

THE APPLICATION OF NUMBER FISHING GAME TO IMPROVE BASIC MATHEMATICS ABILITY

Oleh:

Masganti Sit¹, Yusnaili Budianti², Rahmah Mulyani³

¹PIAUD, FITK, State Islamic University of North Sumatera

²Program Pascasarjana, State Islamic University of North Sumatera

³PIAUD, FITK, State Islamic University of North Sumatera

E-mail: masganti@uinsu.ac.id, yusnailibudianti@uinsu.ac.id, rahmahmulyani@gmail.com

doi : 10.30821/axiom.v10i1.8886

Abstrak:

Kemampuan Matematika permulaan merupakan kemampuan anak untuk berfikir logis matematis dan berkaitan dengan bilangan cacah. Pengamatan awal pada anak usia 5-6 tahun di RA Khairin Islamic School ditemukan bahwa kemampuan Matematika permulaan anak tergolong rendah dan kegiatan pembelajarannya berpusat pada guru sehingga anak tidak aktif menemukan konsep dan tidak ada pengalaman belajar yang menyenangkan dan bermakna. Padahal karakteristik anak usia dini adalah belajar melalui bermain. Oleh karena itu, tujuan dari penelitian ini yaitu untuk meningkatkan kemampuan Matematika permulaan dengan menerapkan permainan memancing angka. Metode penelitian yang digunakan adalah penelitian tindakan kelas. Subjek pada penelitian ini sebanyak 21 orang anak usia 5-6 tahun di RA Khairin Islamic School. Hasil penelitian menunjukkan bahwa: penggunaan permainan memancing angka (sebagai tindakan) berhasil meningkatkan kemampuan Matematika permulaan pada anak usia 5-6 tahun. Hal tersebut ditandai dengan tercapainya skor persentase ketuntasan klasikal sebesar 90,4% pada siklus II. Penemuan lain dari hasil penelitian ini, yaitu: respon anak saat memancing angka sangat senang, antusias, aktif, dan memahami Matematika permulaan dengan konsep nyata. Dengan demikian, penelitian ini menyarankan kepada guru ataupun penelitian lainnya untuk menerapkan permainan memancing angka untuk meningkatkan kemampuan Matematika permulaan dan menjadikan konsep Matematika menjadi lebih nyata bagi anak.

Kata Kunci:

Kemampuan Matematika Permulaan, Permainan Memancing Angka, Pendidikan Matematika

Abstract:

The Basic mathematics Ability is pupils ability to think logical mathematical and is related to whole numbers. Preliminary observations on pupils aged 5-6 years at RA Khairin Islamic School, pupils basic mathematics abilities were relatively low and their learning activities were teacher-centered so that pupils did not actively find concepts and there were no enjoyable and meaningful learning experiences. Though the characteristics of early childhood are learning through playing, he purpose of this study is to improve the basic mathematics abilities by implementing a number fishing game. The research method used was classroom action research. The subjects in this study were 21 children aged 5-6 years at RA Khairin Islamic School. The results showed that: the application of number fishing game (as action) to improve basic mathematics ability of

pupils aged 5-6 years. this is indicated by the achievement of a classical percentage ability score of 90.4% in cycle II. The other findings, pupil's responses when fishing for numbers were very happy, enthusiastic, active, and understood basic Mathematics with real concepts. Thus, this research suggests to the teacher or other research to apply the game of number fishing to improve the basic Mathematics ability and to make the Mathematics concept more real for children.

Keywords:

Basic Mathematics Ability, Number Fishing Game, Mathematics Education

A. Introduction

Early age is known as golden age. According to Sit (2015) during this period there was a very amazing development in early childhood because it laid the first foundation in developing the abilities of physical, cognitive, language, social emotional, self-concept, discipline, independence, art, morals, and religious values. Therefore strategic learning atmosphere and stimuli are need so that the pupils growth and development are optimally achieved. Izzati (2017) argues that one of the characteristics of the psychological development of early childhood is widespreading social environment of children by being not feeling enough in the family environment but they begin to feel the need to have playmates. Early childhood education / equivalent does not only develop various aspect and potentials of pupils but also their social interaction through playing so the learning is more enjoyable. Runtukahu and Kandou (2017) suggests that the childrens potential that needs to be developed includes all aspects of basic ability, one of them is basic mathematics ability.

According to Ramli (2015) early mathematics in children can be obtained through observations of: (1) Recognizing numbers, (2) Counting abilities, (3) Ability to count with units. Thus, basic mathematics for early childhood are very important for early childhood so that they can interpretation the materials, objects or concepts in their environment by way of logical thinking. The purpose of Mathematics learning for early childhood is that children begin to think logically and systematically through observing concrete objects, picture or figures in the environment, and numbers that are around the child (Depdiknas, 2007; Khadijah, 2016; Maisarah, 2019; Piaget & Inhelder, 1969).

