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Efforts to Improve Numeracy Skills Using Gravel Media Child of Group A BA 'Aisyiyah Pakunden 1

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Abstract: The ability to count is one of the basic skills in early childhood cognitive development. This study aims to improve the numeracy ability of Group A children at BA Aisyiyah Pakunden 1 through the use of gravel media as a learning aid. The research method used is classroom action research (PTK) with two cycles. The results showed that the use of gravel media significantly improved children's numeracy skills compared to conventional methods. The conclusion of this study is that gravel media is effective in increasing children's understanding of the concept of numbers. The use of concrete media such as pebbles helps children understand the concept of numbers through a more fun and interactive hands-on experience. Thus, gravel media can be an alternative in improving early childhood numeracy skills
Keywords : Ability, Counting, Pebble Media

INTRODUCTION

The ability to count is an important foundation for early childhood cognitive development. At this stage, children begin to understand the concept of numbers, sequences, and the relationship between numbers and the number of objects. This ability is the basis for understanding more complex mathematical operations at the next level of education.

Based on initial observations at BA Aisyiyah Pakunden 1, it was found that most of the children in Group A had difficulty in counting in order and connecting numbers with the appropriate number of objects. This difficulty is caused by the lack of use of concrete media in daily learning, so that children have difficulty understanding the concept of numbers in real life.

Learning media plays an important role in improving children's understanding of the concept of telling. One of the media that can be used is pebbles, because they have a concrete

shape that can be touched and easily manipulated by children. The use of pebble media in learning helps children connect the concept of numbers with real objects and provides a more fun, interactive, and meaningful learning experience.

The main purpose of this study is to determine the effectiveness of the use of gravel media in improving the numeracy ability of Group A children in BA Aisyiyah Pakunden 1. This study uses the classroom action research method (PTK) which consists of two cycles. Each cycle includes the stages of planning, implementation, observation, and reflection to evaluate the improvements that occur.

The results of this study are expected to provide insight for educators in choosing the right learning media to improve early childhood numeracy skills. In addition, this study also provides recommendations for teachers and parents in implementing concrete experience-based learning methods so that children can more easily understand the concept of numbers from an early age.

METHODS

The data in this study was obtained from direct observation at BA Aisyiyah Pakunden 1. Observation was carried out to observe the learning process and children's interaction with pebble media in counting activities. Through this observation, researchers can find out how children respond to the use of gravel media as well as the challenges that arise in the learning process.

The participants in this study are Group A children totaling 20 children with diverse developmental characteristics. This diversity includes differences in the level of understanding of number concepts, learning speed, and interest in counting activities. Therefore, the learning strategies applied must be able to accommodate the learning needs of each child so that the results obtained are more optimal.

In addition to observations, another source of data used in this study is interviews with classroom teachers. The interview aims to explore information about teachers' experiences in teaching the concept of numeracy, the challenges faced, and teachers' views on the effectiveness of the use of gravel media. In addition, the interview also provides insight into strategies that have previously been applied in numeracy learning in the classroom.

Documentation of learning results before and after the use of gravel media is also a source of data in this study. Documentation includes records of children's development, worksheets, and photos or recordings during the learning process. This data is used to analyze the changes that occur in children in understanding the concept of numbers after the application of gravel media.

In addition to qualitative data, this study also uses quantitative data obtained through preliminary and final tests. The initial test is carried out before the use of gravel media to determine the child's initial ability to count. After the application of gravel media, a final test was carried out to measure the improvement of children's numeracy skills. The comparison between the results of the initial test and the final test provides an overview of the effectiveness of the method applied.

Data analysis was carried out with qualitative and quantitative approaches. Qualitative data obtained from observations and interviews were analyzed descriptively, namely by identifying patterns that emerged during learning. This data helps to understand how children interact with gravel media as well as the changes that occur in their learning process.

Quantitative data were analyzed by comparing the results of the initial test and the final test using the percentage of improvement in children's numeracy skills. This percentage calculation provides a concrete picture of the effectiveness of the use of gravel media in improving children's numeracy skills. The results of quantitative analysis are also used to strengthen the findings of qualitative data.

