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THE APPLICATION OF THE MIND MAPPING METHOD IN IMPROVING STUDENT LEARNING ACHIEVEMENT IN MADRASAH DINIYAH

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Abstract
This research explores the effectiveness of the Mind Mapping method in improving students' learning outcomes at Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan. Using a qualitative descriptive approach, this study collected primary and secondary data to obtain an accurate and systematic description of the phenomenon under study. The results showed that the Mind Mapping method effectively improves student learning outcomes and can be applied in various learning contexts. However, this study has limitations, including focusing on one educational institution and using qualitative methods. For further research, exploring how the Mind Mapping method can be applied in teaching specific subjects or customised for students with special needs is recommended. This research makes an essential contribution to the field of education by demonstrating the potential of the mind-mapping method as a practical learning tool.
Keywords: Effectiveness; Mind Mapping Method; Learning Outcomes

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INTRODUCTION

Education is an essential factor affecting the quality of human life. In Indonesia, education has various forms and channels, both formal and non-formal. One form of non-formal education developed in Indonesia is madrasah diniyah, an educational institution that organises Islamic religious learning and education(Fauzan & Muslimin, 2018).

Madrasah diniyah aims to provide basic skills to learners to develop their lives as Muslim citizens who believe, fear, and do good deeds and have noble character. Indonesian citizens have personalities, believe in themselves, and are physically and mentally healthy (Fithri, 2020). However, madrasah diniyah still faces several problems in the learning process, such as the lack of human resources, facilities and infrastructure, teaching materials, and practical and exciting learning methods ((Inten et al., 2023).

Although many studies have examined the mind method in learning, some show varied or inconsistent results. Mind mapping is a visualisation technique used in instruction that learners can apply to generate ideas, take notes, organise thoughts, and develop concepts (Shi et al., 2023). This method is increasingly used in education, but research on the effectiveness of mind mapping-based instruction on student learning outcomes still produces inconsistent results. Arulselvi saw that the benefits offered by mind mapping have the potential to be a promising technique to assist students in the learning process. Showed that the efficiency of learning using mind maps was more significant than the efficiency of learning with a conventional approach. In addition, student engagement in the experimental group was higher than in the control group (Gagić et al., 2019). Applying mind maps in physics learning in primary schools can increase students' motivation to learn physics and decrease their mental effort (Fiktorius, 2013).

The research found that concept maps are associated with increased knowledge retention under some conditions, settings, and methodological features. The average effect size of this concept map varied from small to large, depending on how the concept map was used and the type of comparison treatment used. Most subsets showed significant heterogeneity. Research on the use of mind mapping in non-formal education contexts (Hodkinson et al., 2002), such as madrasah diniyah, is minimal. So far, most research has focussed on using mind mapping in formal education settings (Sunarni, 2023). Therefore, there is an urgent need for further research on how the mind mapping method can be applied in non-formal education contexts to improve student learning outcomes. Mind mapping is one learning method that can improve student learning outcomes in madrasah diniyah, a

technique that uses visual diagrams to represent and connect concepts and information (Eshuis et al., 2022).

The motivation for this study is to help improve the quality of education in madrasah diniyah by applying the mind mapping method and filling the gap in the literature on this topic. This study aims to examine the effect of applying the mind mapping method on student learning outcomes in madrasah diniyah LPI Through, a non-formal educational institution under the auspices of Pondok Pesantren Maktuba Al-Majidiyah Putri, Pamekasan, East Java. This research targets students, teachers, and madrasah diniyah managers.

This research's main objective is to significantly contribute to the development of education science, especially in the context of madrasah diniyah, a form of non-formal education in Indonesia. In addition, this research offers alternative learning methods that teachers can use to improve the quality of learning in madrasah diniyah. This research also has the potential to provide valuable input for managers of educational institutions in their endeavours to improve institutional performance and accountability. As an outcome, this research aims to produce new information and findings regarding applying the mind mapping method in the context of madrasah diniyah education.

MATERIALS & METHODS

This study applied a descriptive qualitative approach, describing the research phenomenon without evaluating the relationship between variables (Hollstein, 2011). This type of research is phenomenological, which aims to describe the subject or object of research by the phenomena that occur.