Preliminary observations on pupils aged 5-6 years at RA Khairin Islamic School, children's basic mathematics abilities were relatively low and their learning activities were teacher-centered so that children did not actively find concepts and there were no enjoyable and meaningful learning experiences. Though the characteristics of early childhood are learning through playing, as the opinion of Hartati (2015) which states that one of the characteristics of early childhood generally is still difficult to concentrate on an activity for a long period of time, children quickly turn their attention to other activities except those activities fun, varied and not boring. Optimizing the understanding of pupils number concept need various activity that can attract the interest and attention of pupils. Activities that are not boring are by using games in learning, one of them is number fishing game. Number fishing games can be implemented in learning to improve children's basic mathematics ability. This is in line with research result of Irawati (2012) that there was an improve in Childrens numeracy skill through numbers fishing games in Sangrina Bunda Pasar Tiku Kindergarten in Tanjung Mutiara Sub-district at the first meeting around 10.67%, the second meeting around 18.75%, and the third meeting around 24.95%. This has met the requirements of classical completeness criteria, $> 75\%$, so fishing activities are considered to be able to improve pupils numeracy ability.

Playing the number fishing game aims not only to pair the numbers, but can connecting between children and numbers in daily life. Thus, number fishing game is related to basic mathematics ability in early childhood. It because number fishing game is a game that uses numbers to develop the concept of numbers in a fun way, and children can begin to think logically and systematically about functional the numbers with playing the number fishing game (Agustin & Mas'udah, 2019; Nadhiroh & Sudarto, 2017; Nurani & Sujiono, 2016).

Each game has its own advantages or advantages, as well as the number fishing game there are several advantages, namely: (a) numbers fishing games can attract children's interest in getting to know concept of numbers and numbers in a fun way; (b) Number fishing games can train children's patience; (c) Number fishing games as an effort to improve children's curiosity in arithmetic; and (d) Attracting children's interest in learning because number fishing games are directly related to daily life (Faizah & Hasibuan, 2014; Irawati, 2012; Triharso, 2013). The number fishing game in this study was carried out by modifying various opinions about the steps of the game. However, the goal to be achieved is the same as the opinion of experts, namely: developing basic mathematics ability in children. Based on the background above, the title of the research is "The Number Fishing Game to Improve basic Mathematics Ability". This research was conducted because there has been no previous research that discusses the complex beginning math skills using number fishing games. Complex initial mathematical ability means examining all indicators covering early math abilities for children aged 5-6 years, which include: recognizing the numbers, ability in counting until twenty, and ability in counting by unit. Thus, all indicators of initial math ability were improved using the number fishing game and their improvement was measured using the observation sheet.

B. Literature

1. Basic Mathematics Ability

Mathematics is a universal science that underlies the development of modern technology, has an important role in various disciplines and advances human thinking. Mathematics learning is given to equip students with the ability to think logically, analytically, systematically, critically and creatively, as well as the ability to work together. Maisarah (2019) the introduction of mathematics in early childhood is part of the cognitive development aspects of logical sub-thinking and symbolic sub-thinking because the first specific goal is for children to think logically and systematically. According to (Piaget & Inhelder, 1969) the purpose of Mathematics learning for early childhood is as a logical mathematical learning or learning to think logically and mathematically in a fun and uncomplicated way. So the goal is not so that children can count to one hundred or one thousand, but to understand mathematical language and its use for thinking.

Basic mathematics is closely related to children's cognitive development, namely in the concept of arithmetic. Piaget in Sit (2015) states that the stage of children's cognitive development in early mathematics abilities, namely children aged 2-7 years still understand the number and length differ from changes in the location of an object. According to Khadijah (2016) the purpose of basic mathematics in kindergarten is to know the basics of learning to count so that in time the child will be better prepared to take part in learning to count at the next level which is more complex. Specifically the purpose of learning Mathematics is that children begin to think logically and systematically from an early age through observing concrete objects or figures in the environment. Therefore children can involve themselves in social life which in their daily lives requires higher arithmetic, accuracy, concentration, abstraction and appreciation and have an understanding of estimating things. Depdiknas (2007) states that the basic Mathematics for children has goals including: (a) Being able to think logically and systematically through observations of concrete objects, pictures or numbers that are around the child, (b) Being able to adjust and involve them in social life which in their daily needs requires arithmetic ability, having accuracy, concentration, abstraction and high appreciation power, and (c) understanding the concepts of space and time and be able to estimate the likelihood of an event happening around the, (d) having creativity and imagination in creating something spontaneously. According to Ramli (2015) early mathematics in children can be obtained through observations of: (a) Recognizing numbers, (b) Counting abilities, (c) Ability to count with units. (Runtutahu & Kandou, 2017) states that early mathematics is the ability to count, understand one-on-one correspondences, and the ability to compare. In another sense Lerner said that mathematics was the initial understanding of the concept of addition.

In learning mathematics at the beginning, children experience several stages including mastery of concepts, the transition period and the introduction of number symbols. Teachers and parents should help children to be able to master each stage of numeracy mastery well and provide appropriate stimulation according to their development. Thus, basic mathematics ability are very important for early childhood so that they can interpret materials, objects or concepts in their environment by way of logical thinking. And it can be concluded that basic mathematics is the child's ability to recognize numbers, count, and count in units.

