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Mind Mapping in Learning Models: A Tool to Enhance EFL Students in Descriptive Text Writing

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Abstract

This study aimed to improve Grade X students' descriptive writing skills through the application of mind mapping. This research was conducted at Diponegoro Depok Vocational School in Sleman, Yogyakarta. The participants of the study were 20 students who were identified as having difficulties in organizing and expressing ideas in written form. The research was carried out over 11 meetings, including a pre-test, two action cycles (each comprising three meetings), and a post-test. Data were collected using writing tests, observation sheets, interviews, field notes, and documentation, and analyzed through both quantitative and qualitative approaches. The quantitative analysis assessed improvements in students' scores based on a rubric adapted from Brown (2010), while the qualitative analysis used thematic content analysis to explore student engagement and creativity. The results showed significant improvement in both individual and classical mastery levels, with students demonstrating enhanced organization, vocabulary, and idea development. The findings suggest that mind mapping is an effective technique for enhancing descriptive writing and fostering 21st-century skills such as collaboration, creativity, and critical thinking. This study highlights the value of CAR as a reflective, data-driven approach to improving teaching practices and student outcomes.

Keywords: Mind Mapping; Learning Models; Learning Tool; Descriptive Writing; English Learning

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INTRODUCTION

Writing is a productive and expressive language skill used to communicate ideas indirectly through structured language and vocabulary (Juariah et al., 2021; Sunariati et al., 2019). In addition, it serves as not only a medium to document thoughts but also a tool to develop clarity and logical communication (Erviana et al., 2021). According to the previous study, in terms of English learning, writing skill is considered a complex ability due to its simultaneous demands on linguistic, cognitive, and organizational abilities (Jiang & Kalyuga, 2022). Consequently, students are required

to be able to master grammar, vocabulary, spelling, punctuation, and logical idea arrangement (Zhao, 2003).

Corresponding to the above claim, academic and professional English writing contexts, present challenges related to formal tone, argumentative clarity, and genre-specific structures that non-native speakers often find difficult (Pasandeh, 2024). Further, Pasandeh adds the permanent nature of written texts contributes to anxiety and hesitation among learners. Therefore, developing writing skills, requires consistent practice, constructive feedback, and clear instruction in rhetorical frameworks (Pasandeh, 2024).

Thus, mind mapping is introduced as a pre-writing strategy to support writing skill acquisition. Mind mapping facilitates brainstorming, organizing ideas, and conceptual clarity before drafting a text. Harris (2023) indicates writing is a process of discovering ideas. At the same time, pre-writing strategies like mind mapping allow learners to test ideas, outline structures, and identify key points needing elaboration. Lee et al. (2016) reinforce that writing begins with exploratory practices where learners organize their thoughts and prepare for structured writing. The teaching methodology that prioritizes a student-centered instructional vision is the foundation of mind mapping (Gavens et al., 2020). Other authors define mind mapping as a research approach in which information is turned into a diagrammatic representation of the relevant key phrases linked with a study topic (Farrand et al., 2002). Cheryl and Miertschin (2006). Mind mapping is viewed as a tool that enables learners to deepen their grasp of knowledge through active participation.

According to the previous literature studies, for example, Hashim et al. (2018) found that successful second language learners employ specific strategies and understand their purpose. Concept mapping, a visual learning strategy, supports this process by representing knowledge structures and revealing relationships among ideas (Novak, 2012). Mind mapping helps students focus on main ideas, categorize concepts, and connect key terms, thus enhancing academic writing performance (Pradasari & Pratiwi, 2018).

In practice, as far as the researcher is concerned, one challenge can be observed, students struggled with writing due to multiple aspects such as reading, listening, vocabulary acquisition, sentence formation, and grammar (*Sağlamel* & Kayaoğlu, 2015). To address these challenges, Descriptive texts explain phenomena or objects, providing vivid imagery for readers (Brosch, 2018; Lusita & Emidar, 2019). Limpo & Alves (2018) describe writing as a strategic process involving planning, translating, and reviewing. These strategies are crucial for effective writing development, especially when supported by structured tools like mind mapping.

Previous research has emphasized that visual aids such as mind maps promote literacy and comprehension (Hazaymeh & Alomery, 2022; Zein, 2017). Esmail & Khan (2024) highlighted that vocational training requires dynamic, skills-based instruction aligned with labor market needs.

Descriptive writing assists students in describing tasks, tools, and procedures, building both technical vocabulary and communication skills. Esmail and Khan (2024) identify descriptive writing as essential for plant operators and technicians, linking writing proficiency to job training and workplace readiness. Writing about routine tasks such as welding, beauty treatments, or workshop layouts increases students' understanding and confidence. These writing tasks become more meaningful when

grounded in students' vocational experiences and interests. Despite these benefits, writing remains underemphasized in English as a Foreign Language (EFL) classrooms. Wardle and Clement (2023) note both learners and teachers often neglect writing instruction.

However, the issue discussed above also has a number of serious drawbacks. For example, on the contrary, In Indonesia, English is taught from elementary to university levels, but writing skills remain underdeveloped, especially in vocational schools (Zein, 2017). Roberts and Bybee (2014) argue that mastering writing demands extensive coaching. Writing is foundational for developing other skills, including collaboration, reflection, and structured thinking (Zeki & Kuter, 2018). Writing is often seen as the most challenging language skill due to its multifaceted linguistic demands (Bulqiyah et al., 2021; Zein, 2017).

