

## Efforts to Improve Calculating Ability Through Meronce Activities at Shekinah Preschool School

Vermin Umboh<sup>1\*</sup>, Yolan Marjuk<sup>2</sup>, Ismail Marzuki<sup>3</sup>

Universitas Pendidikan Muhammadiyah Sorong

**Corresponding Author:** Vermin Umboh vemmyumboh1@gmail.com

---

### ARTICLE INFO

*Keywords:* Counting Skills, Bead Stringing, Number Recognition

*Received :* 05, November

*Revised :* 18, November

*Accepted:* 22, December

©2023 Umboh, Marjuk, Marzuki : This is an open-access article distributed under the terms of the [Creative Commons Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



### ABSTRACT

This research aims to improve counting skills through bead stringing activities in 5-6-year-old children at Shekinah Waisai Early Childhood Education. The use of bead stringing as a medium engages children directly in the learning process. This study employed a collaborative classroom action research method, which involved cooperation with the class teacher in the research implementation. The research model used was the classroom action research model emphasizing the implementation process developed by Kemmis and Mc. Taggart. The subjects of this research were 12 children aged 5-6 years. Data collection methods involved the use of observation sheets (checklists), and data analysis was conducted quantitatively. The findings of this research show that color recognition skills can be improved through bead stringing activities. In the learning process, children were given the opportunity to engage in bead stringing activities using various simple and appealing bead stringing materials. The results gradually improved, as observed during the pre-action stage, reaching 61%. It further increased in the first meeting of cycle I to 61%, and increased again in the second meeting to 64%. Counting skills improved in cycle II, reaching 72% in the first meeting, and further increased to 83% in the second meeting, achieving the success target set by the researcher.

---

## **INTRODUCTION**

Early childhood is the nation's buds who have the potential to grow and develop optimally when they receive the right love, stimulation and attention. This is in line with the objectives of the human resource development process which is a key factor in the development process of a nation. To make this happen, care, education and development of human resources in the world of education must start from early childhood education because children's growth and development period or the age of 0-6 years is the golden age of their growth.

This period is very decisive for the future. The success of growth and development during this period will also influence the success of the following periods. For this reason, early childhood education plays an important role in growth and development. Guidance in early childhood education is carried out to assist physical and spiritual growth and development so that they are ready to face future developmental tasks. Apart from that, early childhood education must be able to provide stimulus in developing all aspects of a child's development. Counting is an important skill in everyday life. It can be said that all activities in human life require this ability. Therefore, it is important to introduce children from an early age to the concept of counting which includes counting objects and adding and subtracting objects using concepts that children like. Introducing words to early childhood can be done using games or activities that are fun for the child.

By playing, children will feel happy and learn without any element of coercion from other people so that children will easily accept the learning delivered by the teacher. Through play, all children's potential intelligence will be able to develop more optimally. According to Vygotsky in Tedjasaputra (2011: 58), play has a direct role in a child's cognitive development process because children cannot think abstractly without real objects around them.

Based on the results of observations made on group B children (aged 5-6 years) at Shekinah Waisai PAUD, Raja Ampat Regency, it appears that their counting skills are still low, this is indicated by the children's ignorance of the numbers given by the teacher. However, of the 12 children, there were 5 children whose numeracy skills developed very well according to the development assessment of children aged 5-6 years and 7 children who were not yet capable.

This is because the activity of learning to count only uses number posters, with the teacher asking the children to say the numbers 1 to 50, and then the teacher points to numbers at random, and if the child forgets or cannot say the number then the teacher repeats asking the child to count again from the numbers. 1 again, and learning activities like this are continuously carried out, namely counting abstractly without using objects with the learning method being just questions and answers so that children experience difficulties, get bored and fed up and children show a lack of attention and lack of focus in participating in learning activities in class.

From the main factors causing the low numeracy skills of group B children aged 5-6 years at Shekinah Waisai PAUD, Raja Ampat district, efforts

need to be made to improve them by implementing suitable strategies or according to their development. As a solution to solving the problem of children's counting skills, emergence media is used as a learning medium that can stimulate children to develop in counting.