The data collected in this research includes primary and secondary data. Primary data was obtained from the research subjects, including individuals, focus groups, and informant groups (Fetterman, 1988). 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 study involves collecting, sorting and presenting the data that has been collected. The data is then analysed to get an accurate and systematic picture of the phenomenon under study. To ensure the validity and reliability of the data, this study conducted data validity testing (Mezmir, 2020). This testing involves 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 under study. In addition, this research also assumes that the research subjects, namely Madrasah Diniyah female students, can provide relevant and helpful 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 actualisation 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

This research explores the application of the Mind Mapping method in improving student learning outcomes at Madrasah Diniyah LPI. This process involves several necessary steps. 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 MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan is as follows:

1. Material Identification by the Teacher

   The learning process begins with the identification of the material by the teacher. The teacher is vital in determining which materials suit the mind-mapping method. This method facilitates students to integrate new ideas with existing knowledge, thus supporting deeper understanding and long-term retention.

   Setting a conducive learning environment can trigger students to change towards the desired behaviour. A supportive environment can motivate students to learn, participate actively, and achieve the set learning objectives.

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

   Goal formulation is another crucial 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 essential. The materials should be relevant to the learning objectives and appropriate to the needs and interests of the students.

The selection of appropriate strategies is crucial to ensure that 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.

Identifying these materials is essential to ensure that the chosen materials are relevant to the methods used and can maximise 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 the materials suitable for the mind-mapping method. This method facilitates students to integrate 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. Firstly, a supportive learning environment can motivate students to learn, actively participate and ultimately achieve the learning objectives. This process involves analysing 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. Thirdly, 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. This material identification is important to ensure that the chosen material is relevant to the method used and can maximise 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

In education, the role of teachers is vital, especially in the preparation of Learning Tools. Teachers are responsible for preparing learning tools that include process scenarios and learning media. The primary purpose of this preparation is to achieve the learning objectives set.

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

In addition, learning tools are also designed to ensure that the steps of learning activities can be carried out effectively and efficiently. This means that each learning

activity is designed in such a way as to maximise the time and resources available. Thus, the learning process focuses on completing the material and developing students' skills and understanding.

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

> This is illustrated in the interview with the Mapel 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 maximise 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, the preparation of Learning Tools is a complex process that requires careful planning and consideration. However, with good learning tools, teachers can create a conducive learning environment that allows every student to reach their potential. Thus, teachers' role in preparing Learning Tools is crucial in improving student learning achievement.

3. Evaluation of Results

Learning evaluation is an essential 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.

This 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 concept understanding to applying knowledge in a natural context.

In addition, periodic reviews or evaluations are also used to determine the extent to which students have mastered the material that has been learned. This review is usually conducted 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 also serves as a tool to monitor student progress. By knowing students' progress, teachers can adjust learning methods if needed. For example, if a student struggles to understand a particular concept, the teacher can change the teaching approach or use different learning methods.

It is important to remember that the primary purpose of evaluation is to measure students' knowledge and support their learning development. As such, evaluation should be designed to promote reflection and continuous improvement.

In the context of your article on implementing the Mind Mapping method, evaluation of these learning outcomes can be a handy tool. With practical evaluation, teachers can ensure that the Mind Mapping method helps to 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 is the result of an interview with the subject teacher.

> "I design the 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 know 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 guides in the context of learning using the Mind Mapping method. They carry out the learning of the material following the lesson plan (RPP) that has been carefully prepared.

This process involves direct interaction between teachers and students, where teachers guide students through the learning process. The teacher conveys information and assists students in understanding and applying the concepts taught.

The application of the Mind Mapping method in this lesson is designed to help students understand and remember the material more effectively. By using Mind Mapping, students can visualise 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.

In addition, teachers also ensure that students are actively involved in the learning process. They encourage student participation in class discussions and independent learning activities. Thus, students are passive recipients of information and active participants in their learning process.

Overall, applying the Mind Mapping method in this lesson aims to create an interactive and supportive learning environment where students can deeply understand the material and improve their learning achievement. This approach makes learning more exciting and meaningful for students, and their learning outcomes can be significantly improved.

5. Explanation of Material Creation:

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

The teacher guides students through creating Mind Mapping, from identifying the central concept, determining sub-concepts, and connecting between concepts. This process helps students understand the structure and logic behind the material.