The results of data analysis are then used as a basis for reflection on each cycle to determine improvement steps in the next cycle. Thus, each cycle in this study can provide a significant improvement in children's numeracy skills. This reflection process also allows teachers to adjust learning strategies so that they are more effective and in accordance with

the developmental needs of children in

RESULTS

Before the application of gravel media, observation results showed that only 40% of children were able to count correctly up to the number 10. This indicates that most children have difficulty recognizing and sorting numbers systematically. This difficulty is due to a lack of concrete experience in connecting numbers with real objects.

After the use of gravel media, there was a significant increase in children's numeracy skills. In the first cycle, the percentage of children who are able to count correctly increases to 70%. This shows that the use of concrete media, such as pebbles, can help children understand the concept of numbers better.

In the second cycle, there was a further increase, with 90% of children successfully counting correctly up to the number 10. This increase shows that the consistent use of gravel media in learning can help children understand the concept of numeracy more effectively.

The following is data on the improvement of children's numeracy skills based on the results of the initial test, the first cycle, and the second cycle:

Cycle	Percentage of Children Who Are Able to Calculate
Beginning	40%
Cycle 1	70%
Cycle 2	90%

Verification of Data and Research Findings

Initial test results show that many children have difficulty recognizing the sequence of numbers. They often get confused when asked to name numbers in sequence and relate them to the corresponding number of objects. However, after the application of gravel media, children can more easily understand the concept of numbers because they can manipulate real objects in the learning process.

Classroom observations also showed that children were more enthusiastic in learning to use gravel media than the previous method. Children are seen to be more active and engaged in learning because the gravel media provides an engaging hands-on experience. They are also more confident in mentioning numbers after being given the opportunity to practice using the media.

In addition to observations, interviews with classroom teachers also confirmed that the use of gravel media had a positive impact on children's numeracy development. The teacher stated that the children were more focused and understood the concept of numbers faster than the previous learning method. Teachers also find it easier to teach the concept of numbers because children can immediately see the relationship between numbers and the number of objects they are counting.

The analysis of the final test results proves that the gravel medium can significantly improve children's understanding of counting. Children who initially had difficulty recognizing numbers are now able to say the sequence of numbers more fluently. In addition, they were also able to match numbers with the corresponding number of objects, showing an improvement in their basic numeracy skills.

This improvement is not only seen in the test results, but also in the child's behavior while learning. They become more enthusiastic in participating in learning activities and more often take the initiative to count objects around them. This shows that gravel media not only improves numeracy skills, but also motivates children to learn actively.

In addition, children's involvement in the learning process has also increased. With gravel media, children can learn independently or in small groups. Interaction between children is also more active, where they help each other and discuss how to count correctly.

Another factor that supports the success of this method is the ease of application of gravel media. This media is easy to obtain, inexpensive, and can be used in a variety of numeracy learning activities. Teachers can adapt the use of this media in various ways to

improve children's understanding of the concept of numbers.

Although the results of the study show a significant improvement, there are still some challenges in the application of gravel media. Some children take longer to understand the concept of numbers, so they need additional guidance from teachers. In addition, learning with concrete media such as pebbles takes longer compared to conventional methods, because children must be given the opportunity to explore and manipulate media independently.

As a step to improve, teachers are advised to combine the use of gravel media with other methods, such as songs or numeracy games, so that learning is more varied. In addition, strengthening the concept can be done through home activities that involve parents, so that children can continue to practice outside the school environment.

Thus, this study shows that the use of gravel media is an effective strategy in improving early childhood numeracy skills. In addition to helping children understand the concept of numbers, this media also increases children's motivation to learn and involvement in the learning process.

As a recommendation, the use of concrete media such as pebbles can be applied at various levels of early childhood education to strengthen the understanding of the concept of numeracy. With the right support from teachers and parents, children can develop numeracy skills better and become more confident.

DISCUSSION

The use of pebble media in learning has been proven to have a positive impact on children's numeracy skills in a fun and interactive way. Pebble media allows children to interact directly with the learning material, thus creating a more interesting and less boring learning experience. Learning using pebbles can be done through various activities, such as arranging or counting the number of pebbles, which indirectly trains children's numeracy skills.

