

The Application of Mind Mapping Method in Improving Student Learning Achievement in Madrasah Diniyah

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Abstract

This study explores the Mind Mapping method in enhancing student learning outcomes at Madrasah Diniyah LPI MAK'TUBA Palduding Plak-Pak Pegantenan Pamekasan. Using a qualitative descriptive approach, the research adopts phenomenology to provide a detailed depiction of the phenomena under study. Data were collected through primary sources, including interviews and observations, and secondary sources, such as existing publications and reports. Triangulation methods ensured data validity and reliability. The findings reveal that Mind Mapping improves comprehension, retention, and student engagement by fostering critical thinking and connecting new knowledge to existing schemas. This approach aligns with constructivist learning theories and supports the visualization of abstract concepts, making it particularly effective in religious education contexts. The research highlights essential components for successful implementation, including material identification, preparation of learning tools, active learning strategies, and effective evaluation mechanisms. Teachers play a pivotal role in facilitating this method by creating conducive learning environments, providing clear objectives, and employing innovative teaching strategies. While the findings underscore the method's flexibility and adaptability across various educational contexts, the study acknowledges limitations such as a single institutional focus and a limited sample size. Contextual factors, including institutional support and socio-economic influences, also warrant further investigation. This study contributes to the broader literature by demonstrating the applicability of Mind Mapping in religious education and emphasizes its potential for fostering critical thinking and long-term retention. Future research should explore its longitudinal effects, application across diverse subjects, and adaptations for students with special needs to maximize its impact within varied educational frameworks.

Keywords: Effectiveness; Mind Mapping Method; Learning Outcomes

INTRODUCTION

Education is one of the most important attributes in human development, affecting the individual's quality of life and the general human development within society. Multiple differences have been noticed within educational systems; each aims to serve a different need in society, from formal and nonformal to informal learning systems (Fauzan & Muslimin, 2018). These models are community-based education evolved in Africa, informal apprenticeship systems in Asia, and supplementary educational institutions such as madrasahs in the Middle East and South Asia that have emerged worldwide out of the context of non-formal education. The madrasah diniyah is among Indonesia's most important types of non-formal education, thereby acting as a strategic vehicle for implementing Islamic values. Through such religious education, religious and morally upright citizens are expected to be produced.

Madrasah diniyah serves as a medium to transmit basic knowledge concerning Islam and instill in learners faith, piety, and good character. These institutions have significant roles in building the character of Indonesian Muslim youths (Fithri, 2020). Madrasah Diniyah has to struggle with many challenges: limited availability of human resources, inadequate infrastructure, a shortage in teaching materials, and a lack of modern approaches in teaching methods that apply learning techniques relevant to the learners (Inten, Aziz, Mulyani, & Nurhakim, 2023). Innovating pedagogies are needed that may help to overcome those challenges and enhance learning experiences and outcomes.

Among the various instructional methods, mind mapping has garnered attention as a versatile tool for enhancing learning. This technique employs visual diagrams to help learners organize ideas, develop concepts, and enhance comprehension (Shi et al., 2023). Studies on the effectiveness of mind mapping in educational settings have yielded mixed results. For instance, Arulselvi (2017) identified its potential in facilitating idea generation, while Gagić et al. (2019) highlighted its superiority over conventional methods in promoting learning efficiency and engagement. Similarly, research by Fiktorius (2013) demonstrated its ability to enhance student motivation and reduce cognitive load in science education.

Despite these promising findings, the application of mind mapping in non-formal education contexts, such as madrasah diniyah, remains underexplored. Existing studies predominantly focus on formal education environments, creating a significant research gap in understanding its impact on non-formal settings (Hodkinson et al., 2002). Furthermore, there is limited insight into how mind mapping interacts with the unique characteristics and

challenges of madrasah diniyah, such as the emphasis on religious content and the reliance on traditional teaching methods.

This study seeks to address these gaps by investigating the implementation of mind mapping in madrasah diniyah, specifically in LPI Through, a non-formal educational institution affiliated with Pondok Pesantren Maktuba Al-Majidiyah Putri, Pamekasan, East Java. The study aims to evaluate the effectiveness of mind mapping in improving student learning outcomes, focusing on its adaptability to the specific needs of madrasah diniyah.