The researcher noted observations in a vocational school in Depok revealed students struggled even with basic English sentence construction. English classes were held once a week, limiting exposure and practice. Many students appear disengaged and unmotivated, perceiving writing as boring and difficult, reflecting a lack of awareness about writing strategies. As a result, teaching writing through descriptive texts offers vocational students a concrete and relatable medium.

While prior research such as (Každailytė, 2023; Wardle & Clement, 2023) has explored mind mapping and pre-writing strategies in general language learning, few studies focus specifically on vocational schools or descriptive text writing. On the other hand, in spite of these recent findings about the role of mind mapping, (Karpicke & Blunt, 2011), even though the final test required the creation of a concept map, elaborate idea mapping resulted in less memorization than retrieval.

In more ecological contexts, i.e., in actual educational settings, (Merchie & Van Keer, 2016) examined how mind mapping might increase text learning and enhance performance in primary school pupils. The authors anticipated that students who used mind maps would be better able to remember the content they had to study. A researcher-provided mind map and a student-generated mind map in the control group were the two methods of mind mapping that they compared. Their findings demonstrated that, despite the fact that students who received mind maps made progress in applying deep-level learning strategies, neither the researcher's nor the students' mind maps improved performance over the control group in a free recall test.

There is a wealth of research supporting the direct and indirect advantages of learning assessments (Agarwal et al., 2012; Binks, 2018) for a review; (Roediger et al., 2011; Roediger & Karpicke, 2006). Mind mapping is not one of the evidence-based methods that are suggested to enhance learning, in contrast to testing. Although mind mapping is a technique that many teachers employ in their everyday instruction, few techniques have been tested in realistic educational contexts. The literature rarely discusses empirical data, although mind mapping is frequently used in educational procedures. There has not been much empirical focus on mind mapping in recent studies on educational interventions (Merchie & Van Keer, 2016).

Mapping has been widely promoted as a visual and student-centered strategy for improving writing, but empirical findings on its effectiveness remain inconclusive specifically in real classroom interventions. In addition, much of the existing research has been conducted in general education settings, with little attention to the unique

challenges of vocational school students who often face low exposure to English, limited writing instruction, and a strong need for practical, field-specific communication skills.

The objective of the study was to determine the effect of mind-mapping tools in enhancing vocational students' skills in descriptive text writing. They were struggling with organization and idea development, which mind mapping potentially addresses. Once again, despite its frequent use by teachers, the empirical basis for mind mapping in enhancing EFL descriptive writing, particularly within vocational education, is limited. Therefore, this study aimed to explore:

1. How does the use of mind mapping as a pre-writing strategy enhance Grade X vocational school students' ability to write descriptive texts in an EFL context?
2. How does the implementation of mind mapping across three classroom action research cycles improve students' writing performance and engagement?

METHOD

Research Design

The study adopted a Classroom Action Research (CAR) approach, selected for its cyclical and reflective nature. CAR enables systematic intervention by teachers to address classroom issues in real time. The model followed was the Kemmis and McTaggart (2014) framework, which involves four core stages: planning, action, observation, and reflection.

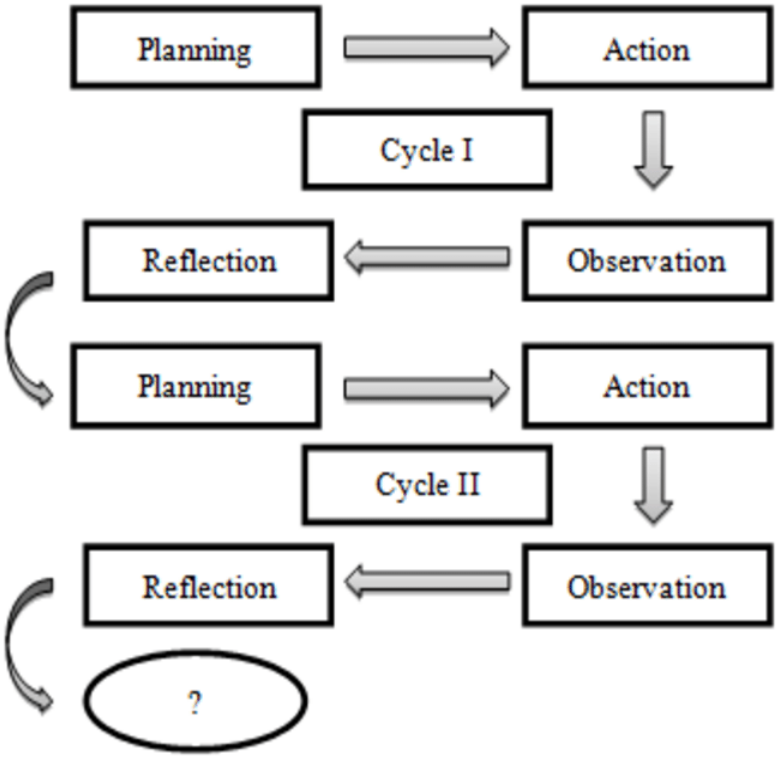

Figure 1. Classroom Action Research Model by Kemmis and McTaggart (2014)

The research was implemented over a total of 11 classroom meetings. These included one meeting for the pre-test, three meetings for the implementation of Cycle I, and another three meetings for the implementation of Cycle II. Following the instructional cycles, one meeting was allocated for the post-test. Additionally, three

meetings were devoted to observation, reflection, and reinforcement activities. The transition from Cycle I to Cycle II was informed by student performance and insights gathered during the observation phase, enabling the researcher to refine instructional strategies in an iterative manner.

