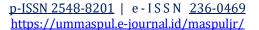# The Effectiveness of the Mind Mapping Model on Elementary School Students' Learning Outcomes in Indonesian Language Subjects

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Abstrak

Penelitian ini bertujuan untuk mengetahui efektivitas model pembelajaran Mind Mapping terhadap hasil belajar siswa kelas IV SDN 207 Gresik pada mata pelajaran Bahasa Indonesia. Latar belakang penelitian ini adalah rendahnya hasil belajar siswa dalam memahami isi bacaan, menemukan gagasan utama, dan menghubungkan informasi dalam teks, yang disebabkan oleh metode pembelajaran konvensional yang kurang menarik. Model Mind Mapping dipilih karena diyakini mampu memfasilitasi siswa dalam mengorganisir informasi secara visual dan logis, sehingga meningkatkan pemahaman konsep dan keterampilan berpikir kritis. Metode penelitian yang digunakan adalah eksperimen dengan desain pretest-posttest control group. Sampel penelitian berjumlah 30 siswa yang dipilih secara acak dari kelas IV. Instrumen yang digunakan berupa tes pilihan ganda dan esai serta angket persepsi siswa. Hasil uji validitas dan reliabilitas menunjukkan bahwa seluruh instrumen memenuhi syarat keabsahan. Uji-t menunjukkan adanya peningkatan hasil belajar yang signifikan setelah penerapan model Mind Mapping pada kelas eksperimen dibandingkan dengan kelas kontrol. Kesimpulannya, penerapan model Mind Mapping efektif dalam meningkatkan hasil belajar siswa pada mata pelajaran Bahasa Indonesia, serta dapat dijadikan alternatif model pembelajaran yang inovatif di sekolah dasar.

Kata kunci: Mind Mapping, Hasil Belajar, Bahasa Indonesia, Pembelajaran Inovatif, Sekolah Dasar

Abstract

This study aims to determine the effectiveness of the Mind Mapping learning model on the learning outcomes of fourth-grade students at SDN 207 Gresik in the Indonesian language subject. The background of this research is the low student achievement in understanding reading materials, identifying main ideas, and connecting information within texts—primarily caused by the use of conventional, less engaging teaching methods. The Mind Mapping model was chosen because it is believed to help students visually and logically organize information, thereby enhancing conceptual understanding and critical thinking skills. This research employed an experimental method with a pretest-posttest control group design. The sample consisted of 30 randomly selected fourth-grade students. The instruments used included multiple-choice and essay tests as well as student perception questionnaires. The validity and reliability tests indicated that all instruments met the necessary standards. The t-test results showed a significant improvement in student learning outcomes after implementing the Mind Mapping model in the experimental class compared to the control class. In conclusion, the application of the Mind Mapping learning model is effective in improving student achievement in the Indonesian language subject and can serve as an innovative alternative teaching strategy in elementary education.

Keywords: Mind Mapping, Learning Outcomes, Indonesian Language, Innovative Learning, Elementary School

Introduction

Mind Mapping was first developed by Tony Buzan, a British psychologist, in the early 1970s. This method resembles a roadmap with various branches, allowing students to plan the right route in studying a topic. A mind map combines images, symbols, and thematic branches to visually organize information (Wiyoko et al., 2021). According to Faradiba, this approach leverages the brain's ability to work associatively and non-linearly, helping students to understand the relationships between pieces of information and to enhance their creativity and critical thinking skills (Faradiba P & Arsad BAHRI, 2024).

In the field of education, Mind Mapping has become a popular tool due to its ability to help students understand the connections between various concepts, thus improving their critical and analytical thinking abilities. As a visual tool, a concept map not only presents information in an easily understandable format but also provides flexibility for developing new ideas and exploring creative thinking (Widyaruli Anggraeni et al., 2022).

The use of Mind Mapping is not limited to education but is also widely applied in various professional fields, such as project management, strategic planning, and problem-solving. This is because the method helps individuals and teams organize complex information, see the connections between elements more clearly, and generate more innovative solutions (Widyaruli Anggraeni et al., 2022).

Initial observations conducted on December 17, 2024, on fourth-grade students at SDN 207 Gresik showed that students' reading skills had declined, as indicated by the comparison between report card assessments and actual field conditions. This highlights the need for more effective teaching methods to improve students' reading skills. Students' learning outcomes in the Indonesian language subject, particularly in the aspect of reading, show significant problems. Many students struggle to understand the content of the texts, identify main ideas, and connect the information presented. This lack of reading skills directly impacts the low learning outcomes of students (Jurnal et al., 2024).

