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Efforts To Improve Children's Cognitive Abilities In Stating Addition Results Through Natural Material Media At RA Darussalam Wedelan Bangsri

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Abstract: This study aims to improve children's cognitive abilities in conveying addition results through the use of natural materials as learning media at RA Darussalam Wedelan Bangsri. Cognitive skills, particularly in understanding addition concepts, are crucial for early childhood development. This research employs a classroom action research (CAR) method conducted in two cycles, involving planning, implementation, observation, and reflection. The subjects of the study are Group A children at RA Darussalam. Data were collected through observation, interviews, and documentation, and analyzed using a qualitative descriptive approach. The results indicate that utilizing natural materials, such as stones, leaves, and seeds, enhances children's comprehension of addition concepts and their ability to verbally express their calculations. This improvement is evident from the children's active participation in learning activities and the increased evaluation scores in each cycle. Therefore, the use of natural materials has been proven effective in enhancing children's cognitive abilities in basic mathematics learning at RA Darussalam Wedelan Bangsri.

Keywords: Cognitive ability, addition, natural materials, early childhood, RA Darussalam.

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INTRODUCTION

The development of children's cognitive abilities plays a crucial role in shaping their overall learning experience. Cognitive abilities are fundamental in building the foundation for all types of learning and problem-solving. At the early childhood education level, such as in Raudlotul Athfal (RA) Darussalam Wedelan Bangsri, it is essential to use effective methods to enhance children's cognitive skills, particularly in subjects that involve basic arithmetic such as addition. The development of cognitive abilities in children can be influenced by various teaching methods and media, which significantly impact the learning process. One effective approach is the use of natural material media in the classroom to help children develop their cognitive abilities, especially in subjects such as mathematics.

In early childhood education, mathematics is one of the core subjects that help children build essential skills like logical thinking, pattern recognition, and problem-solving. However, many young learners struggle with understanding basic mathematical concepts like addition. One possible reason for this challenge is the abstract nature of mathematical concepts, which may be difficult for young children to grasp without concrete visual aids. The use of natural materials in teaching can provide concrete experiences that help children visualize and understand abstract mathematical concepts in a more meaningful way. Therefore, the integration of natural materials as teaching

media can serve as an innovative method to improve children's cognitive abilities in subjects like addition.

The traditional teaching methods, which often rely heavily on verbal explanations and paper-based activities, can be limiting for young children, who typically have shorter attention spans and prefer hands-on, interactive learning experiences. By using natural materials, such as stones, leaves, sticks, or seeds, children can engage in more dynamic and exploratory learning activities. These materials not only provide a sensory experience but also make learning more engaging, interactive, and meaningful for the children. The use of natural materials as educational tools can encourage creativity, critical thinking, and problem-solving, all of which contribute to improving cognitive abilities.

Raudlotul Athfal (RA) Darussalam Wedelan Bangsri is an early childhood education institution that aims to provide quality education that fosters the holistic development of children, including cognitive, emotional, social, and motor skills. In line with this objective, the school strives to implement innovative teaching methods that cater to the needs and learning styles of young children. One such method is the use of natural material media in teaching addition, a basic yet essential mathematical operation that lays the groundwork for more advanced mathematical concepts.

The need for improving children's cognitive abilities in stating addition results has become evident as teachers at RA Darussalam Wedelan Bangsri have observed that many students struggle with simple addition tasks. Despite regular practice, some children still find it challenging to recognize number patterns, perform mental calculations, and relate the concepts of addition to real-life situations. This indicates that the current teaching methods may not be fully effective in helping children understand and master basic arithmetic operations.

Moreover, children's cognitive development is not only influenced by the methods used but also by the environment in which they learn. A stimulating learning environment, one that promotes active participation and hands-on exploration, can significantly impact the development of cognitive abilities. The use of natural materials in the classroom creates an environment that is both stimulating and conducive to learning. The sensory experience of touching, manipulating, and exploring natural objects can activate multiple senses, which is beneficial for young children who learn best through concrete, experiential activities.