Context and Participants

This research was conducted at Diponegoro Depok Vocational School, located in Sleman, Yogyakarta. The participants were Grade X students identified as having difficulties in writing descriptive texts. This challenge is particularly common in vocational school settings, where students often prioritize practical and technical skills over academic language proficiency. The issues in writing descriptive texts stemmed from various factors, including limited motivation, lack of exposure to authentic reading materials, weak grammar and vocabulary, and unfamiliarity with paragraph organization.

Instructional Technique: Mind Mapping

To enhance students' descriptive writing skills, the mind-mapping technique was utilized. This visual strategy was expected to improve students' ability to generate, organize, and connect ideas before composing a descriptive paragraph. Its implementation was embedded throughout the action cycles, supporting students' creativity, engagement, and conceptual clarity.

Data Collection Instruments

A multi-method approach was used to gather both quantitative and qualitative data, ensuring a comprehensive understanding of student progress. Writing tests were administered as both pre-tests and post-tests and were evaluated using a rubric adapted from Brown (2010). This rubric assessed five critical components: content, organization, vocabulary, language use, and mechanics. In addition to the writing tests, observation sheets were employed to monitor student behavior, engagement, and interaction during the learning process. These observations helped in understanding the students' involvement and responsiveness to the instructional techniques applied.

Furthermore, qualitative data were collected through field notes and documentation. This included student worksheets, mind maps created during class activities, and photographs capturing the classroom environment and interactions. These materials provided contextual and visual evidence of students' learning processes and engagement. To ensure the validity of the instruments used in the study, expert validation was conducted. Professionals in English education reviewed the instruments to confirm their appropriateness, relevance, and alignment with the research objectives.

Data Analysis Techniques

Quantitative Analysis

Descriptive statistical methods were used to analyze the results of the pre-test and post-test. The analysis involved a comparison of the mean scores to determine the extent of improvement in students' descriptive writing skills. In addition, the data were evaluated based on two mastery indicators. Individual mastery was defined as achieving a score of 75 or above. Classical mastery, on the other hand, was determined by whether at least 80% of the students attained the minimum score of 75. These

benchmarks helped in assessing both individual progress and overall class achievement.

Qualitative Analysis

Qualitative data from field notes, interviews, and observations were analyzed using thematic content analysis to identify recurring patterns in students' behavior and learning engagement. This analysis focused on four main aspects: engagement, collaboration, creativity, and critical thinking. These dimensions were chosen to capture the broader impact of the instructional technique on students' cognitive and interpersonal development throughout the learning process.

This analysis illuminated how the mind-mapping technique influenced classroom dynamics and student learning processes. However, challenges emerged in analyzing the qualitative data, particularly from student interviews. Many responses were brief, requiring careful interpretation by the researcher. This posed a risk of subjectivity in the thematic coding process.

Data Triangulation and Validity

To strengthen the reliability and depth of findings, data triangulation was applied by integrating results from multiple instruments and perspectives. This aligned with the principles of reflective, evidence-based inquiry typical of classroom action research (Kusniah & Hakim, 2020).

Ethical Considerations

This study was conducted with adherence to ethical research standards. Prior to the implementation of the research activities, formal permission was obtained from the school authorities at Diponegoro Depok Vocational School. Informed consent was also sought from the students participating in the study. The researcher ensured that participants were fully aware of the purpose of the study, the voluntary nature of their involvement, and their right to withdraw at any stage without any consequences.

All data collected were kept confidential and were used solely for research purposes. Identifiable information was anonymized in the reporting of findings to protect student privacy. Observational data, student work samples, and interview responses were handled with care to maintain the integrity and dignity of all participants. Ethical oversight and validation of research tools were provided by professionals in English education to ensure the research was both pedagogically sound and ethically responsible.

RESULTS AND DISCUSSION

Improvement Process across Action Research Phases

The first set of analyses examined the impact of the mind mapping strategy in teaching descriptive writing, and it revealed initial challenges during the pre-test session, which used the topic "Soccer Players" focusing on Cristiano Ronaldo. The theme engaged students, particularly those interested in soccer, creating a positive learning atmosphere. The pre-test showed that none of the students met the minimum passing score (≥65), indicating low proficiency in descriptive writing. Key difficulties were identified in three areas:

1. Limited Vocabulary and Content: Students struggled to develop detailed mind maps, often listing only general facts without elaboration. Their limited vocabulary

hindered idea expansion and logical connection of details, resulting in incomplete and superficial descriptions.

2. Grammar: Many students made frequent grammatical errors such as inconsistent tense usage, incorrect noun and adjective forms, and poor sentence structure. This reflected the insufficient understanding of sentence construction rules and inadequate practice.
3. Writing Mechanics and Structure: Problems included unclear sentence organization, improper punctuation, and lack of coherent paragraphing. Students often produced disjointed texts with illogical flow, making their writing hard to follow.

