

Application of Flip Chart Media in Improving the Children's Numeracy Ability in Group B at PAUD Nurul Hidayah

Dewi Kartikah*, Wahyuni Nadar, Rini Herminastiti
Early Childhood Education, STKIP Kusuma Negara, Indonesia
*dewikartikah@stkipkusumanegara.ac.id

Abstract

The purpose of this study is to improve children's numeracy ability. This research was conducted in group B at *Pendidikan Anak Usia Dini* (PAUD) Nurul Hidayah Ciracas, Jakarta. This research method is classroom action research that follows the model of Kemmis Taggart. This study used two cycles where each cycle includes 4 stages, namely planning, implementation, observation and reflection. The research applied to 12 students, while the data collected through observation, interviews, observations, and documentation. Based on the results of class action research that has been carried out on students in the age group of 5-6 years, it can be concluded as follows that learning numeracy through flip chart media presented by an increase in children's numeracy skills. In the pre-action, the average numeracy ability reached 28% with the category starting to develop, then after conducting research in 1st cycle that the percentage achieved was 43%, and increased in 2nd cycle reached 77% with the category developing very well. The results of the interview conducted concluded that the ability to count through the flip chart media is fun for the child. Therefore, learning using Flip Chart media can improve learning outcomes in children's numeracy ability.

Keywords: counting, flip chart, media.

1 INTRODUCTION

Early childhood education is a non-formal path in the implementation of its education must be able to create a safe and comfortable play environment as a vehicle for children's growth and development. Early Childhood Education is a coaching effort aimed at children from birth to the age of six which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness to enter further education. In Early Childhood Education, the level of achievement of cognitive development in children aged 5 to 6 years is to think symbolically, including mentioning the symbol of the numbers 1 to 20, using the symbol of numbers to calculate, matching numbers with the symbol of the numbers

Considering that at this time children are very important to be developed, so learning activities in early childhood education are carried out through play activities while learning, meaning that a learning activity is a play sauce, children can try to explore interesting things for themselves and develop their various potentials. The child will be motivated to be able to know something more deeply and spontaneously the child develops his abilities.

Oktriyani (2017) states that the ability to count is the basis of several knowledge used in every human life whose activities cannot be separated from the role of mathematics, ranging from addition, subtraction, division to inseparable multiplication in everyday life. Counting in early childhood is a basis for developing mathematical abilities that must be developed from an early age, these abilities include numbering, or mentioning the sequence of numbers from 1-20, numbering (knowing the concept of numbers with objects) to 20, pointing to symbols 1-20, making sequences of numbers 1-20 with objects, imitating number symbols, connecting or pairing number symbols with objects up to 20,

and match a number with a number symbol. Thus, educators must help children to achieve their abilities.

Abilities can affect the potential that exists within the individual. In essence, each individual has different abilities, and those abilities can be obtained through practice. In the Indonesian dictionary, ability comes from the word "able" which means the power (can, able to) do something. While ability means ability, proficiency, strength.

The definition of numeracy according to Susanto (2014) is the ability possessed by children to develop their abilities to be able to develop each of their abilities. The development of children's characteristics can be started from the environment that is close to the child. In connection with the development of children's abilities, namely knowledge of counting about numbers, which are interconnected with addition and subtraction. Meanwhile, Sriningsih (2008) also believes that arithmetic activities for early childhood are referred to as activities to say the order of numbers or to count blindly.

Widyaningrum (2016) defines arithmetic as the science of numbers, the relationships between numbers, and the operational procedures used in solving problems concerning numbers. The number itself is interpreted as a symbol or symbol which is an object, namely a number.

The ability to count in children is one of the basic activities of mathematics learning that must be mastered by children, by counting children will master the process of calculating operations in mathematics learning, this is very easy for a child to be able to calculate a collection of objects around his environment. Children aged 5-6 years show a high interest in numbers, especially summation (Vitaloka, 2020). Children aged 5-6 years show the ability to: a) can sort objects, b) can group objects, c) can distinguish between fantasy and reality, d) use language for categories aggressively, e) start to be interested in numbers, f) no longer use exercises spontaneously in memory tasks, g) can follow three unrelated commands, h) some children begin to take an interest in summation.