In addition, the teacher also emphasised how the Mind Mapping method can be used as a practical learning tool. With Mind Mapping, students can visualise and organise 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. Teacher-to-Teacher Motivation and Direction:

Teachers play an essential role in promoting and directing the Mind Mapping method. They provide motivation and direction to each other, creating a conducive environment for 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.

Applying the mind-mapping method in these discussions facilitates a better understanding of the material. Teachers can more easily understand and recall information by visualising concepts and ideas through mind maps. 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 best strategies in using the Mind Mapping method. Thus, they can learn from each other and adapt this method in their teaching practice, ultimately improving teaching effectiveness and students' learning achievement.

7. Ease of Material Delivery

The Mind Mapping method facilitates teachers in the delivery of materials. It allows teachers to present information in a format that is easy for students to understand and remember. Complex concepts can be conveyed in a more straightforward and easier-to-understand way. Thus, this method helps not only teachers in the delivery of material but also 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 exciting and engaging for students. The Mind Mapping method can improve teaching effectiveness and student learning outcomes.

This study shows that the Mind Mapping method can improve students' learning outcomes. This shows that education, as the primary foundation in shaping quality and moral human beings, can be improved by applying appropriate learning models. 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

Based on the research findings, it can be concluded that the Mind Mapping method is efficacious in improving student learning outcomes at Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan. This method allows students to understand and remember the material better and motivates them to be more active in learning.

Mind Mapping is a technique that allows students to connect new ideas with existing knowledge, thus facilitating deeper understanding and long-term retention (Parikh, 2016). In this madrasah context, this method has been proven to be effective in helping students understand and remember the subject matter (Ardiansyah, 2023).

In addition, Mind Mapping also plays a role in motivating students to be more active in the learning process. This method empowers students to take an active role in their learning rather than just being passive recipients of information (Darnella et al., 2020). This is important as research has shown that students who are more involved in their learning process have better learning outcomes (Fu, Lin, Hwang, & Zhang, 2019). This finding aligns with the research conducted by (2019) and Sulichah, who identified HOTS-based mind mapping as a practical learning tool.

However, it is essential to note that the effectiveness of Mind Mapping may vary depending on various factors, such as students' learning styles, motivation, and learning context (Hussein, Gaber, Elyan, & Jayne, 2017). Therefore, more research is needed to understand how and when this method is most effective.

Considering the effectiveness of the Mind Mapping method in improving students' learning outcomes in Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan, it can be speculated that this method can be used in various other learning contexts.

Mind Mapping, with its ability to facilitate deeper understanding and long-term retention, has the potential to be applied in a variety of learning contexts. For example, it can be used in teaching other subjects such as maths or natural science (Marxy, 2017) or even in teaching skills such as critical thinking or problem-solving (Kusmintayu et al., 2012).

In addition, Mind Mapping can also be used in different levels of education, ranging from primary to tertiary education (Bond, Buntins, Bedenlier, Zawacki-Richter, & Kerres, 2020). In each of these contexts, the method can be customised to meet the needs and abilities of different students.

However, it is essential to note that although this potential exists, more research is needed to validate these speculations. For example, further research can be conducted to explore how Mind Mapping can be applied in teaching specific subjects or how this method can be customised for students with special needs.

The Mind Mapping method has been used in various learning contexts and has been proven effective in improving student learning outcomes. The method allows students to

visualise concepts and ideas through diagrams or mind maps, which helps them understand and remember the material better (Stokhof, De Vries, Bastiaens, & Martens, 2020).

Several studies have shown that Mind Mapping can improve critical thinking skills, deepen concept understanding, and strengthen long-term memory (Fendy & Dwi, 2019; Dewi & Riandi, 2016). This method promotes more profound understanding and integrating new knowledge with existing knowledge.

This research shows that the Mind Mapping method in the context of Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan also provides positive results. This result is in line with previous research that shows the effectiveness of this method in various learning contexts.

However, this study also adds a new dimension to the existing literature by showing how the mind-mapping method can be applied in the context of religious education. This shows that the method is effective in general education and can be used in religious teaching and learning.

