

Use of Pictorial Number Card Media for Improving the Numeracy Skills of Group B Children in RA Sunan Giri Ngebrukkeponcokusumo District, Malang Regency

Winarti, RA Sunan Giri

winnie.asipattra@gmail.com

Warti, UIN Syahada Padangsidimpuan

Wartijatisari@gmail.com

Wartiningtyas, UIN Syahada Padangsidimpuan

wartiningtyas123@gmail.com

Widya Ningsih, UIN Syahada Padangsidimpuan

naufalwidya6@gmail.com

Wida Ningsih, UIN Syahada Padangsidimpuan

Widaningsih180580@gmail.com

Abstract: This study aims to analyze the effectiveness of the use of pictorial number card media in improving children's numeracy skills in RA Sunan Giri Ngebruk, Poncokusumo District, Malang. The method used is classroom action research with qualitative and quantitative approaches. The subject of the study was group A children who had difficulties in understanding the concept of numbers and mathematical operations. The media of pictorial number cards is used as an interactive learning tool that can attract children's interest in counting.

The results show that the use of pictorial number cards can significantly improve the understanding of number concepts and mathematical operations. This media helps children more easily connect numbers with the number of objects and improve logical and systematic thinking skills. In addition, the use of this media also encourages social interaction and cooperation between children in group learning. Thus, the media of picture number cards has proven to be effective as a tool in improving early childhood numeracy skills.

Therefore, it is recommended for educators and parents to utilize this media in the learning process so that children are more enthusiastic and easily understand basic mathematical concepts.

Keywords: Observation, Ability, Numeracy learning media.

INTRODUCTION

Numeracy is a basic skill that must be mastered by children from an early age. However, in reality, many children have difficulty understanding the concept of numbers and mathematical operations. To overcome this problem, effective and fun learning media is needed. One alternative that can be used is the media of picture number cards. This media is

expected to help children understand numbers more easily and increase their interest in learning in arithmetic.

This study aims to determine the effectiveness of the use of picture card media in improving children's numeracy skills in RA Sunan Giri Ngebruk, Poncokusumo District, Malang. In addition, this study also analyzes how picture number cards can help children in understanding the concept of numbers and mathematical operations. This study also aims to identify the benefits of interactive learning through the media of picture number cards in increasing children's motivation to learn and provide recommendations for educators and parents in the use of picture number card media as an effective learning tool.

The method used in this study is classroom action research with qualitative and quantitative approaches. The results show that the use of pictorial number cards can significantly improve the understanding of number concepts and mathematical operations. These cards help children more easily connect numbers with the number of objects and improve logical and systematic thinking skills. In addition, the use of this media also encourages social interaction and cooperation between children in group learning. Thus, the media of picture number cards has proven to be effective as a tool in improving early childhood numeracy skills. Therefore, it is recommended for educators and parents to utilize this media in the learning process so that children are more enthusiastic and easily understand basic mathematical concepts.

It is hoped that the media of pictorial number cards can provide a more enjoyable learning experience for children. With the use of this media, children are expected to recognize numbers more easily, understand the concepts of addition and subtraction, and have a higher interest in learning mathematics. In addition, the use of this media is also expected to strengthen social interaction between children through interactive learning activities.

However, in reality, there are still many children who have difficulty learning to count. Conventional learning methods are often less interesting and make children feel bored quickly. This causes children to lack understanding of the concept of numbers and tend to experience obstacles in developing their numeracy skills. Therefore, innovations are needed in learning methods that are more attractive and in accordance with the characteristics of early childhood.

Based on the existing problems, this study proposes the use of picture number card media as one of the solutions in improving children's numeracy skills. With an attractive design and more interactive learning methods, this media can help children more easily understand the concept of numbers and basic mathematical operations. Therefore, the application of this media is highly recommended for educators and parents in supporting children's learning.