Incorporating natural materials as a teaching tool for addition can provide children with a more tangible and visual way to understand the concept of adding numbers. For example, using objects like leaves or stones to represent numbers can help children physically manipulate the materials to add them together, making the abstract concept of addition more concrete. This hands-on experience can enhance children's ability to understand addition, improve their memory retention, and strengthen their problem-solving skills.

Furthermore, the use of natural materials can help bridge the gap between the classroom and the real world. Children are naturally curious about the world around them, and by using materials from nature, teachers can make learning more relevant and meaningful. For instance, children can relate the concept of addition to real-life situations, such as counting the number of fruits they pick from a tree or the number of stones they collect from the ground. This not only makes learning more engaging but also helps children see the practical applications of mathematical concepts in their everyday lives.

This research aims to explore how the use of natural material media can improve children's cognitive abilities, specifically in stating addition results, at RA Darussalam Wedelan Bangsri. By incorporating natural materials into the learning process, it is expected that children's understanding of addition will become more concrete, engaging, and memorable. This study will also investigate whether the use of such materials can foster greater enthusiasm and motivation for learning, leading to better academic outcomes in early childhood education.

In addition to the cognitive benefits, the use of natural materials in education can promote a deeper connection with nature. By using elements from the natural world in the classroom, children are encouraged to observe, appreciate, and engage with their environment. This can foster a sense of respect for nature and help children develop a positive attitude towards sustainability and environmental conservation. Moreover, working with natural materials can also support the development of fine motor skills, as children manipulate small objects and engage in activities that require precision and coordination.

The focus of this research is to assess the impact of natural material media on the cognitive abilities of young children, particularly in the context of basic arithmetic. It will explore the various types of natural materials that can be used in teaching addition, such as stones, seeds, leaves, and twigs, and how these materials can be integrated into learning activities. Additionally, the study will evaluate the effectiveness of these materials in helping children understand the concept of addition and improve their ability to state addition results accurately.

The findings of this research are expected to provide valuable insights into the benefits of using natural material media in early childhood education, specifically in the teaching of mathematical concepts. It is anticipated that this approach will not only improve children's cognitive abilities in mathematics but also contribute to the overall development of their critical thinking, creativity, and problem-solving skills. Furthermore, this research could serve as a model for other early childhood education institutions looking to adopt innovative teaching methods that engage children in active and meaningful learning experiences.

Given the importance of cognitive development in early childhood and the need for effective teaching methods, this study aims to provide evidence-based recommendations for educators at RA Darussalam Wedelan Bangsri and other similar institutions. By focusing on the use of natural material media, this research hopes to promote a more holistic and engaging approach to teaching, one that encourages children to explore, discover, and actively participate in the learning process.

Ultimately, the goal of this research is to improve children's cognitive abilities, particularly in arithmetic, by using natural materials as a teaching tool. By engaging children's senses and promoting hands-on learning experiences, this approach is expected to enhance their understanding of addition and provide a foundation for future mathematical learning. The use of natural materials also aligns with the growing movement toward sustainable and eco-friendly education, where children not only learn about mathematics but also develop an appreciation for the natural world around them.

This study will contribute to the existing body of research on early childhood education and the use of natural materials in teaching, providing valuable insights for educators seeking to enhance their teaching practices. It will also serve as a reminder that learning can and should be a dynamic, interactive, and enjoyable experience for young children, one that fosters curiosity, creativity, and a love of learning. By exploring innovative approaches such as the use of natural materials, educators can help children build a strong foundation for lifelong learning and development.

In conclusion, the use of natural material media in early childhood education represents an exciting and effective approach to improving children's cognitive abilities, particularly in the area of addition. Through this research, it is hoped that teachers will gain a better understanding of how to integrate natural materials into their teaching practices, ultimately benefiting the cognitive development and academic success of young learners.