This study contributes to the global debate on innovative pedagogies in non-formal education by addressing this under-researched area. Their findings aim to provide practical insights to improve the teaching practice of Diniya Madrasah, thereby benefiting a wide range of stakeholders, including students, educators, and institutional leaders. Furthermore, this study aims to extend the theoretical framework of mind mapping as a teaching tool and lay the foundation for future research into its wider applications and potential challenges.

MATERIALS & METHODS

This research applies a qualitative descriptive approach, describing research phenomena without evaluating the relationship between variables. This type of research is phenomenology, which aims to describe the subject or object of research by the occurring phenomena.

The data collected in this study included primary and secondary data. Primary data was obtained from the research subjects, including individuals, focus groups, and informant groups. Meanwhile, secondary data was obtained from sources that already existed before the research was conducted, such as articles from newspapers or magazines, books, scientific journals, statistics, reports, and government publications.

Data analysis in this research involves collecting, sorting, and presenting the data that has been collected. The data is then analyzed to get an accurate and systematic picture of the phenomenon under study. To ensure the validity and reliability of the data, this research conducted data validity testing. This testing involved a triangulation process, which is comparing various data sources or data collection methods to verify the validity of the data.

This research assumes that the data obtained through this data collection method can provide an accurate and systematic description of the phenomenon being studied. In addition, this research also assumes that the research subjects, namely Madrasah Diniyah female students, can provide relevant and useful information for this research. Therefore,

this research is expected to provide an accurate and systematic description of the phenomenon under study and answer questions about what and how an event occurred. This research is expected to reveal a picture of the actualization of social reality and the perception of the research target without being affected by formal measures.

RESULTS & DISCUSSION

Mind Mapping Method in Improving Student Learning Outcomes

Based on the data previously presented, including the results of observations, interviews, and documentation, some of the research findings on how the use of the mind mapping method in improving student learning outcomes at Madrasah Diniyah LPI MAK'TUBA Palduding Plak-Pak Pegantenan Pamekasan is as follows:

This research explores the application of the Mind Mapping method in improving student learning outcomes at Madrasah Diniyah LPI. This process involves several important steps.

1. Material Identification by Teachers

The learning process begins with the teacher identifying the material. The teacher is important in determining the material suitable for the mind-mapping method. This method facilitates students' integration of new ideas with existing knowledge, thus supporting deeper understanding and long-term retention.

A conducive learning environment can trigger students to change their desired behavior. A supportive environment can motivate students to learn, participate actively, and achieve the learning objectives.

This process also involves analyzing student needs, which means effectively understanding what students need to learn. This could be learning materials, tools, or even emotional support. In addition, each student's unique characteristics need to be considered. Recognizing and understanding these differences can help teachers design the most effective teaching.

Formulating objectives is another important step in this process. Learning objectives should be clear, specific, and measurable, providing direction for both students and teachers. Determining the subject matter is also important. The materials should be relevant to the learning objectives and aligned with students' needs and interests.

Choosing the right strategies ensures students stay engaged and understand the material. These strategies could be group discussions, self-study, or even educational

games. The necessary learning media, such as books, videos, or digital tools, should also be considered.

This material identification is important to ensure that the materials chosen are relevant to the methods used and can maximize students' learning potential. Thus, teachers can ensure that every student has an equal opportunity to succeed in their learning.

"The learning process starts with material identification. As a teacher, I play an important role in determining materials suitable for the mind-mapping method. This method facilitates students' integration of new ideas with existing knowledge, supporting deeper understanding and long-term retention. Several things must be done to ensure this method can be applied well in learning. *First*, a supportive learning environment can motivate students to learn, actively participate, and ultimately achieve their learning objectives. This process involves analyzing students' needs, which means understanding what students need to learn effectively. This could be learning materials, tools, or even emotional support. Secondly, learning objectives should be clear, specific, and measurable, providing direction for both the student and me. Determination of the subject matter is also important. The material should be relevant to the learning objectives and appropriate to the needs and interests of the students. *Third*, selecting appropriate strategies is essential to ensure students stay engaged and understand the material. These strategies could be group discussions, self-study, or even educational games. In addition, the necessary learning media, such as books, videos, or digital tools, should also be considered. Fourth. Identifying the material is important to ensure that the chosen material is relevant to the method used and can maximize students' learning potential. By doing so, I can ensure that every student has an equal opportunity to succeed in their learning. (interview with the subject teacher)."