It is widely known that in the Indonesian language subject, students will be able to understand and master the learning material well if interactive and enjoyable teaching methods are applied. Therefore, in this context, the use of Mind Mapping allows students not only to improve their conceptual understanding but also to foster creativity and engagement in the learning process (Humairo Sukardi et al., 2025). However, the researcher found that there are gaps that need to be addressed, such as variations in students' initial abilities, the lack of teacher training in implementing the Mind Mapping model effectively, and limited facilities to support this method. These factors may lead to differences in students' learning outcomes, making it important to identify and address these challenges to optimize the effectiveness of the Mind Mapping model (Priyanata, 2025).

Previous studies have revealed that implementing Mind Mapping in learning can improve students' learning abilities. In research conducted by Irana and Damayanti (2021), it has been proven that using the Mind Mapping model successfully enhances students' creative thinking and understanding in Indonesian language lessons at the elementary level. In Indonesian language learning, where students often need to comprehend complex texts, Mind Mapping helps them break down information into simpler parts. The study also showed that Mind Mapping helps students develop critical thinking skills. Students are encouraged to identify connections between various concepts, assess the relevance of information, and draw logical conclusions based on the concept maps they create (Irana & Damayanti, 2021). This is particularly important in Indonesian language lessons, where students are expected not only to understand texts superficially but also to evaluate and interpret deeper meanings.

Based on these problems, this study aims to examine and measure how effective the Mind Mapping learning model is in improving students' learning outcomes in Indonesian language subjects. This research is expected to contribute to the development of new teaching methods in Indonesia and serve as a reference for teachers to apply the Mind Mapping model as an effective learning strategy. Moreover, this study is expected to address the challenge of improving the quality of students' learning outcomes through creative and interactive learning.

Method

This study is a quantitative research with a descriptive approach, which aims to provide a clear and detailed picture of the effectiveness of the Mind Mapping model on students' learning outcomes in the Indonesian language subject. The descriptive quantitative approach is used to systematically, factually, and accurately describe facts and phenomena, with a focus on collecting and analyzing numerical data obtained through tests or other relevant measurement tools (Paramita et al., 2022). This study does not aim to examine the relationship or influence between variables, but rather to provide a detailed description of how the implementation of the Mind Mapping model in the learning process can affect students' learning outcomes.

Data analysis in this study is carried out quantitatively, using statistics to describe and draw valid conclusions from the research results. This research employs a true experimental design using a pretest-posttest control group design. In practice, the sample will be given a pretest before receiving different treatments, so that the experimental results will be more accurate and reliable.

The study was conducted at SD Negeri 207 Gresik, which was selected as the research site because it meets the criteria for the student population targeted in the study, with a sample of 42 fourth-grade students selected using a simple random sampling method. The research was conducted following several stages to ensure that the study runs smoothly. These stages include preparing instruments, collecting data through the implementation of the Mind Mapping model in the Indonesian language subject, and analyzing the data to obtain valid conclusions about the effectiveness of the teaching method used. For each stage, the researcher has prepared a detailed schedule so that the entire research process can be carried out systematically and on time

Result and Discussion

The Mind Mapping learning model implemented in the Indonesian language subject at SD Negeri 207 Gresik is an application of a student-centered learning approach. Mind Mapping is a visual learning technique developed by Arum Putri, aiming to optimize the functions of both the left and right brain through a combination of keywords, colors, symbols, images, and branching lines (Putri et al., 2021). In the context of Indonesian language learning, this model is used to help students manage, connect, and remember complex learning materials, such as identifying main ideas, comprehending reading texts, summarizing, and composing essays (Riyanti, 2021).

This model aligns with Piaget's constructivist theory, which states that learning is an active process of constructing new knowledge based on previous experiences (Nerita et al., 2023). In Mind Mapping, students actively create visual representations of the material, resulting in meaningful learning as described by Ausubel. The visualization in Mind Mapping not only enhances understanding but also strengthens students' long-term retention. Moreover, this approach promotes multimodal learning, integrating visual, kinesthetic, and verbal elements, which accommodates students with diverse learning styles. Therefore, Mind Mapping is not merely a creative learning method but also a cognitive tool that builds deep conceptual understanding, making it relevant for use in Indonesian language instruction (Yulaini et al., 2025).