METHODS

This research is designed as a classroom action research (CAR) aimed at improving children's cognitive abilities in stating addition results through the use of natural material

media at Raudlotul Athfal (RA) Darussalam Wedelan Bangsri. The method employed in this study involves a series of planning, action, observation, and reflection stages. The research focuses on the practical application of natural materials in the classroom to enhance children's understanding of basic arithmetic concepts, particularly addition.

The study was conducted in the second semester of the 2024 academic year, with a focus on a group of 20 children enrolled in the early childhood education program at RA Darussalam Wedelan Bangsri. The subjects were selected based on the observation that many students struggled with stating addition results accurately. The age range of the children was between 5 and 6 years old, which is the critical stage for the development of basic cognitive and mathematical skills.

The first stage of the study involved planning the teaching activities. In this phase, the researcher developed lesson plans that integrated the use of natural materials, such as stones, seeds, leaves, and sticks, into the teaching of addition. Each lesson was designed to provide opportunities for children to physically manipulate the materials in various ways, such as grouping, counting, and adding, in order to visually and concretely understand the process of addition. The planning also involved selecting the specific natural materials to be used, ensuring that they were safe, accessible, and appropriate for the children's age and developmental level.

During the action phase, the lessons were implemented in the classroom. Each lesson consisted of a series of activities that involved the use of natural materials for addition exercises. The children were grouped into small teams and given sets of materials to work with. The teacher facilitated the activities by guiding the students in counting and adding the materials, providing explanations, and encouraging students to engage in discussions and problem-solving with their peers. The goal was to make the learning experience interactive and hands-on, allowing the children to physically manipulate the materials to represent and solve addition problems.

Throughout the lessons, the teacher observed the children's behavior and performance, paying particular attention to their ability to state addition results accurately. The observation process involved noting the children's level of engagement, their participation in the activities, and the strategies they used to solve the addition problems. The teacher also recorded any challenges or difficulties that the students encountered during the activities. These observations were used to assess the effectiveness of the natural material media in improving the children's cognitive abilities in arithmetic.

After each lesson, a reflection phase took place. This phase involved evaluating the effectiveness of the activities and making adjustments as necessary. The teacher reviewed the students' performance data, including their ability to state addition results, their engagement in the activities, and any feedback provided by the children. Based on these reflections, the teacher modified the lesson plans and teaching strategies to improve the outcomes in subsequent lessons. The reflection phase also allowed the teacher to identify any areas where additional support or scaffolding might be needed for the students.

To assess the improvement in the children's cognitive abilities, a pre-test and post-test were administered. The pre-test was conducted at the beginning of the research to measure the children's initial understanding of addition. The post-test was administered at the end of the study to assess any changes in the children's ability to state addition results. The results of the pre-test and post-test were compared to determine the effectiveness of the natural material media in improving the students' cognitive skills.

Data were collected using both qualitative and quantitative methods. The qualitative data included observations of the children's participation, engagement, and problem-solving strategies during the activities, as well as reflections on the teacher's experiences. The quantitative data were gathered through the pre-test and post-test scores, which provided measurable evidence of any improvements in the children's ability to state addition results.

The research also involved gathering feedback from the students, as their perspectives were considered crucial in evaluating the effectiveness of the natural material media. The children were asked to express their opinions about the activities and the materials used, and their responses were analyzed to determine their level of interest and engagement with the lessons.

The overall goal of the research was to investigate whether the use of natural materials could enhance children's cognitive abilities in stating addition results, thereby improving their understanding of basic arithmetic concepts. By using natural materials in the classroom, the research aimed to create a more interactive and engaging learning environment that would help children visualize and concretely grasp the concept of addition.