2. Preparation of learning tools

The role of teachers is very important in the context of education, especially in preparing Learning Tools. Teachers are responsible for preparing learning tools that include process scenarios and learning media. The main purpose of this preparation is to achieve the learning objectives that have been set.

Learning tools are designed with care and detail. Every aspect of learning is considered in this process, from the material to be taught, the teaching methods to be used, and the learning evaluation. All of this is tailored to the needs of the students so that every student gets an equal opportunity to succeed in their learning process.

In addition, learning tools are designed to ensure that the steps of learning activities can be carried out effectively and efficiently. This means that each learning activity is designed to maximize the time and resources available. Thus, the learning

process does not only focus on material completion but also on developing students' skills and understanding.

In the context of your article on implementing the Mind Mapping method, this learning tool can be very useful. The Mind Mapping method can be integrated into learning process scenarios and media. For example, teachers can use Mind Mapping to help students understand new concepts or as a medium to encourage class discussions.

This is illustrated in the interview with the subject teacher.

"I am responsible for developing learning tools that include process scenarios and learning media to achieve learning objectives. Therefore, I design them in detail, considering every aspect of learning, from materials and teaching methods to learning evaluation. I design each learning activity to maximize the time and resources available, focusing on material completion and developing students' skills and understanding. I may use Mind Mapping as a tool to help students understand new concepts or as a medium to encourage class discussions. With good learning tools, I can create a conducive learning environment for every student to reach their potential."

Overall, preparing Learning Tools is a complex process that requires careful planning and consideration. However, with good learning tools, teachers can create a conducive learning environment for students to reach their potential. Thus, teachers' role in preparing Learning Tools is very important in improving student learning achievement.

3. Evaluation of Results

Learning evaluation is an important component of the learning process. In the Mind Mapping method context, teachers prepare evaluation tools in the form of question items specifically designed to determine the improvement of student learning outcomes. Evaluation indicates students' success in understanding and applying the Mind Mapping method in their learning process. The items prepared by the teacher cover various aspects of learning, ranging from understanding concepts to applying knowledge in a real context. In addition, evaluation serves as a tool to monitor student progress. By knowing students' progress, teachers can adjust learning methods if necessary. For example, if a student has difficulty understanding a particular concept, the teacher can change the teaching approach or use different learning methods.

Periodic evaluations are also used to determine the extent to which students have mastered the material they have learned. This review is usually done after each learning session or at the end of a learning unit. The aim is to ensure students understand the concepts and main ideas taught.

It is important to remember that the main purpose of the evaluation is not only to measure students' knowledge but also to support their learning development. As such, evaluations should be designed to promote reflection and continuous improvement.

In the context of your article on implementing the Mind Mapping method, this evaluation of learning outcomes can be a very useful tool. With an effective evaluation, teachers can ensure that the mind-mapping method helps improve students' learning achievement. In addition, these evaluations can also provide valuable feedback for teachers on the effectiveness of the learning methods they use. Thus, they can continuously improve their teaching practices to support student success. The following are the results of the interview with the subject teacher.

"I design items to determine the improvement of students' learning outcomes in understanding and applying the Mind Mapping method. Periodic review or evaluation is conducted after each learning session or at the end of a learning unit. With evaluation, I can find out the students' progress and adjust the learning method if necessary. In essence, the main purpose of evaluation is to measure students' knowledge and support their learning development. It provides valuable feedback on the effectiveness of my learning methods so I can continuously improve my teaching practice."

4. Learning Implementation:

Teachers play an important role as facilitators and directors in the context of learning using the Mind Mapping method. They carry out the learning of the material in accordance with the carefully prepared lesson plan (RPP). This process involves direct interaction between teachers and students, where teachers guide students through the learning process. Teachers not only convey information but also assist students in understanding and applying the concepts taught.