Guided by the standard level of achievement of child development aged 5-6 years related to the ability to count concerning cognitive development in children aged 5 to 6 years is to think symbolically, among others, mentioning the symbol of the numbers 1 to 10, using the symbol of numbers to calculate, matching numbers with the symbol of numbers. In this case, the researcher made observations in children's numeracy ability based on indicators in the guidelines for children's numeracy ability, namely: (a) children can name symbols of numbers 1 to 20, (b) children can match the number of objects with the symbol of the number, (c) children can sort the symbols of numbers 1 to 20, (d) children can sort numbers from smallest to largest, (e) children can sort numbers from largest to smallest, (f) children can add up on the symbol of numbers 1 to 20, (g) children can subtract on the symbol of numbers 1 to 20, (h) children can recognize the odd concept on the symbol of numbers 1 to 20, (i) children can recognize the concept of even on the symbol of numbers 1 to 20, (j) children can recognize the concept of more than or less than or equal to the symbol of numbers 1 to 20.

Educators are facilitators as well as motivation for students, therefore educators must have strategies in creating good learning to be able to determine a success in student learning (Buchari, 2018; Fakhurrizi, 2018). In learning, educators must also understand in choosing the media that will be used during learning, namely media that is suitable for learning while playing. Guslinda and Kurnia (2018) state that learning media has a connection in conveying certain parts of the lesson, providing reinforcement and motivation. So, the media has an important meaning in the teaching and learning process that can lead to the purpose of the investigation (Susilana & Riana, 2009). One of the media that can be used to stimulate early childhood cognitive development is the Flip Chart media.

Media is a physical tool or compound of learning resources that can present messages and stimulate children to learn (Guslinda & Kurnia, 2018). Media are various types of components in the student's environment that can stimulate him to learn (Viridyna, 2020; Ardiana, 2021).

In line with the opinion above, Guslinda and Kurnia (2018: 5) argues that media or tools in teaching through the beginning of the core of teaching are conveyed both descriptively and demonstrations, which of course indicates its function as a message, as well as in the context of learning media for early childhood, media is a physical tool that can present messages and stimulate children to learn. From some opinions of experts it can be concluded that the media is a tool or intermediary used to convey messages or information that can stimulate the child's knowledge, skills, attention and interest in the learning process.

According to the Ministry of National Education, it is stated that the flip chart media is used as a delivery of messages or information on a learning. Meanwhile, according to Zaman, Hernawan, and Eliyawati (2011) Flip chart media is a sheet of paper filled with learning material that is neatly and well arranged. Flip chart media is used by educators as a way to save time used to write in writing, the messages presented in the flip chart media can be in the form of pictures, diagrams, letters and numbers. Flip chart media is made of thick sheets, namely from HVS paper or cardboard or other thick paper, this is so that the media is not easily torn and the image / writing of the previous page is not imagined.

Flip chart media in a simple sense according to Suminah (2022) are sheets of paper resembling an album or calendar arranged in order and tied to the top of the sheet. A flip chart is a sheet of paper that is used as a teaching and learning medium in the form of an album or calendar that is rather large as a flipbook, which is arranged in a sequence tied to the top (Wahyudin, 2017; Maulani, Mulyana, & Rahman, 2021).

Based on several opinions of experts, it can be concluded that, a flip chart is a medium in the form of sheets of paper containing messages to facilitate learning in which there is an arrangement of images, numbers, letters and writing bound on the upper side and their use by flipping. is a tool or medium to attract children's interest so that children can get to know the concept of counting 1 to 20, so that children are easier to remember a lesson. And the Flip Chart media serves as a support for teacher equipment in the learning process.

schools at the time of observation in May 2022 Various attempts have been made to improve cognitive learning in children, including children solving problems (problem solving) with the method of giving assignments using the media of children's worksheets which are carried out in each counting activity in children at PAUD Nurul Hidayah Ciracas, it is hoped that using children's problem solving activities Children can get to know various simple concepts about the everyday life they experience.

However, in reality, the various efforts that have been made above have not yielded optimal results due to unsuitable methods, media that do not attract children's attention and the teacher's lack of strategies in finding creative ideas to improve meaningful numeracy learning skills (Sujiono & Sujiono, 2010). The lack of content or material contained in children's worksheets also affects the developmental process of learning to count in early childhood. Another cause of low numeracy skills in children is that teachers have not found a method to improve learning to count in early childhood that is appropriate and in accordance with children's needs and development. The method in question is expected so that children are not pressured and forced to take part in learning to count, besides that the method used is expected so that children are not passive and directly involved so that children feel happy in participating in learning to count.

Meanwhile, researchers observed children's numeracy ability when children did numeracy activities. Based on the results of observations on the children of group B of PAUD Nurul Hidayah Ciracas, totaling 12 children, it shows that as many as 7 children still have difficulty in counting 1 to 20. In addition there are 5 children with the category of starting to develop. This is also because teachers have not found a medium to improve numeracy learning in early childhood that is appropriate and in accordance with the needs and development of children. The method in question is expected so that children are not depressed and forced to participate in numeracy learning activities, besides that the media used is expected so that children are not passive and are directly involved so that children feel happy in participating in numeracy learning.