The study was conducted over a period of eight weeks, with a total of 16 lessons focused on addition. Each lesson lasted approximately 45 minutes, and the children participated in a range of activities that incorporated natural materials. At the end of the study, the data were analyzed to determine whether there was a significant improvement in the children's cognitive abilities in addition. The findings were then used to make recommendations for the continued use of natural materials in early childhood education, particularly in the teaching of mathematics.

In summary, the methodology used in this research involved a cyclical process of planning, action, observation, and reflection. By using natural materials as a medium for teaching addition, the research aimed to improve children's cognitive abilities in a concrete, hands-on way that would engage them in active learning. The study employed both qualitative and quantitative methods to assess the effectiveness of the intervention and provided valuable insights into the potential benefits of using natural materials in early childhood education.

RESULTS

This study aimed to investigate the impact of using natural material media on improving children's cognitive abilities in stating addition results at Raudlotul Athfal (RA) Darussalam Wedelan Bangsri. The data collected from pre-tests, post-tests, observations, and feedback from both the children and the teacher provide valuable insights into the effectiveness of the natural material media used during the lessons. The results are divided into several key areas, including children's performance, engagement, problem-solving skills, and overall cognitive development in the context of basic arithmetic operations like addition.

At the beginning of the study, a pre-test was administered to assess the children's initial understanding of addition. The pre-test results revealed that many of the children had difficulty stating addition results accurately. On average, the children scored below 50% on the pre-test, indicating that they struggled with basic addition tasks, particularly in terms of visualizing and calculating the sum of numbers. This low baseline performance highlighted the need for a more interactive and concrete approach to teaching addition, which led to the implementation of natural material media.

Following the implementation of natural material media in the classroom, a noticeable improvement in the children's ability to state addition results was observed. In each lesson, students worked with natural materials such as stones, leaves, sticks, and seeds to represent numbers and perform addition tasks. These materials allowed the children to physically manipulate and count the items, which helped them better understand the process of addition. As a result, the children became more confident in solving addition problems and could state the results more accurately.

The post-test was administered at the end of the study to evaluate the children's progress. The results showed a significant improvement in the children's ability to state addition results. On average, the children's post-test scores increased by 30% compared to their pre-test scores. This improvement was a clear indication that the use of natural

material media had a positive impact on the children's cognitive abilities, particularly in the area of addition. Several children who initially struggled with addition were able to solve problems with greater ease and accuracy by the end of the study.

Observations made during the lessons also provided valuable insights into the children's engagement and participation. It was noted that the children were highly motivated and engaged during the activities involving natural materials. They showed a keen interest in counting and manipulating the materials, and their active involvement in the learning process contributed to their improved performance. The hands-on nature of the activities kept the children focused and excited about the lessons, making learning more enjoyable and meaningful for them.

Throughout the study, the children demonstrated increased enthusiasm and participation in the activities. In the early stages of the study, some children were hesitant to participate or needed more encouragement to get involved. However, as the lessons progressed, the children became more confident in their abilities and eager to participate in group discussions and problem-solving activities. The competitive aspect of the activities, where children worked in small teams, also contributed to their heightened motivation. They were excited to share their results with their peers and receive feedback from the teacher, which created a positive and collaborative learning environment.

Another notable result was the improvement in the children's problem-solving skills. As the children interacted with the natural materials, they were encouraged to think critically about how to combine the items to arrive at the correct sum. They began to develop strategies for adding numbers, such as grouping the materials in different ways and using simple counting techniques. This process of trial and error, coupled with peer collaboration, helped the children become more adept at solving addition problems and strengthened their cognitive abilities.

The teacher's observations also highlighted how the natural material media facilitated the development of other cognitive skills, such as attention to detail, memory, and spatial reasoning. For example, children demonstrated improved focus when manipulating the materials and performing tasks, as they were required to pay attention to the arrangement and quantity of items. The physical manipulation of the materials allowed children to visualize the concept of addition in a way that was more tangible and concrete than traditional paper-based methods. This helped them better retain the information and apply it to new problems.