The application of the Mind Mapping method in learning is designed to help students understand and remember the material more effectively. By using Mind Mapping, students can visualize concepts and ideas hierarchically and systematically, facilitating understanding and retention of knowledge. Teachers ensure that each student understands the concepts taught during the learning process. They do this by monitoring students' progress, providing feedback, and adjusting the teaching approach.

Teachers must also ensure that students are actively involved in the learning process. They encourage student participation, both in class discussions and in self-study activities. Thus, students are passive recipients of information and active participants in their learning process.

Overall, the Mind Mapping method's application in this lesson aims to create an interactive and supportive learning environment where students can develop a deep understanding of the material and improve their learning achievement. This approach makes learning more interesting and meaningful for students, and their learning outcomes can be significantly improved.

5. Material Creation

The teacher explains how to create materials using the mind-mapping method in the learning context. This explanation is designed to help students understand how information is organized through a mind map and how to apply this method in learning other materials.

The teacher guides students through creating Mind Maps, identifying the main concept, determining sub-concepts, and connecting concepts. This process helps students understand the structure and logic behind the material. The teacher also emphasizes how mind mapping can be an effective learning tool. With Mind Mapping, students can visualize and organize information more systematically and logically, facilitating understanding and retention of knowledge.

Overall, the teacher's explanation and demonstration of the Mind Mapping method aims to empower students in their learning process. With a better understanding of Mind Mapping, students can become more independent and improve their learning achievement.

6. Motivation and Direction among Teachers:

Teachers play an important role in promoting and directing the Mind Mapping method. They motivate and direct each other, creating an environment conducive to in-depth discussions on the subject matter and challenges in the learning process. These discussions aim not only to understand the material but also to build a collaborative learning community. In this community, teachers can learn from and support each other, enriching their knowledge and improving their teaching skills.

The Mind Mapping method's application in this discussion facilitates a better understanding of the material. By visualizing concepts and ideas in mind maps, teachers can more easily understand and recall information. It also allows them to see the relationships between various concepts and ideas, which can help problem-solving and decision-making.

In addition, this discussion also provides an opportunity for teachers to share their experiences and the best strategies for using the Mind Mapping method. Thus, they can learn from each other and adapt this method in their teaching practice, improving teaching effectiveness and student learning achievement.

7. Ease of Material Delivery

The Mind Mapping method facilitates teachers in the delivery of material. This method allows teachers to present information in a format easily understood and remembered by students. Complex concepts can be conveyed in a simpler and easier-to-understand manner. Thus, this method not only helps teachers deliver material but also helps students in their learning process. It creates a more effective and productive learning environment where students can more easily understand and remember the material taught. In addition, this method also allows teachers to be more creative in delivering the material, making the learning process more interesting and engaging for students. Applying the Mind Mapping method in education can improve teaching effectiveness and student learning outcomes.

This study shows that the Mind Mapping method can improve student learning outcomes. This shows that education can be improved by applying the right learning model as the main foundation in shaping quality and moral human beings. In this context, the Explicit Instruction Learning Model is the focus of this research. This research shows that with the right approach, we can improve the quality of education and help students reach their full potential.

Effectiveness of Mind Mapping Method in Madrasah Learning Contexts

Using innovative and effective learning methods is very important to make it easier for students to understand the subject. One approach that has received much attention from educational experts is Mind Mapping. This visualization technique directs students to organize information hierarchically, aligning new concepts with existing knowledge. As stated in the previous discussion, this research aims to examine the effectiveness of the Mind Mapping method in improving student learning outcomes at Madrasah Diniyah LPI MAK TUBA Palduding Plak-Pak Pegantenan Pamekasan. In addition, this research is expected to provide a new picture and refine the existing literature by exploring the implementation of the Mind Mapping method in religious education in madrasah Diniyah.

Theoretically, the concept of Mind Mapping was first introduced by Buzan, (2006), which is described as a method for visually organizing ideas to facilitate understanding, creativity, and comprehension. This technique is based on the theory of constructivism that prioritizes student involvement in shaping knowledge through active learning experiences. (Piaget, 1972); Vygotsky & Cole, 2018).