Furthermore, the overview result of the student's descriptive text writing can be seen in Figure 2.

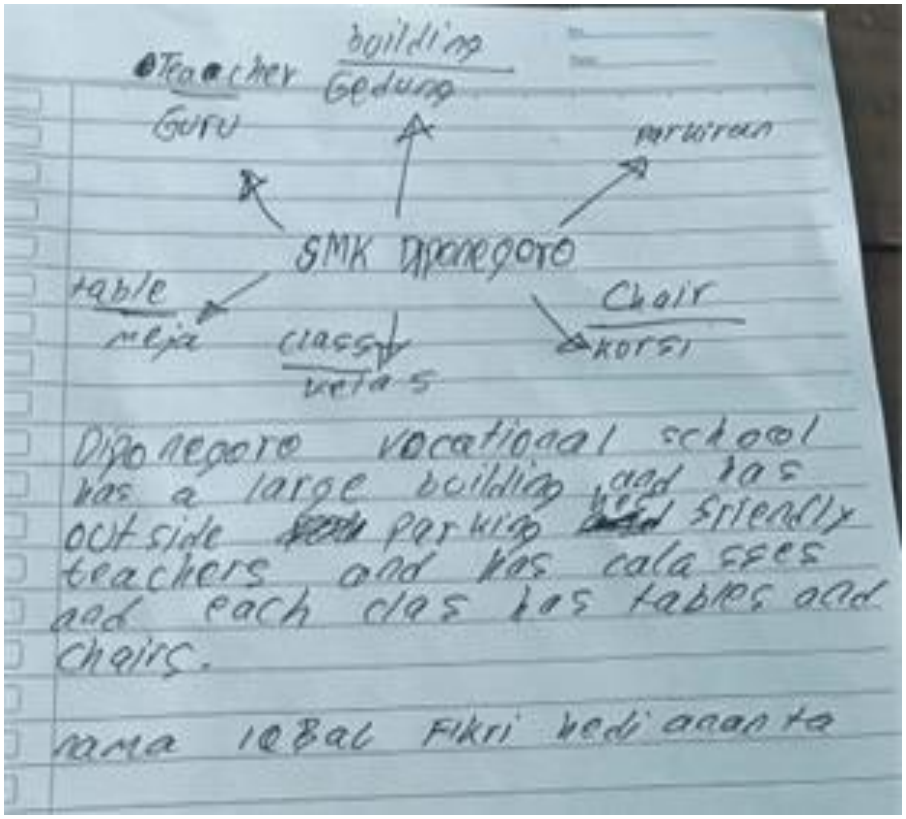

Figure 2. The result of the student's descriptive text writing

These findings highlight the critical need to enhance students' vocabulary, grammar, and writing mechanics through targeted interventions using the mind-mapping technique. The pre-test results establish a baseline for improvement and guide the focus of subsequent research cycles to elevate students' descriptive writing skills.

Cycle I

The following table presents a detailed implementation plan for the first three meetings of Cycle 1. It outlines the schedule, location, key activities, and learning objectives designed to facilitate students' understanding and practice of descriptive text writing through the use of the mind-mapping technique. This structured approach is intended to progressively develop students' skills, beginning with

foundational knowledge of vocabulary and text components and advancing toward drafting, revising, and refining descriptive texts effectively.

Table 1. The implementation stage of the research

Meeting	Date	Objectives
Meeting 1	Friday, 1 November 2024	– Understand descriptive text components – Learn mind mapping as an idea organization tool – Create a mind map for descriptive writing – Begin drafting descriptive texts using mind maps
Meeting 2	Tuesday, 5 November 2024	– Review and improve descriptive text writing – Use mind maps to develop more detailed and structured texts – Expand vocabulary and descriptive language use
Meeting 3	(Friday 8, November 2024)	– Enrich vocabulary and descriptive details – Improve connection of ideas with conjunctions – Develop coherent and detailed descriptive texts – Encourage peer feedback and self-reflection

In the first meeting, students were introduced to the mind-mapping technique using Cristiano Ronaldo as the subject. After watching a video to spark interest, the teacher guided them in creating mind maps focusing on Ronaldo's profile, career, personality, and achievements. Students worked individually and collaboratively and then began drafting descriptive texts. However, their writing lacked depth and detail. The second meeting emphasized refining their drafts, particularly on structure and content. Students revised their work, received peer and teacher feedback, and reflected on their progress. In the third meeting, students focused on improving coherence, vocabulary, and sensory details. They revised their texts further, presented some to the class, and engaged in reflection. The cycle concluded with motivation for continued writing practice using mind maps.

Reflection of Cycle I

Based on students' writing abilities in Cycle I, it was necessary to continue to Cycle II with additional reinforcement through (1) Providing New Vocabulary Guidelines; (2) The Mind Map Enrichment; (3) Sensory Depiction Exercises in Mind Maps; (4) Discussion and Correction of Mind Maps; and (5) Application of Mind Maps to Descriptive Texts. The reflection phase was intended to help students develop more detailed and effective mind maps, thereby enabling them to produce more engaging and well-structured descriptive texts that meet the learning objectives.

