Two teachers of Indonesia Language Subject



Figure 4. "See" Session: Evaluating The Successes, Failures, and Lessons Learned

The increase in student engagement and understanding can be attributed to the effectiveness of the lesson study cycle, particularly the meticulous planning and reflection stages. During the "Plan" phase, teachers concentrated on developing visually engaging and educationally effective infographic worksheets, successfully capturing students' attention during the "Do" phase. The challenges identified in the interviews, such as difficulties with visual interpretation, underscore the necessity for ongoing reflection and adaptation during the "See" phase (Figure 3). This iterative Vol. 13 No. 2 December 2024

process enables educators to continuously improve their materials and methods, ensuring that all students benefit from the instructional innovations. The data suggest that while infographic worksheets are a powerful tool for enhancing writing skills, their success is closely linked to the effectiveness of the lesson study cycle in adapting and refining these tools to address diverse student needs.

Students' Behaviors in Writing Tasks using Structured Infographic Worksheets

Table 2 provides observational data collected during the classroom implementation of structured infographic worksheets. Behaviors are categorized into "Student Participation," "Student Interaction," "Task Completion," and "Teacher Support," with frequency counts indicating the number of observed instances.

Table 2. Results of Students and Teachers's Behaviors with
Structured Infographic Worksheets to Improve Writing Skills ($N = 30$)

Category	Observed Behavior	Frequency	Amount
Student Participation	Active involvement in tasks	sks 23	
	Passive observation	7	- 30
Student Interaction	Peer discussion about content	21	- 30
	Independent work 9		- 30
Task Completion	Completion of writing tasks 24		- 30
	Incomplete tasks 6		_ 30
Teacher Support	Guidance provided		- 30
	Minimal intervention	11	

Table 2 reveals that most students actively engaged in the lesson, collaborated with peers, and completed their tasks, indicating effective execution during the "Do" phase (Figure 5 and Figure 6). This high level of engagement and collaboration suggests that the structured infographic worksheets successfully fostered a collaborative learning environment. This outcome aligns with the lesson study's focus on iterative improvement, as teachers who planned and reflected on effective strategies for student interaction were able to implement methods that encouraged both independent and collaborative work.



Figure 5. Session "Do" 1: Observing an Open Class of a Teacher of *Indonesia Language* Subject



Figure 6. Session "Do" 2: Observing The Process and Outcomes of Students Working on Worksheets

However, the data also indicate that a few students remained idle and passive, highlighting the need for further refinement during subsequent "See" phases. This refinement could focus on developing strategies to engage all students equally, ensuring that the benefits of the infographic worksheets are fully realized across the entire student body. The observed patterns of student participation and collaboration underscore the strengths of the lesson study cycle in promoting active and cooperative learning. The success of the "Do" phase, where students were engaged and interacted with their peers, demonstrates that the planning and reflection stages effectively addressed key challenges in student engagement. While most students completed their tasks and participated in discussions, the presence of passive students emphasizes the necessity for ongoing reflection and adjustment during the "See" phase. By continuously refining their approach, teachers can develop strategies that ensure all students are actively involved, thereby maximizing the educational impact of the infographic worksheets.

Students' Writing Performance using Structured Infographic Worksheets

Besides the interview and observational data, it is also important to present a comparative analysis of student writing performance before and after implementing structured infographic worksheets. Table 3 and Table 4 present data on student writing performance before and after the introduction of structured infographic worksheets, including scores in "Content Organization," "Language Use," "Coherence," and "Creativity," measured on a scale of 10 to 100. The pre-test results reflect traditional onsite instruction, while the post-test results demonstrate the impact of integrating structured infographic worksheets into lessons with indicators of four key writing skills—Content Organization, Language Use, Coherence, and Creativity.

Table 3. Results of Students' Pre-Test Writing Performace with Traditional Onsite Instruction (N = 30)

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	N	Minimum	Maximum	Mean	Std. Deviation
Content Organization	30	56	74	65.3	4.9
Language Use	30	61	79	70.5	4.7
Coherence	30	54	72	63.1	5
Creativity	30	51	70	60.2	5.1
Valid N (listwise)	30				

Table 4. Results of Students' Post-Test Writing Performace with Structured Infographic Worksheet (*N* = 30)

with Structured Hirographic vvolksheet (iv = 30)					
	N	Minimum	Maximum	Mean	Std. Deviation
Content Organization	30	70	89	80.1	5.1
Language Use	30	72	91	82.3	4.9
Coherence	30	69	88	78	5.2
Creativity	30	66	84	75.4	5.3
Valid N (listwise)	30				

The comparison between Table 3 and Table 4 indicates significant improvements in all areas of writing following the introduction of the infographic worksheets, highlighting the effectiveness of the lesson study process. The comparison highlights the significant changes in student performance, allowing for an evaluation

of the effectiveness of this innovative teaching tool in enhancing writing skills. It also underscores the potential improvements in educational outcomes when incorporating visual aids and structured materials in writing instruction. Notably, there were clear improvements in students' writing skills across all measured categories, particularly in content organization and language use.