Previous research shows that Mind Mapping effectively improves concept understanding and long-term retention. (Dewi & Riandi, 2016) Noted that the method was able to improve student's critical thinking skills, while research by (Kusmintayu, Suwandi, & Anindyarini, 2012) Showed its effectiveness in teaching problem-solving skills. In the context of HOTS (Higher Order Thinking Skills) based learning, Ma'ruf, Syafii, & Kusuma, (2019) It was also found that Mind Mapping supports the development of students' analytical skills. First, Effectiveness in Improving Learning Outcomes The results of this study show that the Mind Mapping method is effective in improving student learning outcomes in Madrasah Diniyah. Students who used this method were able to understand and remember the material better than students who used traditional methods.

Permana & Setyawan, 2019) It also highlighted how the visualization of ideas through concept maps could increase students' cognitive engagement. In addition, this method allows students to build connections between interrelated concepts through the associative learning theory. Students can deepen their understanding of the subject by connecting new ideas to existing knowledge schemes. *Second*, Increased Learning Motivation This study also found that the Mind Mapping method increased students' motivation in the learning process. This is relevant to Sholichah, (2018) Findings show that visual-based methods such as Mind Mapping can motivate students to be more active and involved in learning. Through active participation, students are passive recipients of information and actively contribute to building their knowledge. *Third*, Contribution to Religious Education This study makes a new contribution to the literature by exploring the application of the mind-mapping method in the context of religious education.

The findings suggest that this technique is effective in teaching general subjects such as science and math but also relevant in helping students understand abstract concepts in religious education. By using Mind Mapping, students can visualize the relationship between religious concepts, values, and moral principles, which helps them in deeper and more meaningful learning. *Fourth*, Limitations and Contextual Factors However, the study also noted that the effectiveness of Mind Mapping may be affected by contextual factors such as

students' learning styles, socioeconomic backgrounds, and teachers' skill levels in applying the method. This is consistent with the findings by (2020), who stated that the successful implementation of innovative learning methods depends highly on teacher competence and institutional support. **Research Contribution to the Literature** This study strengthens previous findings on the effectiveness of Mind Mapping in improving learning outcomes and student motivation. However, it also adds a new dimension by testing the method in the context of religious education, an area less explored in previous literature. As such, this study provides an empirical basis for developing innovative learning approaches relevant to various educational contexts, including madrasah.

Further research is recommended to broaden the understanding of the effectiveness of Mind Mapping. **Explore Application in Other Subjects:** Research could examine how Mind Mapping is applied in teaching science, math, or literacy. **Measuring Long-Term Impact:** Longitudinal studies could be conducted to evaluate the long-term impact of this method on students' learning outcomes and critical thinking skills development. **Tailoring to Specific Needs:** Research can explore how Mind Mapping can be customized for students with special needs, such as learning disabilities or unique learning styles.

The Mind Mapping method effectively improves student learning outcomes at Madrasah Diniyah LPI MAK'TUBA Palduding Plak-Pak Pegantenan Pamekasan. With the ability to facilitate deep understanding, long-term retention, and learning motivation, this method has the potential to be applied in a variety of educational contexts. This study's findings not only strengthen the existing literature but also provide new insights into the application of Mind Mapping in religious education. However, its effectiveness remains affected by contextual factors, so further research is needed to ensure its optimal application.

Effectiveness of Mind Mapping in Improving Learning Outcomes

This study shows that the Mind Mapping method significantly improves student learning outcomes at Madrasah Diniyah LPI MAK'TUBA. This is in line with previous research that shows the superiority of this method in improving students' understanding and retention. For example, Buzan's (2006) Research emphasizes that visualization through concept maps helps map relationships between concepts, thus strengthening memory and conceptual understanding. In addition, a study by Amali, Kurniawati, and Zulhiddah (2019) In science, learning showed that Mind Mapping can facilitate the development of critical thinking skills, a relevant competency in current curriculum-based learning.

This study also supports the theory of constructivism. (Piaget, 1972); Vygotsky & Cole, (2018), states that meaningful learning occurs when students construct knowledge based on their experiences. In this context, Mind Mapping helps students connect new knowledge with existing schemas, as the associative learning theory describes. Students can more easily understand and integrate the concepts learned by organizing information hierarchically and visually.