Cycle II

Based on the results and observations from Cycle I, which indicated that students' descriptive writing had not yet met the minimum competency standards, the implementation plan for Cycle II was developed to further enhance their writing skills using the mind mapping technique. This cycle focused on deepening students' ability to organize ideas, enrich vocabulary, and create coherent and detailed descriptive texts. The activities were designed to build on previous learning by incorporating new vocabulary, sensory details, and peer collaboration, with clear success indicators aimed at achieving or surpassing the required competency level.

Table 2. The stage of cycle two of the research

Meeting	Date	Objectives
Meeting 1	Friday, 1 November 2024	– Understand descriptive text components – Learn mind mapping as an idea organization tool – Create a mind map for descriptive writing – Begin drafting descriptive texts using mind maps
Meeting 2	Tuesday, 5 November 2024	– Review and improve descriptive text writing – Use mind maps to develop more detailed and structured texts – Expand vocabulary and descriptive language use
Meeting 3	Tuesday, 19th of November 2024	– Enrich vocabulary and descriptive details- Improve the connection of ideas with conjunctions. – Develop coherent and detailed descriptive texts- Encourage peer feedback and self-reflection

In Cycle II, the planning was based on the results of Cycle I, which showed that students' descriptive writing still did not meet the minimum standard (KKM). Therefore, the Learning Implementation Plan focused on using mind mapping to improve their writing skills. The objectives were to help students develop descriptive texts by organizing ideas with mind maps. The activities included teaching new vocabulary, revising mind maps, sensory exercises, group discussions, and applying mind maps to writing.

In the first meeting, after opening with a prayer and attendance check, the teacher showed a short video about Ronaldo to engage students. Then, the teacher explained mind mapping and guided students to create mind maps about Ronaldo's profile, encouraging them to include sensory details and vocabulary. Students worked individually and in groups before writing their first drafts. The session ended with reflection and feedback, noting that students' texts lacked depth and use of conjunctions, and the teacher emphasized the importance of mind mapping. The second meeting began with a recap and clear goals to improve the drafts. The teacher focused on helping students write complete descriptive texts with three parts: a general description, detailed content about appearance, achievements, and personality, and a concluding opinion. Students revised their drafts with teacher support on vocabulary and structure, then shared their work in groups for peer feedback. The meeting closed with a reflection on progress and challenges and encouragement to keep practicing. In the third meeting, the teacher motivated students by connecting the lesson to previous sessions and setting objectives to improve detail and coherence. The teacher gave further feedback on students' mind maps and descriptive texts to help them enhance their writing. Students wrote more

detailed, coherent texts with sensory language, shared some work with the class, and reflected on their learning. The cycle ended with positive reinforcement, assignments for improvement, and gratitude expressed in closing prayers.

Reflection of Cycle II

In Cycle II, the use of mind maps to organize descriptive writing showed positive results. Students gained a clearer understanding of the structure of descriptive texts, including the introduction, body, and conclusion. They were able to write more detailed and interesting texts, using a wider range of vocabulary and sensory descriptions. Additionally, students became more confident in sharing their work with the class or in small groups. This confidence was reflected in their active participation in receiving and using feedback from teachers and peers to improve their writing independently. However, some challenges remained discovered such as (1) Difficulty in selecting the right vocabulary to describe subjects clearly, (2) Struggle to develop ideas from mind maps into well-organized and coherent paragraphs, and (3) Grammar errors in complex text.