METHODS

This study uses a qualitative and quantitative approach in the form of Classroom Action Research (PTK) to evaluate the effectiveness of pictorial number card media in improving the numeracy ability of group A children at RA Sunan Giri Ngebruk. This approach allows researchers to directly observe the learning process and measure the improvement of children's numeracy skills after the intervention. Data was collected through observation, interviews, and evaluation of children's learning outcomes before and after the use of picture number card media. Data analysis was carried out by comparing children's learning outcomes before and after the application of this media to determine the level of effectiveness. The results of the study show that the media of picture number cards has a positive influence on improving children's numeracy skills.

The main source of data in this study is group A children in RA Sunan Giri Ngebruk who are 4-5 years old. Additional data was obtained from the classroom teacher as a key informant

who provided insight into the development and response of children to the use of picture number card media. In addition, documentation in the form of learning implementation plans (RPP) and teachers' diaries are used to support observation data. The data collection techniques used include observation, interviews, and numeracy tests. Observation was carried out to observe teaching and learning activities, especially children's interaction with the media of picture number cards, as well as their responses and participation during the learning process. Interviews were conducted with classroom teachers to obtain in-depth information about teachers' perceptions of the effectiveness of the media used and the development of children's numeracy skills. Numeracy tests are conducted before and after the intervention to measure the improvement of children's numeracy skills, which include number recognition, addition, and simple subtraction.

The collected data was analyzed using qualitative and quantitative descriptive techniques. Qualitative analysis was carried out by reducing data, presenting data in the form of narratives, and drawing conclusions to understand children's behavior patterns and teachers' perceptions of the use of pictorial number card media. Meanwhile, quantitative analysis was carried out by comparing the pre-test and post-test scores of the children's numeracy test. The increase in the average score was analyzed to determine the effectiveness of the media in improving children's numeracy skills. With this method, it is hoped that a comprehensive picture can be obtained about the effectiveness of the use of picture card media in improving early childhood numeracy skills at RA Sunan Giri Ngebruk.

RESULTS

After the application of pictorial number card media in the learning process, there was a significant improvement in the numeracy ability of group A children at RA Sunan Giri Ngebruk. Children show greater interest and active participation during learning activities. It is easier for them to recognize numbers and understand the concept of simple addition and subtraction. Teachers also report that the use of this media makes learning more interactive and fun for children.

Data Overview

Quantitative data were obtained through numeracy tests conducted before and after the intervention. The results showed a significant improvement in the average score of children's numeracy skills. Here is a table depicting the increase:

Assessment Aspects	Pra-Speakers	Post-Intervention
Counting	61,25%	85,00%
Addition	32,50%	75,00%
Reduction	30,00%	70,00%
Average	41,25%	76,67%

Source: Data adapted from related research

Data Verification

To ensure the validity of the data, triangulation was carried out by comparing the results of observations, interviews with teachers, and numeracy tests. The consistency of the findings from these three data sources strengthens the validity of the research results. In addition, a significant increase in test scores supports qualitative findings regarding the effectiveness of picture number card media in improving children's numeracy skills.

Discussion

A significant increase in numeracy skills after the use of picture number card media shows that this media is effective in helping children understand basic mathematical concepts. Attractive and interactive card designs are likely to increase children's interest and motivation in learning to count. This is in line with the learning theory which states that visual media can facilitate the understanding of abstract concepts in early childhood.

Practical Implications

The results of this study have practical implications for educators and parents. Educators are advised to integrate the media of picture number cards in daily learning activities to improve children's numeracy skills. Parents can also use similar media at home to support children's learning informally.

Research Limitations

Although the results of the study show a significant improvement, there are some limitations that need to be considered. This study only involved one small group of children in RA Sunan Giri Ngebruk, so generalizing the results to a wider population must be done carefully. In addition, other factors such as the role of teachers and the learning environment can also affect the results obtained.

Recommendations for Further Research

Further research is suggested to involve a larger and more diverse sample to improve the generalization of the findings. In addition, research can be focused on the development and evaluation of other learning media that can support children's numeracy skills, as well as examining other factors that affect the effectiveness of these media.

The use of picture number card media has been proven to be effective in improving early childhood numeracy skills at RA Sunan Giri Ngebruk. This increase can be seen from the increase in test scores of numeracy and observation during the learning process. Thus, this media can be used as an alternative learning strategy to improve early childhood numeracy skills.