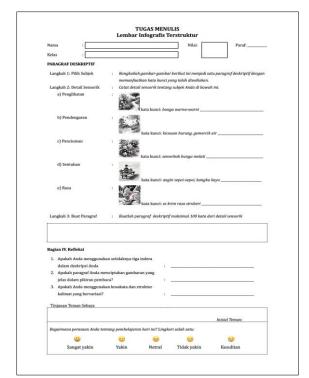


Figure 7. Guide for Structured Infographic Worksheet in Writing a Decriptive Paragraph

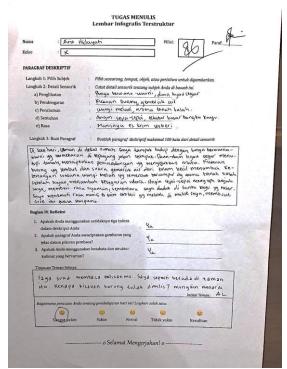


Figure 8. An Example of Student's Worksheet in Writing a Descriptive Paragraph

Figures 7 and 8 show an example of the instructional guide of structured infographic worksheets and the score of 86 as the overall score of an individual student (Arini Hidayati) based on her result in each writing skill. Arini Hidayati's scores across the skills were higher than the average post-test scores (e.g., Content Organization = 85, Language Use = 88, Coherence = 84, Creativity = 87), and their combined or weighted average yielded around 86.

It suggests that the structured infographic worksheets provided during the "Do" phase effectively supported students in organizing their thoughts and using language more proficiently. Improvements in coherence and Creativity further indicate that the visual aids helped students structure their ideas more logically and think more innovatively about their writing. The iterative nature of the lesson study cycle—where teachers reflect on student outcomes and adjust their methods—likely contributed to these positive results. By continuously refining their approach during the "Plan" and "See" phases, teachers could create and implement materials that addressed specific student needs, leading to substantial improvements in writing performance.

The improvement in writing skills can be directly attributed to the effectiveness of the lesson study cycle in facilitating targeted instructional improvements. The

significant gains in content organization and language use demonstrate that when carefully planned and refined, the structured infographic worksheets provided a robust framework for students to enhance their writing. Improvements in coherence and Creativity suggest that the visual elements of the worksheets helped students better understand and express complex ideas. These findings align with educational research supporting visual aids and iterative teaching methods to enhance learning outcomes. The data underscore the importance of the lesson study cycle in ensuring that instructional materials are continuously adapted and improved to meet the diverse needs of students, ultimately leading to enhanced academic performance.

Lesson Study and Its Implication on Writing Skills with Infographic Worksheets

The implications of the interview data on students' engagement in writing tasks underscore the significant role that structured infographic worksheets play in enhancing student interest and motivation in writing activities. This increased engagement is crucial as it directly influences students' willingness to participate in writing tasks, which is often challenging in educational settings. The lesson study process contributes to this outcome by enabling teachers to collaboratively design and refine these worksheets during the "Plan" phase, ensuring they are both educationally effective and visually appealing (Fawaid & Huda, 2024; Gonzalez-Torres et al., 2022). By increasing engagement, the structured worksheets not only make writing tasks more accessible but also create a more dynamic learning environment, fostering a more profound interest in writing and leading to sustained improvement in students' writing skills.

The correlation between structured infographic worksheets and increased student engagement can be understood through the lens of cognitive and educational theories. The dual coding theory, which posits that combining visual and verbal information enhances learning, underpins the effectiveness of these worksheets (Paivio, 1990). During the "Plan" phase of the lesson study, teachers likely incorporated these principles to create materials that resonate with students' diverse learning styles. The "Do" phase then provided an opportunity to implement these materials, where the combination of text and visuals was observed to capture students' attention and sustain their interest. The worksheets' ability to simplify complex concepts and present them in a visually stimulating format aligns with best practices in educational design and highlights the critical role of the lesson study cycle in adapting teaching strategies to enhance student engagement (Aboe et al., 2020; Fawaid & Huda, 2024).

The observation data on students' collaboration in writing tasks suggest that structured infographic worksheets significantly enhance collaborative learning experiences. The high levels of peer interaction indicate that these worksheets support individual learning and facilitate meaningful student collaboration. The lesson study cycle, particularly during the "Plan" and "See" phases, allows teachers to reflect on and refine the worksheets to promote teamwork and cooperative learning better (Fawaid & Damayanti, 2024; Fernandez & Yoshida, 2012). By fostering collaboration, structured infographic worksheets contribute to a learning environment where students can develop critical thinking and communication skills alongside their writing abilities (Fawaid & Nadifah, 2024). This collaborative dynamic is essential for

preparing students for real-world scenarios where teamwork and effective communication are crucial.