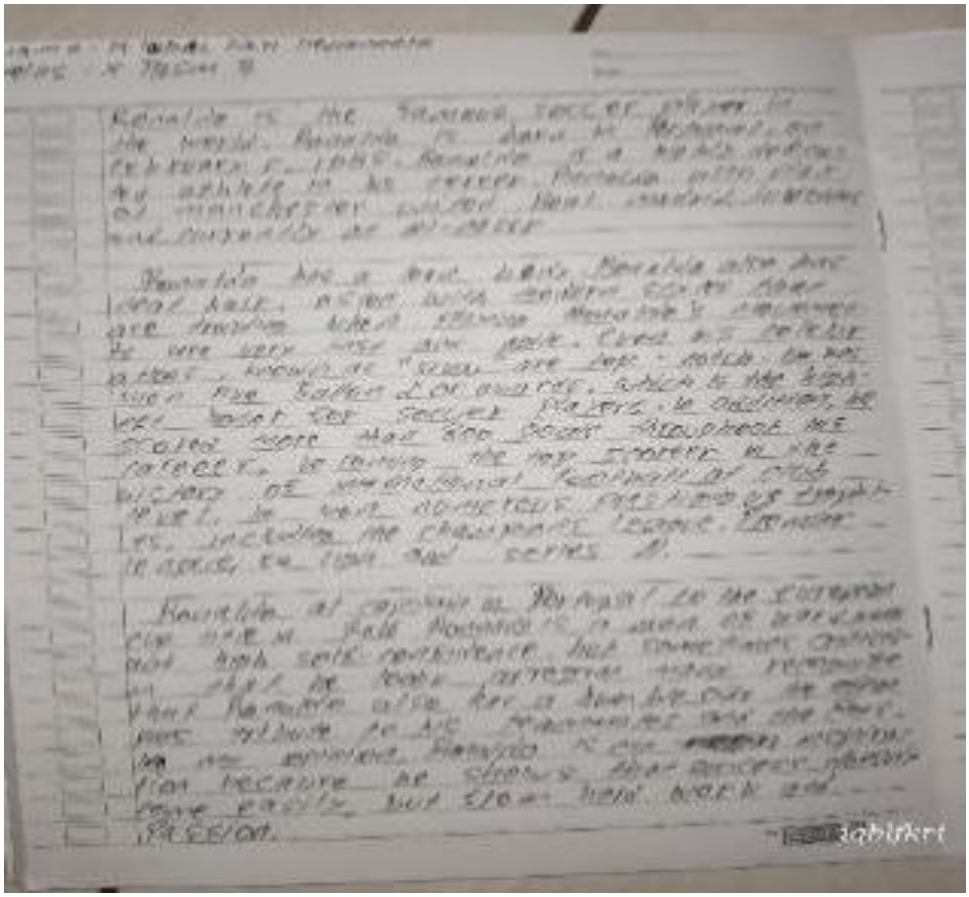

Figure 3. The result of the student's reflection after reinforcement

Cycle III

Cycle III focused on expanding students' descriptive writing skills by introducing a new theme: badminton. The objective was to enrich their vocabulary, improve the organization of ideas, and enhance the overall quality of their descriptive texts through the continued use of mind mapping. Throughout three meetings, students explored badminton-related vocabulary, historical and technical aspects, and personal experiences with the sport. The instructional activities included vocabulary

building, guided drafting, peer review, and revision, all aimed at producing clear, coherent, and well-structured descriptive texts. Each session emphasized reflection and feedback to foster continuous improvement and student engagement.

Table 3. The stage of the research

Meeting	Date	Objectives
Meeting 1	Friday, 22 November 2024	- Learn and practice vocabulary related to badminton - Create mind maps focusing on history, basic techniques, and personal experience - Begin organizing ideas into structured descriptive paragraphs
Meeting 2	Tuesday, 26 November 2024	- Develop descriptive texts based on mind maps - Use appropriate vocabulary, sentence connectors, and complex structures - Improve coherence and clarity in writing through guided examples and feedback
Meeting 3	Friday, 29 November 2024	- Finalize and revise descriptive texts on badminton - Conduct peer review sessions to improve grammar and lexical choices - Reflect on writing progress and challenges- Submit final drafts of descriptions

Cycle II was planned in response to the results of Cycle I, where students' writing still fell short of the minimum standard. The focus remained on enhancing descriptive writing through improved use of mind maps. In the first meeting, students watched a video about Ronaldo, revised their mind maps with added vocabulary and sensory details, and drafted texts. Reflection revealed that many texts still lacked depth and proper use of conjunctions. The second meeting focused on strengthening text structure—introduction, detailed content, and conclusion. With teacher support, students revised their drafts and engaged in peer feedback. In the third meeting, students refined their work by enhancing coherence and sensory detail. Some shared their texts with the class, and all participated in reflective discussions. The cycle concluded with encouragement and positive reinforcement to support continued development.

Reflection of Cycle III

The interview data from Cycle III highlighted that mind mapping significantly improved students' writing skills and vocabulary. The findings of interviews with the teacher and student, as illustrated in Table 4. Based on the result, the teacher emphasized that the primary purpose is to foster children's creativity, support their personal development, and promote broader, more critical thinking skills. This aligned with the statement from Arulselvi (2017) which stated that Mind Mapping is a non-linear learning method that stimulates the student to use visual-spatial relationships to analyze and explore ideas by moving from a main theme to ancillary branches that may be connected.

Table 4. Implication of mind mapping on students' writing skills and vocabulary

Themes		
Creativity	**Ease of Writing**	**Peer Collaboration**
Therefore, a strong underlying reason is to encourage children to be creative, to develop their potential, and to cultivate broader thinking…" (Personal Interview, December 24, 2024)	"Yes, it's easier to understand and easier to get ideas. Usually, Sir, the teacher starts by explaining the learning objectives. Then he gives an overview of the topic to be studied, then introduces the concept of mind mapping…" *(Personal Interview, December 24, 2024)*	"After getting the mind mapping material, it became easier for me to write, especially when I found ideas. I had more ideas, and after that, from the draft, I wrote the text to be shorter, clearer, and better, Sir." *(Personal Interview, December 24, 2024)*

According to the result, one student indicated that learning mind mapping significantly improved their writing process. It helped them generate more ideas and organize their thoughts more effectively, resulting in shorter, clearer, and higher-quality written texts. This idea correlates to what (Goodnough & Long, 2002) found that mind mapping was viewed by pupils as an engaging, entertaining, and inspiring method of instruction. The chance to be creative when making mind maps, which allows for a lot of variation in color, symbols, keywords, and design, was cited by several students as the enjoyable part. At the same time, students reported that mind mapping made it easier to understand the material and organize their writing ideas clearly, resulting in more focused and structured writing. The results obtained from the analysis are summarised in Table 5.