Flexibility of Mind Mapping Application

The Mind Mapping method has flexibility that allows it to be applied in various subjects and educational levels. For example, a study by Iqbal and Widodo & Nursaptini, (2020) Mind Mapping can be applied to improve problem-solving skills in mathematics learning. In the context of higher education, Ruhama & Erwin, (2021) I found that this method is effective in developing students' analytical skills. Thus, the results of this study support the idea that Mind Mapping is a pedagogical tool that can be adapted in various educational contexts, both for general and specific materials.

In addition, the potential flexibility of Mind Mapping is also seen in the teaching of religious education. As found by Safitri, (2022) Mind Mapping helps students visualize the relationship between theological concepts, moral values, and worship practices. This is relevant in religious learning, where students often face difficulties understanding abstract concepts.

Although this study made a significant contribution, a number of limitations need to be considered. First, the scope of this study is limited to one educational institution, namely Madrasah Diniyah LPI MAK'TUBA. Generalizing the results to other educational contexts requires caution, as suggested, as the effectiveness of learning methods often depends on contextual factors, such as institutional culture and teacher support.

Secondly, this study involved a limited sample, so it is not representative of variations in students' learning styles or teachers' teaching approaches at different levels of education. Further research involving a more diverse population is needed to strengthen these findings. For example, a comparative study between students in urban and rural environments could provide additional insights into how socioeconomic factors affect the successful implementation of Mind Mapping.

Third, this study did not explore the influence of external factors such as student motivation, parental involvement, or institutional support. These factors have been identified

in Akbar, Safitri, and Rusydiyah's (2024) studies as important determinants in the effectiveness of learning methods. A more comprehensive study considering these factors would provide a fuller picture of the effectiveness of Mind Mapping. Fourth, the qualitative approach used in this study has limitations in terms of generalization of results. As outlined, quantitative or mixed-method research can provide stronger empirical evidence, for example, by statistically measuring students' learning outcome scores before and after the application of Mind Mapping.

This study contributes significantly to the literature on the effectiveness of Mind Mapping, particularly in the context of religious education. The findings extend the results of previous studies that mostly focused on science and mathematics subjects (Dewi et al., 2019). In religious education, this study shows that Mind Mapping can be used to explain abstract concepts and build connections between religious values and daily life practices.

In addition, this result verifies the significance of integrating innovative learning approaches in value-based education. Mind Mapping is a visual method that helps students understand the correlation between religious doctrines, ethical principles, and their application in their daily lives. Therefore, this research not only solidifies the empirical foundation regarding the use of Mind Mapping but also serves as a new direction in finding new research in Islamic religious education. Future research to maximize Mind Mapping potential as a learning tool is recommended through:

1. Investigate the Long-term Effect: Longitudinal studies are needed to evaluate the efficacy of the Mind Mapping technique concerning the student's learning outcomes and critical thinking skills.
2. Conclusion For Future Research: Comparative Studies in Different Subjects—This study aims to identify the effectiveness of this method in various educational contexts, such as different subjects (science, language, arts) and educational levels (school, universities).
3. Adaptation for Students with Special Needs: Studies on adapting Mind Mapping for students with special needs will expand the scope of this method's benefits.

CONCLUSION

The findings of this study highlight the remarkable potential of the mind-mapping method to enhance student learning outcomes, especially within the context of Madrasah Diniyah. The research illustrates that Mind Mapping boosts comprehension and retention

and actively involves students in the learning process by encouraging critical thinking and connecting new knowledge to their existing cognitive structures. This approach aligns well with constructivist learning theories and has shown effectiveness in various educational settings, including teaching abstract religious concepts. Moreover, the study emphasizes the adaptability of Mind Mapping, showcasing its relevance across different subjects and educational levels, underscoring its significance as a versatile teaching tool.

However, the study acknowledges certain contextual and methodological limitations that require further investigation. Its focus on a single institution and a limited sample size restricts the broader applicability of the findings. External factors such as institutional support and socio-economic conditions were not thoroughly examined. Future research should address these limitations through longitudinal studies, comparative analyses in varied educational settings, and modifications tailored to the needs of students with special requirements. Expanding the scope of research will not only provide a more comprehensive understanding of Mind Mapping's effectiveness and support its integration into diverse educational models, including those centered on religious and values-based learning.

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