From this problem, an improvement is needed that improves the numeracy ability of group B children in PAUD Nurul Hidayah Ciracas. Children need interesting and fun and varied activities so that children do not get bored with the activities to be done. Activities that can be given to help the child stimulation process, one of which can be through the Flip Chart media.

2 METHODS RESEARCH

The study aims to see the extent to which Flip Chart media can improve the numeracy ability of children aged 5-6 years group B PAUD Nurul Hidayah located on Jalan Mustika Ratu No.12C RT 004 RW 04 Ciracas Village, District Ciracas East Jakarta. The subjects of the Study were group B children totaling 12 children. The time of this research was conducted in semester 2 from May 2022 to June 2022.

This Class Action Research (PTK) was carried out in 2 cycles to see an increase in children's numeracy ability. Each cycle consists of 4 meetings. Each meeting was conducted with 4 stages using the Kemmis and Taggart models which are developments of the basic concepts introduced by Kurt Lewin. The Kemmis and MC Taggart models consist of four components, namely (1) planning, (2) action, (3) observation, and (4) reflection. The data collection techniques used in this study are as follows: (1) documentation, (2) interviews, (3) field notes, (4) observations.

Before taking action in the field, researchers make preparations in advance. Among them is to make a lesson plan, flip chart media, determining the aspects to be measured by the indicators. Then determining the score in the range of 0-4, more clearly, aspects, indicators as well as the score of numeracy ability are presented in Table 1.

Table 1 Childrens' numerical ability instrument for children aged 5-6 years

Aspect	Indicator	Maximum Score
Sorting numbers 1 - 20	The child can name the numbers 1 to 20	4
	Children can sort numbers 1 to 20	4
	Children can sort smallest to largest numbers	4
	Children can sort the largest numbers to the smallest	4
Count 1 to 20	Children can sum the numbers 1 to 20	4
	Children can subtract numbers from 1 to 20	4
Solving problems	Children can mention the concept of odd numbers on the symbol of numbers 1 to 20	4
	Children can get to know the concept of even on the symbol of numbers 1 to 20	4
	Children can distinguish numbers greater or smaller or equal on the symbol of numbers 1 to 20	4
Connecting objects	A child can inflate objects with the emblem number 1 to 20	4
Total Score		40

The criteria for successfully improving children's numeracy ability are calculated through percentages with the Ngalim's formula (2004). The criterion for success in this class action research is the improvement of the numeracy ability of group B children in PAUD Nurul Hidayah. According to Mulyasa (2004: 103) in the success of this action if the completeness of children's learning outcomes is 75% with the category of developing as expected. Ranging from 9-10 children out of 12 children experienced an increase in numeracy skills in the very well-developed category. For declaring the successfull of this research, the criteria in the form of a percentage of conformity are described in Table 2.

Table 2. Research Success Criteria

Presented	Category	Information
0 % - 25 %	BB	Undeveloped
26 % - 50 %	MB	Start Developing
51 % - 75 %	BSH	Develop as Expected
76 % - 100 %	BSB	Very Well Developed

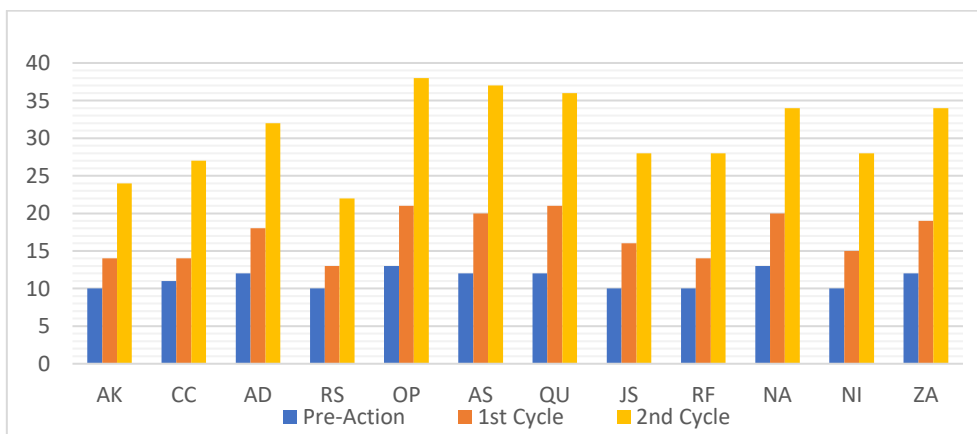
3 RESULT AND DISCUSSION

To find out the condition of the learners before the study is carried out pre-action. The pre-action was carried out through observations made on May 11 , 2022, in group B children in PAUD Nurul Hidayah with the number of children who were the subject of the study as many as 12 children consisting of 6 boys and 6 women.