Table 5. The statistical results of students' descriptive writing through Mind Mapping

Stage	Content	Grammar	Vocabulary	Mechanics	Total	Students Passed
Pre-Test	5.00 (Less)	5.00 (Less)	4.00 (Less)	5.00 (Less)	18.00 (Less)	0/20
Cycle I	5.55 (Low)	6.05 (Enough)	5.75 (Low)	6.50 (Enough)	23.85 (Enough)	6/14
Cycle II	7.00 (Enough)	7.20 (Enough)	7.80 (Good)	8.10 (Good)	30.10 (Good)	19/20
Cycle III	7.65 (Good)	7.80 (Good)	8.05 (Very Good)	8.35 (Very Good)	31.85 (Good)	20/20
Post-Test	8.20 (Very Good)	8.15 (Very Good)	8.85 (Very Good)	8.75 (Very Good)	33.95 (Very Good)	20/20

Table 5 showed students' writing performance has improved significantly across different stages. Initially, in the Pre-Test, all components (Content, Grammar, Vocabulary, Mechanics) scored below the expected level, resulting in no students passing. After the first cycle, there was noticeable improvement with scores reaching a low to enough level, and 6 students passed. By Cycle II, scores rose to the "Good" category in most areas, with 19 students passing. Cycle III showed further

advancement, especially in Vocabulary and Mechanics, rated as "Very Good," and all 20 students passed. Finally, the Post-Test results demonstrated consistently very good performance across all components, with all students passing successfully. This progression indicates that the intervention effectively enhanced students' descriptive writing skills.

Enhancing Descriptive Writing through Mind Mapping

Writing is widely recognized as a complex linguistic skill demanding a deliberate, systematic approach to producing coherent and well-structured texts. In this study, the researcher implemented mind mapping as a cognitive and organizational tool to aid students in mastering descriptive writing, grounded in the writing process model articulated by (Basri & Syamsia, 2020), which includes planning, drafting, editing, and finalizing. The overarching goal was to foster coherent thinking and improve writing quality by helping students visually organize and connect ideas before and during writing.

The critical role of mind mapping emerged most prominently during the planning phase, where students organize their thoughts before drafting. As Bourouina & Berrouba, (2021) highlight, visual mapping of ideas allows learners to perceive relationships between different elements of a topic, aligning closely with Henouda's (2024) prewriting strategy emphasis on planning to ensure logical flow. This visual scaffolding deepens students' understanding of the descriptive text's scope, helping them cover all pertinent aspects without losing focus. Moreover, mind mapping reduces cognitive load by structuring information in a way that lightens working memory demands (Hu & Wu, 2012; Meguerdichian et al., 2016), enabling learners to concentrate more on content generation rather than juggling idea organization and recall simultaneously.

In the planning stage, explicit instruction about the descriptive text's structure its linguistic features, and communicative functions was essential. This pedagogical step ensured students did not write arbitrarily but followed established conventions. Consistent with Novita et al. (2020) prewriting framework, this phase critically shapes writing quality by allowing students to generate and organize ideas in advance. Mind mapping acted as a powerful tool to facilitate this organization, enabling the exploration of multiple descriptive facets such as physical traits, functions, and subjective impressions (Buzan, 2018). The visual linking of main ideas and supporting details helps students compose more coherent and connected paragraphs (Bukhari, 2016), particularly benefiting those struggling with linear writing processes.

During the drafting phase, students transformed their structured ideas from mind maps into full paragraphs. Despite this scaffolding, some students experienced difficulty producing logically cohesive text. Endarwati et al. (2023) note that even with initial visual aids, learners may struggle to systematically link ideas. To address this, brainstorming and the use of journalistic questions (Who, What, When, Where, Why, How) as recommended by Gorrell (1996) were incorporated to enhance idea completeness and clarity. This iterative process illustrates the crucial interdependence between prewriting and drafting, supported by Pearson's (2021) findings that experienced writers allocate more time to planning for smoother drafting.

The editing stage involved feedback cycles, where students identified and revised weaknesses related to grammar, vocabulary, and coherence. Mogahed (2013)

emphasizes editing as essential for refining drafts into polished texts. Mind mapping facilitated editing by providing a visual reference for structural consistency, allowing students to enhance their writing without disrupting the overall organization. This phase also heightened students' metalinguistic awareness, particularly regarding descriptive text features like adjective use and sentence construction, thus contributing to both linguistic competence and writing quality.

Ultimately, the final product demonstrated significant improvement in descriptive writing, validating Harmer's (2004) model where iterative writing stages cumulatively enhance text quality. In addition, the general overview of the students' results after reinforcement also can be seen in Figure 4.

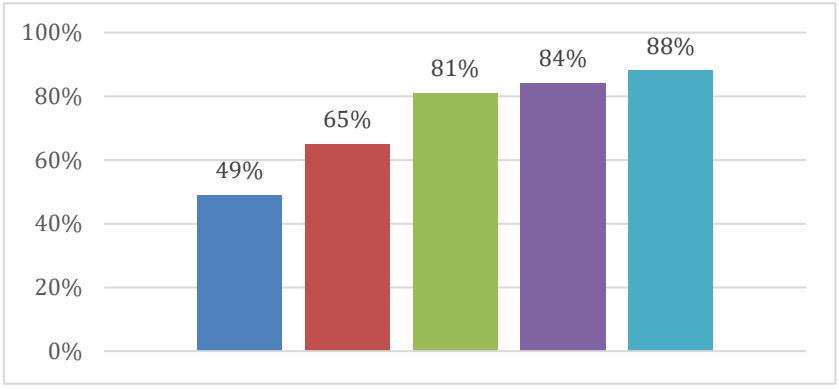

Figure 4. The improvement results of each cycle on descriptive writing

Mind mapping not only helped overcome writer's block, as Bukhari (2016) suggests but also instilled greater confidence and efficiency in completing writing tasks. Kamli (2019) underscores the value of visual strategies like mind mapping in clarifying idea relationships, which this study corroborates, demonstrating benefits beyond writing quality to include more systematic cognitive organization. A recent study from Lee (2019) indicates that Successful oral presentation effectually involves multi-faceted training in listening, writing, and nonverbal delivery besides speaking orally, which calls for a systematic holistic/multimodal approach.