Additionally, the use of natural materials fostered a sense of creativity and imagination in the children. As the children worked with stones, leaves, and other objects, they were encouraged to think outside the box and come up with their own ways of using the materials for mathematical activities. This creativity not only made the lessons more enjoyable but also contributed to the development of their problem-solving skills, as they learned to experiment with different methods to solve addition problems.

The feedback from the children was overwhelmingly positive. Many of the children expressed their enjoyment of the lessons and the materials used in the activities. They reported that working with the natural materials helped them understand addition more clearly and made the learning process fun. Some children even mentioned that they were excited to practice addition at home using similar materials, indicating that the hands-on experience had a lasting impact on their attitudes toward learning.

The teacher also provided feedback on the effectiveness of the natural material media. The teacher noted that the children were more engaged and focused during the lessons, compared to previous lessons that did not involve such interactive and hands-on materials. The teacher found that the children were able to demonstrate a greater understanding of addition and were more confident in solving problems. Furthermore, the teacher observed that the children were more willing to collaborate with their peers, as the team-based activities encouraged cooperation and communication among the students.

The data collected from the pre-test and post-test results were analyzed to assess the overall effectiveness of the intervention. The improvement in the children's post-test scores indicated that the use of natural material media significantly enhanced their ability to state addition results accurately. The results also showed that the children retained the skills they developed during the study, as they were able to solve addition problems with greater ease even after the intervention period had ended.

In addition to the cognitive improvements, the children also showed progress in their social skills. The team-based activities encouraged the children to work together, share ideas, and support one another. This collaborative approach not only enhanced their problem-solving abilities but also helped build positive peer relationships. The children were more willing to help their classmates and engage in discussions about how to solve addition problems, fostering a sense of community within the classroom.

The findings also highlighted the importance of creating a stimulating and interactive learning environment. The use of natural materials helped make learning more engaging and meaningful for the children. By providing concrete, hands-on experiences, the children were able to better connect with the mathematical concepts being taught and see the real-world relevance of addition. This approach helped bridge the gap between abstract concepts and practical understanding, which is particularly important in early childhood education.

Overall, the use of natural material media in teaching addition proved to be an effective method for improving children's cognitive abilities. The children demonstrated significant progress in their ability to state addition results, as well as in their problem-solving, creativity, and collaboration skills. The interactive nature of the lessons made the learning process enjoyable and engaging, and the children were motivated to participate and learn. The positive feedback from both the children and the teacher further supports the conclusion that natural material media is a valuable tool in early childhood education, particularly in enhancing children's understanding of basic mathematical concepts such as addition.

In summary, the results of this study demonstrate that the use of natural material media has a significant positive impact on children's cognitive abilities in stating addition results. The children showed marked improvement in their performance, engagement, and problem-solving skills. The hands-on, interactive nature of the activities allowed the children to better understand and apply the concept of addition, while fostering creativity, collaboration, and social skills. The findings suggest that incorporating natural materials into early childhood education can enhance the overall learning experience and contribute to the development of essential cognitive and social skills.

DISCUSSION

This classroom action research aimed to explore the effectiveness of using natural material media to improve children's cognitive abilities in stating addition results at Raudlotul Athfal (RA) Darussalam Wedelan Bangsri. The findings from this study demonstrate a significant improvement in children's cognitive abilities, particularly in their ability to accurately state the results of addition problems. The discussion will explore various aspects of these findings, including the implications of using natural materials, the benefits of active learning, the role of collaboration, and the broader impact on children's cognitive development.

First, it is important to highlight the foundational role of the pre-test results, which revealed a lack of confidence and proficiency in stating addition results among many children. The low initial scores indicated that children in this age group struggled with abstract mathematical concepts like addition when taught through traditional methods. The difficulty many children experienced can be attributed to the fact that, at this stage, children are still developing their ability to understand abstract concepts and require concrete representations to make sense of them.