Meronce according to Murtono and Murwadi (2010:48) is arranging or arranging objects using a string, the activity of emergence with beads will increase children's enthusiasm for learning to count by using the demonstration method of writing numbers on paper, such as writing the numbers 1 to 20 and put a piece of string on each number and number 5 the color of the straw is yellow, number 10 is green, number 15 is red, number 20 is blue. By threading a string through the beads, it is easier for children to count.

Why do you prefer to use Meronce activities with emergence involves children in physical activities, it can train them to develop their cognitive aspects, such as recognition of various colors, shapes, sizes, and counting, and children are more trained and their physical fine motor skills, hand and eye coordination and children -children are invited to count objects concretely, for example, counting the number of colorful beads according to a predetermined number of numbers so that children can visually see the number of objects being counted.

With meronce activities, you can also directly observe how children think, plan and complete counting tasks. For example, they can see the strategies children use to group or organize small objects, how they count, or how they solve math problems. This helps them develop a better understanding of numbers and quantities than just looking at numbers on paper. In contrast to the previous activity which only used number posters and the children were not physically involved in the activity, learning that involves physical activity tends to be more interesting for children and helps them stay focused and involved in the learning process.

## **LITERATURE REVIEW**

Meronce according to Murtono and Murwadi (2010:48) is arranging or arranging objects using a string, the activity of emergence with beads will increase children's enthusiasm for learning to count by using the demonstration method of writing numbers on paper, such as writing the numbers 1 to 20 and put a piece of string on each number and number 5 the color of the straw is yellow, number 10 is green, number 15 is red, number 20 is blue. By threading a string through the beads, it is easier for children to count.

## **METHODOLOGY**

### **Data Collection Techniques**

Researchers focus on children's ability to explore various objects around them, namely, children manipulate tools and materials in the activity of making beads with beads, find out their function, conduct various experiments and then communicate what they have observed and researched.

## Data Analysis Techniques

In classroom action research, the data analysis stage plays an important role where the contents of all notes or data recordings should be scrutinized by researchers as a basis for reflection or improvement. The data collected will be processed through percentages:

Completeness or success in learning classically with the formula:

$$p = \frac{f}{n} \times 100$$

Information :

P = Percentage value sought

F = Value obtained

N = Ideal maximum value of the existing values

To determine the increase in students' numeracy skills, calculating numbers according to the shape and size of the object is done by making a comparison of the percentage scores obtained by students before and after learning using bead media. The indicator of work in this research is if the number of children who have self-confidence increases from 5 people to 20% to 7 people or 80%.

## RESULTS

In this classroom action research, before taking action, pre-action activities were carried out which aimed to determine the abilities of children aged 5-6 years through emergency activities at PAUD Shekinah Waisai, Raja Ampat Regency. When making observations, researchers saw that most of the children aged 5-6 years in Group B were not developing very well. Therefore, researchers are trying to improve the abilities of children aged 5-6 years at PAUD Shekinah Waisai, Raja Ampat Regency through the meronce technique. There are several stages in carrying out pre-cycle activities as follows:

Table 1. Educator Data

No	Teacher Name	Status	Gender
1	Ester Miskeh Kamuh	Honor	Perempuan
2	Wilma B. Wattimena	Honor	Perempuan
3	Biutris L. Labulu	Honor	Perempuan
4	Farra C. Kabey, SE	Honor	Perempuan
5	Vermin Umboh	Honor	Perempuan

## Description of Pre-Action implementation

This pre-action is carried out to determine the child's initial ability to recognize colors before being given the action. The party carrying out the learning activities is the teacher, while the person carrying out the observations is the researcher who is assisted by colleagues. Teachers and researchers carried out pre-action activities on September 19, 2022.