Further supporting the relevance of structured, reflective writing approaches, Ashadi et al. (2022) critique how Indonesian high-stakes test cancellations shifted EFL teaching towards more varied, curriculum-driven, and self-regulated learning practices underscoring the importance of motivation and assessment in writing skill development. Phelps (2019) similarly argues that heightened assessment stakes boost motivation and effort, while Steger et al. (2018) highlight the administrative advantages of external high-stakes assessments in promoting instructional effectiveness and student achievement (Phelps, 2012). In an educational setting, it is slightly relevant to the multimodality issue, which established the VARK psychometric model developed by (Fleming & Mills, 1992) model, which refers to "visual, aural, reading/writing, and kinesthetic," evaluates a student's sensory preferences and skills before classifying their preferred learning styles (Fleming & Mills, 1992). In addition, information presented in the form of flow charts or graphics is preferred by visual learners. Aural learners prefer to listen to both their own and other people's speech. Regarding "R," it represents a preference for reading and writing. For kinesthetic learners, physical activity is preferred. According to the multimedia learning theory put out by (Mayer, 2009), students can learn more

efficiently when they have access to a variety of information input channels, such as a mix of visual and auditory formats. Similarly, the VARK model takes into account multiple ways of language acquisition.

The correlation from the above discussion is that mind mapping extends beyond language education. El-Sayed et al. (2023) found that mind mapping significantly enhanced cognitive achievement and critical thinking among nursing students, with those trained in the technique showing superior knowledge and higher achievement rates than control groups. This aligns with cognitive theories emphasizing structured information processing and mental schema construction as keys to effective learning (Luangkrajang, 2022). Cognitive approaches to language learning focus on internal mental processes such as perception, memory, and reasoning rather than solely on behavior or teacher roles (Belkhir, 2020).

Furthermore, mind mapping supports this cognitive constructivism by helping learners connect new information with prior knowledge, thereby enhancing comprehension, retention, and language acquisition as can be found in Table 6. Students had better improvement across the cycles, specifically on the components such as grammar, content, vocabulary, and mechanism.

Table 6. The analytical result of the students' improvement across the cycles in descriptive text writing

Stage	Content	Grammar	Vocabulary	Mechanics	Total	Students Passed
Pre-Test	5.00 (Less)	5.00 (Less)	4.00 (Less)	5.00 (Less)	18.00 (Less)	0/20
Cycle I	5.55 (Low)	6.05 (Enough)	5.75 (Low)	6.50 (Enough)	23.85 (Enough)	6/14
Cycle II	7.00 (Enough)	7.20 (Enough)	7.80 (Good)	8.10 (Good)	30.10 (Good)	19/20
Cycle III	7.65 (Good)	7.80 (Good)	8.05 (Very Good)	8.35 (Very Good)	31.85 (Good)	20/20
Post-Test	8.20 (Very Good)	8.15 (Very Good)	8.85 (Very Good)	8.75 (Very Good)	33.95 (Very Good)	20/20

Prior research demonstrates mind mapping's effectiveness in foreign language writing (Kamli, 2019; Naghmeh-Abbaspour & Rastgoo, 2020), and also in teaching grammar, where it enhances student engagement, feedback exchange, and comprehension (Wibowo, 2020). In summary, this study confirmed that the integration of mind mapping into writing instruction offers substantial pedagogical benefits, notably for descriptive text writing at the vocational high school level. It facilitates idea generation, supports cognitive organization, improves motivation, and enhances both language and higher-order thinking skills.

CONCLUSION

The present study was designed to determine the effect of the mind-mapping technique in improving students' descriptive writing. Accordingly, the researcher gained a better understanding of the use of the mind mapping technique which

significantly enhanced students' ability to write descriptive texts by improving content, grammar, vocabulary, and mechanics across multiple learning cycles. Mind mapping proved slightly effective in the planning and drafting stages by providing visual scaffolding that reduced cognitive load, supported idea generation, and ensured coherence. The second major finding was that it also enhanced metalinguistic awareness and supported self-editing during the revision process.

RECOMMENDATION

Based on these results, this approach will prove useful in expanding our understanding of how the mind mapping approach could value students' writing skills specifically in descriptive text writing. Taken together, these findings suggest a role for a classroom teacher in promoting the techniques and integrating mind mapping into writing instruction to aid in the organization and development of students' writing, while curriculum developers should consider incorporating it into broader learning strategies. It is a need to consider that the scalability of the present result may be different in other schools to adopt the same action. In addition, it is unfortunate that the study's limitation may be subjective to the researcher's interpretation, specifically in the action research setting. The correlation between mind mapping and students' metacognition in descriptive writing should be the main focus of the later study. To conclude, the present study lays the groundwork for future research into its application in other issues as being discussed, and teachers are encouraged to adopt it as a practical tool for planning and improving EFL writing across its subject.

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