The correlation between structured infographic worksheets and increased student collaboration can be attributed to the intentional design choices during the lesson study cycle. In the "Plan" phase, teachers likely anticipated that the visual and structured nature of the worksheets would naturally encourage group discussions and peer interactions. When these materials were implemented during the "Do" phase, the increased collaboration confirmed this hypothesis. The clarity and organization of the worksheets provide a common framework for discussion and analysis, allowing students of varying abilities to engage in meaningful dialogue and contributing to a more inclusive and collaborative classroom environment (Damyanov & Tsankov, 2018; Elaldi & Çifçi, 2021; L. J. Martin et al., 2019).

The data on students' improvement in writing tasks following the introduction of structured infographic worksheets underscore the effectiveness of these tools in enhancing key writing competencies, particularly in descriptive text writing. Significant improvements in content organization, language use, coherence, and creativity suggest that these worksheets provide a solid framework for developing essential writing skills. The lesson study cycle, particularly during the "See" phase, allows teachers to reflect on these improvements and understand how the structured approach of the worksheets contributes to students' ability to organize their thoughts and express them more clearly (Bella et al., 2024; Lewis et al., 2006). This finding implies that structured infographic worksheets could be a valuable addition to the writing pedagogy, aligning with broader educational goals of developing critical thinking and communication skills, essential for academic and professional success (Fawaid et al., 2023).

The lesson study cycle, especially during the "See" phase, enables educators to reflect on these improvements and adapt the worksheets to enhance students' descriptive writing skills further. The structured approach of these worksheets, which combines visual cues with organized prompts, encourages students to engage in detailed observation and descriptive elaboration (Schlichter, 2023; Sukserm & Wasanasomsithi, 2023). This finding aligns with studies highlighting the role of visual aids in promoting descriptive writing and helping students organize their thoughts coherently (Johinke et al., 2023; Mohzana et al., 2023). These insights indicate that structured infographic worksheets can be a valuable addition to teaching descriptive writing, aligning with broader educational objectives to develop critical thinking and practical communication skills, which are essential for both academic and professional success (Baihaqi et al., 2024; Nonthamand, 2024). Incorporating visual strategies into writing instruction supports student engagement and fosters their ability to produce more prosperous, vivid descriptive texts (Dong et al., 2024; Fazeli et al., 2023).

The observed improvements in students' writing skills can be traced back to the systematic application of structured infographic worksheets, as planned and refined during the lesson study cycle. In the "Plan" phase, teachers carefully considered how these worksheets could support the development of descriptive writing skills, such as content organization and coherence. The "Do" phase then provided the opportunity to implement these worksheets, where they served as scaffolds that helped students structure their ideas more effectively. The alignment of the worksheets with

pedagogical principles that emphasize clarity, coherence, and creativity in writing, combined with the iterative process of the lesson study cycle, ensures continuous refinement of these tools to meet the evolving needs of students (Maamuujav et al., 2020; Parveen & Husain, 2021). This correlation highlights the critical role of the lesson study in driving instructional improvements that lead to tangible gains in student performance.

Conclusion

This research identifies a significant enhancement in student engagement, collaboration, and writing skills through structured infographic worksheets within the lesson study cycle. Integrating visual learning tools with collaborative teaching methods boosts student motivation and improves their ability to organize and express ideas effectively. This finding is significant in traditional educational settings like Madrasas, where conventional teaching methods are prevalent. The study emphasizes the necessity of iterative reflection and adjustment in teaching practices, a core aspect of the lesson study methodology. By continuously refining instructional materials and strategies, educators can better address the diverse needs of students, leading to improved academic outcomes.

The research's strength lies in its innovative use of the lesson study framework to incorporate structured infographic worksheets into the curriculum. This approach advances the academic field by systematically demonstrating how visual aids can enhance writing instruction and learning outcomes. The study provides empirical support for the dual coding theory, which suggests that information is more effectively processed and retained when presented in both visual and verbal forms. Additionally, it contributes to the expanding literature on the benefits of collaborative teaching practices, particularly within religious education contexts. By highlighting the positive effects of these methods on student engagement and writing skills, the research offers valuable insights for educators seeking to implement similar strategies.

However, the research has limitations. A primary limitation is its focus on a single Madrasa, which may restrict the generalizability of the findings to other educational contexts. Furthermore, while the study effectively demonstrates the benefits of structured infographic worksheets, it needs to explore their long-term impact on student learning outcomes fully. Although rich in detail, the reliance on qualitative data could be enhanced by incorporating quantitative measures for a more comprehensive understanding. Future research should address these limitations by conducting studies across multiple Madrasas and including longitudinal data to evaluate the sustained impact of infographic worksheets. Such research could further substantiate the findings and provide deeper insights into optimizing these tools for diverse educational environments.

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