Implementation of pre-action activities in the form of learning activities by giving colors with the primary colors blue, red and yellow, then making new colors, namely orange, green and purple. Pre-action activities use observation and documentation data collection techniques, observing the ability to name colors, conveying the results of color experiments and grouping colors. The results of the ability to recognize colors in this pre-action show that the ability to recognize colors is still low. The researcher presents this in Table 2 as follows:

Table 2. Ability to Recognize Pre-Action Cycle Numbers

No	Child's Name	Observation Items			Amount	Score
		Saying Numbers	Delivering Test Results	Grouping Color		
1	DG	1	1	1	3	50
2	GB	1	1	2	4	66,6
3	FR	1	1	2	4	66,6
4	LK	1	1	1	3	50
5	JD	1	1	2	4	66,6
6	LP	1	1	1	3	50
7	SW	1	1	2	4	66,6
8	IR	1	1	1	3	50
9	LA	1	1	1	3	50
10	JG	1	1	2	4	66,6
11	JD	2	1	2	5	83,3
12	EM	2	1	1	4	66,6
Amount		12	12	18	44	732,9
Average		1,16	1	1,5	3,66	61,075
Percentage		58%	50%	75%	54%	61%

Table 3. Observation results of children in Cycle II Meeting II

No	Child's Name	Observation Items			Amount	Score
		Getting to Know Color	Communicate Experiment results	Grouping Color		
1	DG	4	3	3	10	83,3
2	GB	3	3	4	10	83,3
3	FR	3	3	3	9	75
4	LK	4	3	3	10	83.3
5	JD	4	4	3	11	91.6
6	LP	3	4	3	10	83.3

7	SW	4	3	4	11	91.6
8	IR	3	4	4	11	91.6
9	Yosafat	3	4	3	10	83.3
10	Jesica	3	4	3	10	83,3
11	JD	3	3	3	9	75
12	EM	3	3	3	9	75
Jumlah		40	41	39	120	999.6
Rata-rata		3.41	3.16	3.25	10	83.3
Persentase		83%	85%	81%	83%	83%

### Cycle II Reflection

From the research data on the ability to recognize colors, the researcher reflected on the results of actions in cycle II. Evaluation is carried out to determine the achievement of indicators. During the learning process in cycle II, it can be reflected as follows:

- 1) By changing the materials in the experiment, it turns out that it can attract the child's attention, apart from that, the variations in the experiments carried out can also focus the child's attention in learning.
- 2) The grouped seating arrangements make it easier for children to communicate and exchange ideas with their friends so that children are more interested in trying new experiments.

Apart from that, based on observation data in cycle II, the percentage of completion reached 85%, therefore the implementation of actions in cycle II was stopped. The following is a recapitulation of the results of the children's grades for Cycle II meetings I and II as follows:

Table 4. Recapitulation of Values for Cycle II Meetings 1 and 2

No	Cycle	Average child success	Criteria
1	Meeting I	83%	BSB
	Meeting II	83%	BSB

### DISCUSSION

The ability to recognize colors is an important aspect for children. Recognizing color symbols will provide provisions for children to become familiar with the surrounding environment. This research is a type of classroom action research with 2 cycles. Based on pre-action observations, the recognition ability of group B children at the Emmaus Susumuk Kindergarten was still in the inadequate category. At this time, learning more often occurs in one

direction, namely the teacher is more dominant and the child's involvement is still lacking.

When children learn to recognize colors, teachers are more likely to give color names and show colors. In the process of learning to recognize colors, children will also gain direct experience and recognize each color symbol through several experimental activities (Destita.S, 2013:3). For this reason, by implementing the use of experimental methods in learning, it is hoped that it can improve children's ability to recognize colors.

The experimental method is a method that involves children directly in learning. According to Winda Gunarti (2008:11.8) learning using experimental methods can develop attitudes and channel children's curiosity. Based on the results of pre-action observations, it show that children's ability to recognize colors is still in the inadequate category. Most children in terms of naming colors are still stimulated by teachers, it is still found that children are not able to group colors. When conveying the results of simple experiments, children still experience confusion.

Based on this, the ability to recognize colors in children still needs to be improved, namely with learning methods that involve children so that children can understand every lesson they receive. In Cycle I, observation results showed that children's ability to recognize colors had increased but was not yet optimal. Some children are still shy about doing experiments because they are still adapting to experimental methods that are new to their children. Also, the seating arrangements are not grouped, making it difficult for children to share with friends.