In addition, this research also shows that the Mind Mapping method can be used to improve student learning outcomes in a more specific context, namely Madrasah Diniyah. This suggests that the method can be adapted and applied in various contexts and learning environments.

Overall, this study strengthens the existing evidence on the effectiveness of the Mind Mapping method in improving students' learning outcomes. However, it also adds to the existing literature by showing how the method can be applied in religious education and the more specific context of Madrasah Diniyah. This demonstrates the flexibility and adaptability of this method in various contexts and learning environments.

The Use of Mind Mapping in Improving Learning Outcomes of Madrasah Diniyah LPI MAKTUBA

Mind Mapping method is efficacious in improving students' learning outcomes in LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan Diniyah Madrasah. Suppose this method can be applied in various learning contexts. In that case, it can be concluded that the Mind Mapping method is a valuable learning tool that can be used by teachers at various levels and fields of education.

Firstly, the effectiveness of the Mind Mapping method has been proven to improve students' learning outcomes. The method facilitates more profound understanding and long-

term retention, which is essential for effective learning. Therefore, if this method is effective in the context of Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan, then there is good reason to believe that it will also be effective in other learning contexts.

Secondly, the Mind Mapping method has a flexibility that allows it to be applied in various learning contexts (Entwistle, 2017). For example, it can be used in teaching other subjects such as maths or natural science or even in teaching skills such as critical thinking or problem-solving. In addition, it can be used in different levels of education, ranging from primary to tertiary education.

Therefore, based on the effectiveness and flexibility of the Mind Mapping method, it can be concluded that it is a valuable learning tool. However, it is essential to note that although this argument is logical and supported by evidence, more research is needed to validate this conclusion. For example, further research can be conducted to explore how Mind Mapping can be applied in teaching specific subjects or how this method can be customised for students with special needs. Thus, while the Mind Mapping method shows great potential as a learning tool, it is essential to continue to evaluate and validate its effectiveness through empirical research.

This study also has some limitations that need to be noted. Firstly, this study only focuses on one educational institution, Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan. Therefore, the results of this study may not be generalised to other contexts or other educational institutions. Although the Mind Mapping method has proven effective in improving students' learning outcomes in this madrasah, its effectiveness may differ in other educational institutions with different characteristics and contexts.

Secondly, this study only involved a certain number of students and teachers. Therefore, the results of this study may not cover all possible perspectives. For example, it may not include the perspectives of students with different learning styles or teachers with different teaching approaches. In addition, this study did not include the perspectives of the student's parents, who may have different views on the effectiveness of the Mind Mapping method.

Thirdly, this study did not consider other factors that might affect students' learning outcomes. For example, students' motivation, socioeconomic background, or parental support might also affect students' learning outcomes and the effectiveness of the Mind Mapping method.

Fourthly, this study used a qualitative method, which may have limitations. For example, qualitative research is often subjective and may be influenced by researcher bias. In addition, qualitative research also often cannot be generalised to a larger population.

CONCLUSION

This study explored the application of the Mind Mapping method in improving student learning outcomes at Madrasah Diniyah LPI MAKTUBA Palduding Plak-Pak Pegantenan Pamekasan. This method involves several essential steps, including the identification of materials by teachers, preparation of learning tools, evaluation of learning outcomes, implementation of learning, explanation of material creation, motivation and direction among teachers, and ease of material delivery. The results showed that the Mind Mapping method effectively improved students' learning outcomes. The research also shows that this method can be applied in various learning contexts, including religious education and Madrasah Diniyah.

Although this study demonstrated the effectiveness of the mind-mapping method, some limitations need to be noted. Firstly, this study only focused on one educational institution, so the results may not be generalisable to other contexts. Secondly, this study only involved a certain number of students and teachers, so it may not cover all possible perspectives. Thirdly, this study did not consider other factors that might affect student learning outcomes. Fourthly, this study uses qualitative methods, which may have its limitations.

For further research, exploring how the Mind Mapping method can be applied in teaching specific subjects or how it can be adapted for students with special needs is recommended. In addition, further research can also be conducted to validate the effectiveness of this method in various contexts and learning environments. Thus, while the Mind Mapping method shows great potential as a learning tool, it is essential to continue to evaluate and validate its effectiveness through empirical research.

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