Table 3. Improvement on Pre-Action to 2nd Cycle

Children's Initial	Pre-Action	1 st Cycle	2 nd Cycle	Improvement		Category
				Pre to 1 st cycle	1 st to 2 nd cycle	
AK	10	14	24	40%	71%	BSB
CC	11	14	27	27%	93%	BSB
AD	12	18	32	50%	78%	BSB
RS	10	13	22	30%	69%	BSB
OP	13	21	38	62%	81%	BSB
AS	12	20	37	67%	85%	BSB
QU	12	21	36	75%	71%	BSB
JS	10	16	28	60%	75%	BSh
RF	10	14	28	40%	100%	BSB
NA	13	20	34	54%	70%	BSB
NI	10	15	28	50%	87%	BSB
ZA	12	19	34	58%	79%	BSB
Total	135	205	368	613%	959%	
Average	11,25	17,0833	31	51%	80%	BSB

This pre-action activity is carried out to obtain preliminary data on the ability to count 1 to 20 with Flip Chart media. The power collection techniques used in the pre-action are data collection and observation techniques. At their time, the initial condition of the child before the research action was carried out showed that the child's numeracy ability was relatively low due to teachers who did not pay attention to learning about the use of learning media in Early Childhood, which could improve children's numeracy skills.

Figure 1. Graph of Personal Improvement on Pre-action to 2nd Cycle

For knowing the improvement during this study, it can be seen the comparison between pre-action to 2nd cycle on Table 3, Figure 1, and Figure 2.

Based on the observation results of pre-action, 1st cycle and 2nd cycle, the average value of pre-action with a value of 28 (11.3%), after the first cycle action there was an increase in children's numeracy ability with an average value per class with a value of 43 (17%) and in 2nd cycle the increase in children's numeracy ability increased again with an average value per class with a value of 77 (51%) has reached the target success criteria of 75%. Based on the results achieved on the action, cycles I and II can be affirmed that the child's Numeracy ability can be improved with the flip chart media.

Through the success criteria that have been mutually agreed upon between researchers and collaborators if the child reaches a minimum score of 75% of the success criteria, the research is stopped, it can be seen from the improvement graph and line graph in the following figure.

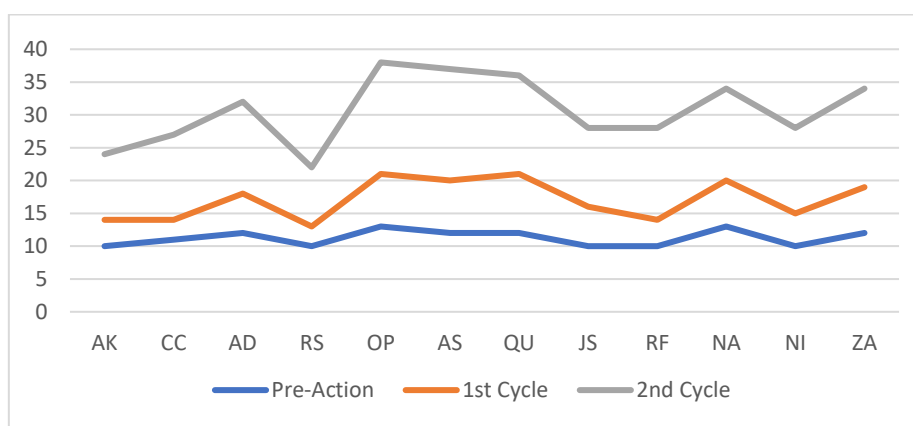


Figure 2. Graph of Improving Ability on Pre-action to 2nd Cycle

4 CONCLUSION

Based on the results of class action research that has been carried out on group B students aged 5-6 years at PAUD Nurul Hidayah Ciracas, East Jakarta, it can be concluded as follows. The ability to count is the ability of children in terms of knowing the concept of numbers, knowing the concept of calculating numbers, sorting the concept of numbers, and connecting objects with their numbers so that children can improve their ability to solve problems. Media Flip chart is a tool or media to attract children's interest so that children can get to know the concept of counting 1 to 20, so that children are easier to remember a lesson. And the Flip Chart media serves as a support for teacher equipment in the learning process.