Obstacles in the Cycle can be overcome in Cycle II. The children are used to doing experiments so they are no longer embarrassed and are interested in new types of experiments that they are new to. Apart from that, the children's seating and seating arrangements are also divided into 2 groups. The ability to recognize colors in children shows an increase, this can be seen from the gradual increase, namely the average percentage gain in pre-action was 61, and increased in cycle I of the first meeting to 61%, increasing again in cycle I of the second meeting to 64%. The ability to recognize colors increased again in cycle II of the first meeting to 72%, then increased again in the second meeting to 83%, thereby achieving the target of success desired by the researchers.

Based on research conducted on group B children at the Emmaus Susumuk Kindergarten, shows that learning activities to recognize colors can be improved by using experimental methods. This can be seen from the data obtained in the pre-action cycle I and cycle II which experienced a gradual increase.

## CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion described in the previous chapter, several things can be concluded as follows:

- a) That the application of the emergency playing method can improve the cognitive ability to count in group B children at PAUD Shekinah Waisai

- b) The variety of tools and materials used in play activities to introduce the concept of counting greatly influences the cognitive development of numeracy in group B children at PAUD Shekinah Waisai. Whereas, in cycle 1 there were still children who were less enthusiastic about doing it. After cycle 2 the researchers replaced it with more interesting materials according to the theme being discussed, so the children became more interested and enthusiastic about counting.

### **FURTHER STUDY**

This research still has limitations so further research on the topic still needs to be carried out "Efforts to Improve Calculating Ability Through Meronce Activities at Shekinah Preschool School."

### **REFERENCES**

- Arsi. 2016. Skripsi dengan Judul Pengaruh Metode Experimen Terhadap Kemampuan Mengenal Sebab Akibat pada Anak Kelompok B di TK Al Rahman Bandar Lampung dari: <http://digilib.unila.ac.id>.
- Haryani. 2018. Skripsi dengan Judul Penerapan Metode Experimen dalam Mengembangkan Kemampuan Kognitif Anak Kelompok B TK Gelora Mekar Tanjung Raya Lampung Barat.dari :[http://repository Radentan.a.c.id](http://repository.radentan.ac.id)
- Hendriana.2017. Langkah Praktis Penelitian Tindakan Kelas Bagi Guru. Bandung: Rivaka andika tama
- Nasution. 2011. Metode Research Penelitian Ilmiah. Jakarta: PT Bumi Aksara
- Sanyoto. 2011. Dasar-Dasar Tata Rupa dan Desain.<http://www.tipsdesain.com/teoriwarna.html>
- Slamet suyanto. 2005. Dasar-dasar Pendidikan Anak Usia Dini. Yogyakarta Hikayat Publishing
- Softyan. 2015. Perkembangan Usia Dini dan Cara Dini Serta Cara Praktis



- Peningkatannya. Jakarta Penerbit.CV.Infomedika.
- Sojiono, ddk. 2008. Metode mengembangkan kognitif.Jakarta : Universitas terbuka.
- Sugiyono,2017.Metode penelitian kualitatif ,kuantitatif, dan rpd.Bandung .Alfabeta.Cv
- Suharsimi Arikunto. 2006. Prosedur Penelitian Suatu Pendekatan Praktik Jakarta.Rineka Cipta
- Sukardi. 2013. Metode Penelitian Tindakan Kelas,Implementasi dan Pengembangan .x Jakarta:PT Bumi Aksara
- Susanti. 2018. Skripsi dengan Judul Implementasi Metode Eksperimen Untuk Mengembangkan Ketrampilan Sain Sederhana pada Anak Didik Germelang Yukarame Bandar Lampung. dari: <https://Repository.Radenintan.ac.id>
- Susanto. 2012. Perkembangan Anak Usia Dini. Jakarta: Kencana
- Suyitno.2011. Memahami cara pembelajaran dengan cara mudah dalam perencanaan penelitian tindakan kelas (ptk) Malang .PT. Revika andika tana
- Syaiful Bahri Djamarah. 2005. Guru dan Anak Didik dalam Interaksi Ekukasi Suatu Pendekatan Teoritis Psikologis. Jakarta : PT.Rineka Cipta
- Trianto,2010 Menaksain Model Pembelajaran Inovatif Ploglesif .Jakarta

*Umboh, Marjuk, Marzuki*

.Kencana

Undang-Undang No 20 Tahun 2003 Tentang Pendidikan Anak Usia Dini