The results of this study are in line with the theory of concrete learning, which states that children more easily understand abstract concepts through direct experience with concrete objects. In this case, the pebble serves as a real object that can be seen, touched, and calculated, thus helping children to understand the concept of numbers better. This experiential learning provides an opportunity for children to learn through hands-on practice, which is more effective than just listening to verbal explanations.

The success of the use of gravel media in learning is also supported by the active involvement of children in the learning process. Children who are directly involved in learning activities tend to be more motivated to learn, because they feel more involved and have control over the learning process. This involvement can increase their confidence in understanding the material being taught, as well as reduce the fear or boredom that often arises in conventional learning.

Although the use of gravel media has many advantages, there are several obstacles that arise in its implementation. One of the main obstacles is the limited number of pebbles available. In group learning activities, often the number of pebbles is not enough for all children, thus affecting the smooth learning process. Therefore, it is necessary to have careful preparation and good management so that gravel media can be used optimally in every learning session.

In addition, the successful use of gravel media also requires extra supervision from teachers. Because this medium is physical, children tend to be more active and sometimes difficult to supervise, especially in large groups. Teachers need to provide clear directions and ensure that all children can use the media appropriately. Good supervision is also important to keep learning activities focused and not switch to less useful activities.

However, the results obtained from this study show that gravel media can be an effective alternative in improving early childhood numeracy skills. By using pebbles, children are not only taught how to count, but also trained to recognize numbers, group objects, and understand the relationship between numbers and numbers. All of these skills are essential for a child's cognitive development and the foundation for further math learning.

These findings provide new insights for educators about the importance of choosing the right media in the learning process. The use of gravel media can increase the effectiveness of learning, especially in teaching numeracy skills to early children. This can also be used as a reference for other educational institutions who want to try similar methods in improving children's basic skills, especially in terms of counting and recognizing numbers.

As a recommendation, educational institutions can consider the application of this method in their curriculum to improve children's numeracy skills. With a little adjustment and preparation, the use of gravel can be optimized to be more effective in supporting numeracy learning. In addition, it is necessary to evaluate periodically to ensure that this method continues to provide maximum results in improving early childhood numeracy skills.

CONCLUSION

The use of gravel media has been proven to be effective in improving the numeracy ability of Group A children at BA Aisyiyah Pakunden 1. Pebble media as a learning aid provides opportunities for children to interact directly with the objects they use in the learning process. The use of this concrete media helps children understand the concept of numeracy in a fun and easy-to-understand way. In this learning, children are not only taught how to count, but also trained to recognize numbers and count the number of objects.

The improvement in children's numeracy skills is clearly seen in the final test results which show significant development. After using pebble media in learning, children are better able to recognize numbers and count correctly. This indicates that this method is effective in developing basic mathematical skills in early childhood. The use of concrete media gives them the opportunity to learn in a more practical way, allowing them to touch and see firsthand the concepts they are learning.

In addition, the use of gravel media also increases children's participation in learning. Children are more enthusiastic when using concrete media, because they feel more involved in learning activities. Children's activeness in the learning process leads to an increase in their motivation and interest in learning. Thus, learning becomes more interesting and less boring, which in turn can improve the quality of learning in the classroom.

However, in its implementation, there are several obstacles that must be overcome to ensure the success of this method. One of the main obstacles is the limited number of gravel media available. For this reason, better preparation needs to be made, such as making sure that each child has enough media to use. In addition, effective classroom management is also very important to keep every child able to learn optimally without distractions. Teachers need to plan well so that gravel media can be used optimally by all children in every learning session.

Based on the results of this study, it is recommended that teachers continue to explore the use of appropriate learning media to improve children's numeracy skills. The use of the right media will facilitate more effective and fun learning for children. In addition to gravel media, teachers can consider various other types of media that can support children's understanding of basic mathematical concepts, which can ultimately improve their numeracy skills.

Further studies can be conducted to explore other media combinations that can enrich early childhood learning. Further research could focus on testing different types of learning media, such as number cards or other props, which can be combined with gravel media to create a richer and more varied learning experience. Thus, learning can be more engaging and beneficial for children's cognitive development, as well as preparing them for further learning in the future.

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