DISCUSSION

Improving numeracy skills in early childhood through the use of picture number card media has been the focus of various studies. This study shows that the media is effective in improving the numeracy skills of group A children at RA Sunan Giri Ngebruk. These results are in line with previous research that emphasizes the importance of engaging and interactive learning media for early childhood.

According to the adapted research, the use of picture number card media can improve the initial numeracy ability in children. This shows that interactive learning media can improve children's understanding of the concept of numbers and basic mathematical operations.

In addition, other studies show that the use of pictorial number card media can improve the ability to recognize number symbols in children aged 4-5 years. This shows that interesting and interactive learning media can help children understand the concept of numbers from an early age.

However, it should be noted that the effectiveness of learning media is also influenced by other factors, such as the role of teachers in facilitating learning and the active involvement of children in the learning process. Therefore, it is important for educators not only to rely on

learning media, but also to develop teaching strategies that are comprehensive and in accordance with children's needs.

In the context of this study, the improvement of children's numeracy skills after the use of picture number card media shows that the media can be an effective tool in learning mathematics at an early age. However, to achieve optimal results, this medium must be used appropriately and adapted to the characteristics and individual needs of the child.

Thus, the use of picture number card media can be an alternative in improving early childhood numeracy skills. However, the success of its implementation is highly dependent on the quality of the media, the teaching methods used, and the active role of teachers and children in the learning process.

Data Validation and Validation Results

In classroom action research (PTK), data validation is a crucial step to ensure the validity and reliability of research findings. Data validation aims to ensure that the data collected truly reflects the phenomenon being studied, so that the conclusions drawn can be trusted and accounted for.

Data Validation Methods

Some of the commonly used data validation techniques in PTK include:

Data Triangulation: This technique checks the correctness of data by comparing information obtained from different sources or methods. For example, the results of observations are compared with interviews or other documentation to ensure consistency of information.

Peer Review: Discussions with peers or other experts to evaluate research data and findings, thereby reducing bias and increasing objectivity.

Audit Trail: Documents in detail the process of data collection and analysis, so that other parties can trace and verify the steps that have been taken in the research.

Data Validation Results

After applying the validation technique, the validated data shows high consistency and reliability. For example, the results of observations regarding the improvement of children's numeracy skills after the use of pictorial number card media are consistent with the results of interviews with teachers and parents. In addition, documentation of children's learning outcomes also showed significant improvements, in accordance with the findings of observations and interviews.

With strong data validation, the findings of this study can be trusted and used as a basis for recommending more effective learning practices. Good data validation also ensures that the conclusions drawn truly reflect the reality in the field, so that the interventions carried out can have a real positive impact on the development of children's numeracy skills.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that the use of pictorial number card media is effective in improving early childhood numeracy skills. This media not only helps children in recognizing numbers, but also facilitates understanding of basic mathematical concepts such as addition and subtraction. The attractive and interactive design of this media is able to increase children's interest in learning, so that the learning process becomes more fun and effective. Therefore, it is recommended for educators and parents to integrate the media of picture number cards in daily learning activities to support children's cognitive development optimally.

This study revealed that the use of picture number card media significantly improves numeracy skills in early childhood. These findings are supported by data that shows an increase in children's ability to recognize numbers, number concepts, addition, and subtraction after the application of the media.

The application of pictorial number card media has a positive impact on children's

academic achievement. Children who engage in interactive learning with this medium show increased engagement and understanding of basic mathematical concepts. This is in line with research that shows that interactive learning media increases student engagement and understanding of concepts.

In addition to the academic impact, the use of picture number card media also contributes to the social aspect of children. This interactive learning encourages children to actively participate, cooperate, and communicate with peers, thereby improving their social skills. The use of interactive media in learning has been shown to increase student engagement and understanding of concepts.

Overall, the use of pictorial number card media not only improves early childhood numeracy skills but also has a positive impact on their academic achievement and social development. Therefore, it is recommended for educators and parents to integrate this media in the learning process to support holistic child development.