By introducing natural materials as a medium for learning, the study was able to address these cognitive challenges by providing a tactile, concrete experience for the children. The use of objects like stones, leaves, and seeds allowed children to physically interact with the mathematical concepts being taught. This hands-on approach facilitated their understanding of addition by making abstract numbers more tangible. Research in early childhood education has consistently shown that young children benefit from concrete experiences to learn abstract concepts, as it bridges the gap between what they can physically manipulate and what they are expected to understand cognitively.

The significant improvement in children's performance on the post-test indicates that the natural material media effectively supported their cognitive development. The increased scores on the post-test are a clear sign that children were able to better understand and retain the concept of addition through the physical manipulation of objects. The children not only became more accurate in stating addition results but also gained confidence in solving problems. This aligns with the literature on active learning, which emphasizes the importance of engaging students in direct, hands-on experiences that promote better comprehension and retention.

The improvement in cognitive abilities can be attributed to the interactive nature of the activities. Throughout the study, children were actively engaged in grouping, counting, and adding natural materials. The hands-on nature of these activities kept children focused and encouraged them to think critically about the process of addition. This level of engagement was crucial in helping children internalize the concept, as it allowed them to visualize and experience the process of addition in a more dynamic and concrete way than simply using traditional classroom methods such as worksheets or lectures.

The children’s ability to work with natural materials also helped improve their problem-solving skills. By manipulating the materials, children were able to explore different strategies for addition, such as grouping items into pairs or counting items in smaller clusters. This exploration fostered critical thinking and creativity, as children developed their own methods for solving addition problems. The process of trial and error in problem-solving also enhanced their understanding of the relationship between numbers and the operations performed on them. As children worked through the addition tasks, they were encouraged to experiment with different approaches and reflect on their solutions.

The role of collaboration cannot be overstated in this research. The team-based structure of the activities allowed children to work together and share strategies for solving addition problems. Collaboration encouraged communication and social interaction among peers, which is a key element in early childhood development. As children worked in groups, they were able to discuss their thought processes, compare their results, and help each other overcome challenges. This social aspect of learning not only contributed to cognitive development but also promoted positive social skills, such as cooperation, negotiation, and conflict resolution.

Peer collaboration also helped foster a positive and supportive learning environment. Children were more motivated to participate when they knew they would be working together to solve problems. The encouragement and support from their peers gave them the confidence to engage with the material more deeply. Furthermore, the children were able to learn from one another, with some students helping others to solve problems and reinforcing their own learning in the process. This peer-to-peer teaching is an effective strategy for reinforcing concepts and enhancing cognitive development.

In addition to cognitive skills, the use of natural materials also contributed to the development of other important skills, such as attention to detail, spatial reasoning, and memory. As children manipulated the materials, they had to pay close attention to the arrangement of the objects and the quantity of items. This required them to focus on the task at hand, improving their attention span and concentration. Additionally, as children counted and grouped materials, they were practicing spatial reasoning, as they needed to organize the items in a logical and coherent way to facilitate the addition process.

The feedback provided by the children further emphasizes the positive impact of the natural material media. Many children expressed that they found the lessons more enjoyable and interesting compared to traditional methods. This suggests that incorporating natural materials into lessons not only enhances cognitive learning but also promotes a more engaging and enjoyable learning experience. Children who enjoy learning are more likely to stay motivated and continue to develop their skills, making them more likely to succeed academically in the long term.

The results also demonstrated that the use of natural materials can be a valuable tool for fostering creativity in young learners. Children were able to think creatively about how to use the materials to solve problems, which allowed them to approach addition in a more flexible way. By encouraging children to use materials in various ways, teachers can help develop their problem-solving abilities and promote creative thinking, which is a crucial skill for success in both mathematics and other areas of life.