Learning by doing activities through the Flip Chart media can improve numeracy skills. This is proven by the increase in the ability to count in each cycle. In 1st cycle the percentage achieved was 43% and increased in 2nd cycle reached 77%. The improvement can also be seen from the scores of all aspects of numeracy ability that have increased in each cycle. From these results, it can be concluded that by carrying out numeracy activities through the Flip Chart media, it can improve numeracy skills in early childhood.

5 REFERENCES

Ardiana, R. (2021). Implementasi Media Pembelajaran pada Kecerdasan Bahasa Anak Usia 5-6 Tahun [Implementation of Learning Media on the Language Intelligence of Children Aged 5-6 Years]. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 2(2), 20-27.

- Buchari, A. (2018). Peran guru dalam pengelolaan pembelajaran [Teacher Role in management]. *Jurnal Ilmiah Iqra'*, 12(2), 106-124.
- Oktriyani, N. (2017). Peningkatan Kemampuan Berhitung Anak Usia Dini melalui Permainan Lingkaran Angka di Taman Kanak-Kanak Qatrinnada Kecamatan Koto Tangah Padang [Improving Early Childhood Numeracy Ability through Number Circle Games in Qatrinnada Kidergarten at Koto Tangah Padang District]. *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, 1(1), 82-96.
- Fakhrurrazi, F. (2018). *Hakikat Pembelajaran yang Efektif* [The Nature of Effective Learning]. *At-Tafkir*, 11(1), 85-99.
- Guslinda, S. P., & Kurnia, R. (2018). *Media Pembelajaran Anak Usia Dini* [Early Childhood Learning Media]. Jakad Media Publishing.
- Marlina, S. (2020). Peningkatan Kemampuan Matematika Melalui Aritmatika di TK Kartika I-61 Padang [Improving Mathematical Ability through Arithmetic in Kartika Kindergarten I-61 Padang]. *Pendekar: Jurnal Pendidikan Berkarakter*, 3(2), 22-27.
- Maulani, J., Mulyana, E. H., & Rahman, T. (2021). Pengembangan Media Flipchart Subtema Gejala Alam untuk Memfasilitasi Kecerdasan Naturalis Anak Usia Dini 5-6 Tahun [Development Flipchart Media in Natural Symptoms Theme to Facilitate Naturalist Intelligence for Early Childhood 5-6 Years]. *Jurnal PAUD Agapedia*, 5(1), 70-79.
- Sriningsih, N. (2008). *Pembelajaran Matematika Terpadu untuk Anak Usia Dini* [Integrated Mathematics Learning for Early Childhood]. Pustaka Sebelas.
- Sujiono, Y. N., & Sujiono, B. (2010). *Bermain Kreatif Berbasis Kecerdasan Jamak* [Multiple Intelligence Based Creative Play]. Indeks.
- Suminah, S. (2022). Flipchart Learning Media at TK Muyang Mersa Takengon Regency. *Intelektium*, 3(1), 56-64.
- Susanto, A. (2014). *Perkembangan Anak Usia Dini dalam Berbagai Aspek* [Childhood Development in Various Aspects]. Kencana Prenada Media Group.
- Susilana, R., & Riana, C. (2009). *Media Learning: Reality, Development, Utilization and Assessment*. Discourse Prima.
- Virdyna, N. K. (2020). *Media Pembelajaran Pendidikan Anak Usia Dini* [Early Childhood Education]. Duta Media Publishing.
- Vitaloka, W. (2020). Penggunaan Balok Cuisenaire dalam Mengembangkan Kemampuan Berhitung Anak di Taman Kanak-Kanak Ibunda Kubang Kabupaten Kerinci [The Use of Cuisenaire Blocks in Developing Children's Numeracy Abilities in Ibunda Kubang Kindergarten at Kerinci District]. *e-Jurnal Mitra Pendidikan*, 4(2), 38-51.
- Wahyudin, E. (2017). Pengaruh Media Flipchart Terhadap Kemampuan Membaca Anak Usia Dini Kelompok B Tk Negeri Pembina Ciawigebang [The impact of Media Flipchart on Early Childhood Reading Ability in Group B at Ciawigebang State Kindergarten]. *Jurnal PAUD Agapedia*, 1(2), 137-143.
- Zaman, B., Hernawan, A. H., & Eliyawati, C. (2011). *Media dan Sumber Belajar TK* [Kindergarten's Media and Learning Resource]. Universitas Terbuka.