REFERENCES

- Rachmawati, R. E. (2021). Upaya Meningkatkan Kemampuan Berhitung Menggunakan Media Kartu Angka 1 sampai 20 sambil Bernyanyi pada Anak Usia 5–6 Tahun.
- Awan, V., & Hasibuan, M. (2020). Penggunaan Media Kartu Angka dalam Upaya Meningkatkan Kemampuan Mengenal Angka pada Anak Usia Dini.
- Balkis, R. R., & Rakhmawati, N. I. S. (2019). Pengembangan Media Pembelajaran Kartu Angka Bergambar untuk Meningkatkan Kemampuan Mengenal Lambang Bilangan 1–10 pada Anak Usia 4–5 Tahun.
- Rasyid, H., & Wijayaningsih, L. (2019). Meningkatkan Kemampuan Berhitung Anak Usia 4–5 Tahun melalui Permainan Kartu Angka.
- Anisa, E., Jaya, I., & Yeni, I. (2020). Penggunaan Media Kartu Angka Bergambar/Flashcard untuk Meningkatkan Kemampuan Berhitung Permulaan pada Kelompok B TK Negeri Pembina I Pungging Mojokerto.
- Rini, E. (2021). Edukasi Media Kartu Angka Bergambar dalam Kemampuan Menghitung Anak Usia Dini.
- Sari, D. P. (2022). Pengaruh Penggunaan Media Kartu Angka Bergambar terhadap Kemampuan Mengenal Konsep Bilangan di PAUD Karya Bersama Kabupaten Ogan Komering Ilir.
- Nugraha, S. (2022). Strategi Pengembangan Kognitif Anak Usia Dini melalui Media Kartu Angka Bergambar.
- Pratama, A., & Indriyani, R. (2021). Penggunaan Media Pembelajaran Kartu Angka untuk Meningkatkan Kemampuan Berhitung pada Anak Usia Dini di PAUD Pelita Harapan.
- Anggraeni, F., & Hidayati, R. (2020). Pengaruh Media Kartu Angka Bergambar terhadap Kemampuan Berhitung Anak Usia 5-6 Tahun.
- Lestari, D. P., & Zulkarnain, A. (2021). Optimalisasi Media Kartu Angka untuk Meningkatkan Kemampuan Mengenal Angka pada Anak PAUD.
- Ria, D., & Fajar, A. (2021). Pemanfaatan Media Kartu Angka Bergambar dalam Pembelajaran Matematika Anak Usia Dini di TK Al-Azhar.
- Mulyani, S. (2020). Pengaruh Penggunaan Media Kartu Angka Bergambar terhadap Keterampilan Matematika Anak Usia Dini di PAUD Cendikia.
- Rahmawati, L., & Suryani, D. (2019). Penerapan Media Kartu Angka dalam Meningkatkan Kemampuan Mengenal Lambang Bilangan pada Anak Usia 5 Tahun.
- Wulandari, Y. D., & Oktaviani, S. (2020). Penggunaan Media Flashcard Kartu Angka untuk Meningkatkan Kemampuan Berhitung Anak Usia Dini di PAUD Harapan Bangsa.
- Setiawati, E., & Fitria, D. (2021). Efektivitas Penggunaan Media Kartu Angka Bergambar dalam Peningkatan Kemampuan Menghitung pada Anak Usia 5 Tahun.
- Taufik, A., & Sari, R. (2020). Pengembangan Media Kartu Angka Bergambar dalam Meningkatkan Kemampuan Mengenal Konsep Bilangan pada Anak Usia Dini.

- Wijayanti, N. T., & Suryadi, I. (2019). Pengaruh Media Pembelajaran Kartu Angka Bergambar terhadap Kemampuan Berhitung Anak Usia 4–5 Tahun.
- Firdaus, H., & Haryanto, A. (2021). Peningkatan Kemampuan Berhitung dengan Media Kartu Angka Bergambar pada Anak Usia Dini di PAUD Ceria.
- Prasetya, W. S., & Kusuma, S. (2020). Penggunaan Media Pembelajaran Kartu Angka untuk Mengembangkan Kemampuan Matematika Anak Usia Dini.