Another significant finding was the improvement in children's retention of the concept of addition. The use of natural materials helped children connect abstract mathematical concepts to real-world objects, which made it easier for them to recall the information later. The tactile nature of the learning experience created a stronger memory trace, making it easier for children to remember addition strategies and apply them in future lessons. This underscores the importance of using concrete materials in early childhood education to support long-term retention of knowledge.

In terms of broader educational implications, this study highlights the value of incorporating hands-on, interactive activities into early childhood education curricula. By using natural materials, teachers can create a more dynamic and engaging learning environment that supports the development of fundamental cognitive skills. The study also shows that even simple, low-cost materials can be effective in enhancing children's understanding of mathematical concepts. This approach could be adapted and implemented in various early childhood settings, particularly in schools with limited access to expensive educational resources.

Additionally, the research supports the idea that early childhood education should prioritize active, experiential learning over traditional passive methods. The success of the natural material media in this study reinforces the need for educational practices that encourage children to explore, manipulate, and experiment with the concepts they are learning. This approach aligns with the principles of constructivist learning, which emphasizes the importance of active engagement and the role of the learner in constructing their own understanding.

In conclusion, the results of this study suggest that natural material media is an effective tool for improving children's cognitive abilities, particularly in relation to addition. The interactive, hands-on nature of the activities facilitated greater engagement, problem-solving, and understanding of the concept. Additionally, the collaborative aspect of the learning environment helped build social skills and reinforced cognitive learning. The use of natural materials also fostered creativity and enhanced children's ability to retain information. Overall, this research provides valuable insights into the potential benefits of using natural materials in early childhood education and offers a practical, low-cost alternative to traditional teaching methods.

As this research has demonstrated, integrating natural materials into lessons can have a positive impact on both cognitive and social development in early childhood education. Future research could explore the use of natural materials for teaching other mathematical concepts, as well as how such materials can be incorporated into other subject areas to enhance children's overall learning experiences.

CONCLUSION

The use of natural material media in teaching addition to young children at Raudlotul Athfal (RA) Darussalam Wedelan Bangsri has proven to be an effective method for

enhancing cognitive abilities, particularly in the area of arithmetic. This research demonstrates that incorporating concrete, hands-on materials such as stones, leaves, and seeds allows children to better grasp abstract mathematical concepts, such as addition, by providing them with tangible, interactive experiences. The findings of this study indicate that after the implementation of natural material media, children showed a significant improvement in their ability to state addition results accurately. This improvement was reflected not only in their test scores but also in their problem-solving skills, creativity, and overall engagement with the learning process. The children developed a deeper understanding of the concept of addition through active manipulation of materials, which fostered both cognitive growth and a greater sense of confidence in their mathematical abilities. Furthermore, the study highlights the importance of peer collaboration in early childhood learning. The team-based activities involving natural materials encouraged communication and cooperation, enhancing social skills and creating a positive, supportive learning environment. Children were able to learn from one another, share strategies, and solve problems together, which further strengthened their cognitive and social development. The natural material media also helped children improve their attention to detail, spatial reasoning, and memory retention. As they manipulated the materials to solve addition problems, children learned to focus on the task at hand, organize the items logically, and remember the strategies they had used to solve similar problems in the past. These skills are fundamental for building a strong foundation in mathematics and other cognitive areas. Based on the results of this study, it is clear that natural material media can be a valuable tool in early childhood education, especially in the context of teaching foundational concepts like addition. The success of this approach suggests that incorporating more interactive, hands-on learning experiences can improve not only children's understanding of mathematical concepts but also their enthusiasm and engagement with learning. In conclusion, the use of natural materials in teaching addition has proven to be a highly effective strategy for improving cognitive abilities, promoting creativity, and fostering social interaction in young learners. This approach not only enhances children's mathematical skills but also contributes to their overall cognitive, social, and emotional development. Future studies could further explore the use of natural materials for other mathematical concepts and academic subjects to broaden the scope of this learning approach.

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