Research findings show a significant improvement in students' learning outcomes after the implementation of the Mind Mapping model, particularly in the experimental class (Pratama et al., 2024).

Table 1. Paired Samples T-Test

Paired Differences	t	df	Sig. (2-tailed)
Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference
Pair 1: Pretest Control Class – Posttest Control Class	-8.286	6.634	1.448

Paired Differences	t	df	Sig. (2-tailed)
Pair 2: Pretest Experimental Class – Posttest Experimental Class	-17.143	6.327	1.381

Test Statistics	Indonesian Language Learning Outcomes
Wilcoxon W	416.000
Z	-0.967
Asymp. Sig. (2-tailed)	.334

Based on the paired samples t-test results, the average increase in pretest and posttest scores in the experimental class reached -17.143 points, with a significance level of 0.000 (p < 0.05), indicating a statistically significant improvement. Meanwhile, the control class, which used conventional methods, also showed an increase of -8.286 points, but this improvement was much lower than that of the experimental class. This difference reflects the effectiveness of using Mind Mapping in supporting students' understanding of the material and learning outcomes.

In practice, these results demonstrate that students who use Mind Mapping tend to be more independent in understanding the material, quicker in identifying main ideas, and more creative in organizing and structuring information. These skills are essential, given that the Indonesian language subject demands analytical, critical, and creative thinking abilities for text comprehension and writing tasks (Pratama et al., 2024). Thus, Mind Mapping not only contributes to higher academic scores but also fosters broader learning competencies, including higher-order thinking skills (Simanjuntak, 2023).

To assess the performance of the Mind Mapping model in improving students' learning outcomes more comprehensively, a Mann-Whitney test was conducted to compare learning outcomes between the experimental and control classes.

Table 2. Mann-Whitney Test

Test Statistics	Indonesian Language Learning Outcomes
Mann-Whitney U	185.000

The analysis shows that the Mann-Whitney U value is 185.000 with a significance level of 0.334 (p > 0.05), indicating no statistically significant difference in learning outcomes between the two groups. This means that although the experimental class showed a greater increase in the t-test, the average difference in learning outcomes between groups was not large enough to be categorized as significant in this non-parametric test.

Interpretation of this result should be done carefully. Although there is no significant difference statistically, from an educational perspective, the Mind Mapping model demonstrates strong potential in enhancing learning engagement, boosting motivation, and strengthening students' understanding of the material (Bahri, 2019; Yusuf, 2023). It is important to note that the effectiveness of a learning model is not only measured by statistical significance but also by how well the model facilitates the development of students' cognitive, affective, and psychomotor competencies (Darojat, 2024).

A critical analysis of these results suggests that external factors, such as a small sample size, variations in students' prior knowledge levels, and individual learning style differences, may affect the statistical power of the test (Aritama, 2023). According to Slavin's theory of instructional effectiveness, the success of a method depends on the interaction between the method itself, student characteristics, and the learning context. Therefore, even though Mind Mapping did not yield a statistically significant difference, its practical effectiveness is still evident in the increased active engagement of students, their enthusiasm in the learning process, and their ability to structure information more

coherently and meaningfully (Warjiyo et al., 2021).

Conclusion

Based on the findings of this study, it can be concluded that the implementation of the Mind Mapping learning model in the Indonesian language subject at SDN 207 Gresik was carried out systematically and attractively. The teacher introduced the Mind Mapping concept, provided clear examples, and guided students to develop their own mind maps from the lesson material. This approach successfully shifted the learning process from being teacher-centered to student-centered, encouraging students to actively construct their own understanding, think creatively, and participate more actively in class.

Furthermore, the application of the Mind Mapping model resulted in a significant improvement in students' learning outcomes. This is evident from the increase in pretest and posttest scores, which indicates that students became more capable of comprehending reading texts, identifying main ideas, and visually organizing information through mind maps. These findings suggest that Mind Mapping not only helps students remember information more effectively but also enhances their analytical and synthesizing skills, which are essential in mastering Indonesian language learning materials.

Overall, the use of Mind Mapping has had a positive impact on the learning outcomes of fourth-grade students at SDN 207 Gresik. It has improved the quality of learning in cognitive, affective, and psychomotor domains. Students showed greater interest and enthusiasm in lessons and demonstrated the ability to organize information in a more systematic and logical manner. Therefore, the Mind Mapping model can be considered an effective strategy for improving students' reading skills and text comprehension in the Indonesian language subject.

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