Bruner in (Maisarah, 2019; Runtukahu & Kandou, 2017) suggests that the concept of Mathematics is taught through three stages, namely: the enactive stage (manipulating real objects), the iconic stage (using images or imagery from real objects), and the symbolic stage (using symbols or Mathematical symbol regarding the real object). Basic Mathematics ability in early childhood can be developed through learning following Bruner's stages and according to the characteristics of early childhood. Characteristics of early childhood are playing and learning with real objects. According to Khadijah & Armanila (2017) stated that playing is a fun activity for children, and is useful for developing the various potentials of children as a whole. Thus, the use of games such as number fishing games is considered to meet the criteria to improve basic Mathematics ability in early childhood.

2. Number Fishing Game

According to Nadhiroh & Sudarto (2017) fishing game is educational game tools that are useful for user, this game is active because children can take fish based on instructions given by the teacher. Of course in playing it, guidance to provide stimulus is needed in form of imperative sentence to fish numbers with the appropriate amount. Agustin & Mas'udah (2019) states that number fishing game is a game that connects children and numbers in daily life. Thus, number fishing game is related to basic mathematics ability in early childhood. It because number fishing game is a game that uses numbers to develop the concept of numbers in a fun way, and children can begin to think logically and systematically about functional the numbers with playing the number fishing game.

Each game has its own advantages or advantages, as well as the number fishing game there are several advantages, namely: (a) numbers fishing games can attract children's interest in getting to know concept of numbers and numbers in a fun way; (b) Number fishing games can train children's patience; (c) Number fishing games as an effort to improve children's curiosity in arithmetic; and (d) Attracting children's interest in learning because number fishing games are directly related to daily life (Faizah & Hasibuan, 2014; Irawati, 2012; Triharso, 2013). According to Nurani & Sujiono (2016) suggests that there are six steps of the number fishing game, the illustrations for each step are as follows: (a) place the shark pattern fish in the tub; (b) ask the child to catch the fish pattern with the available fishing rod; (c) ask the child to name the numbers written on the shark pattern; (d) ask the child to put the fish in the bowl with the same number to feed the sharks; (e) then return the fish to the water bath; and (f) ask the child to choose the next angler. The number fishing game in this study was carried out by modifying various opinions about the steps of the game.

C. Methods

This study uses a type of classroom action research model of Kurt Lewin. In the planning stage, the researcher and teacher discussed about classroom action research by compiling daily lesson plan, the game tools for fishing number, and research instrument. In action stage, the teacher applied daily lesson plan, told the way to play number fishing game and the children played number fishing alternately. In the observation stage, the researcher filled in the observation sheet and took important documentation related to the research procedure. So, this study used observation sheet as instrument basic mathematics ability, and the indicator are recognizing the numbers, ability in counting until twenty, and ability in counting by unit. Field data obtained from the results of observations are then used as consideration regarding

improvement and feasibility of the next cycle carried out at the reflection stage. The object in this study were basic mathematics ability and number fishing game. The subjects who were observed and given action in this study were 21 (twenty one) pupils aged 5-6 years in RA Khairin Islamic School. The used technique data analysis is the percentage of classical abilities with the formula:

$$\text{Classical Percentage Ability} = \frac{\text{Many pupils change} \geq 65\%}{\text{Many research Subjects}} \times 100\%$$

From the formula above, the class improved and is completed learning if the basic mathematics ability achieves classical percentage ability score more than 80%.

D. Results and Discussion

1. Results

Location of this research is in RA Khairin Islamic School at Tuamang Street No.85, Medan-Tembung Sub-district, Medan. RA Khairin Islamic School has complete infrastructure, educational game tool, such as: outdoor (swing, slide, turning round game, see saw) and indoor (puzzle, ball, cooking tool, beam, letter card, number card, handyman tool). This research was conducted for two cycles, and was conducted pre-action before cycle of classroom action research was conducted.

Pre Cycle

In this stage, the observation to know the ability of basic mathematics possessed by Group B. Observation result is that the basic mathematics ability is not optimal yet. First the pupils did not know the odd and even numbers, although they had known numbers 1-20. This thing could be seen while the researcher asked about which one the odd numbers were and which one the even numbers were among 1-20. Second, pupils were able to solve the question of counting that the answer was not more than 10. This was because the pupils used their fingers as helping tool. Third, pupils had never finish counting question by using telling and having dialogue method, so pupils got confusion and needed much time for finishing the counting. Observation result on pre-action stage is presented on the table 1 and figure 1:

Table 1. The Pupils Basic Mathematics Ability on Pre- action

No	Average	Number of Children	Score Percentage	Information
1	0-7	11	52 %	Not develop
2	8-14	10	48 %	Begin to develop
3	15-21	0	0 %	Develop as expected
4	22-28	0	0 %	Develop very good
Total		21	100 %	-
Classical Percentage Ability		0	0 %	-

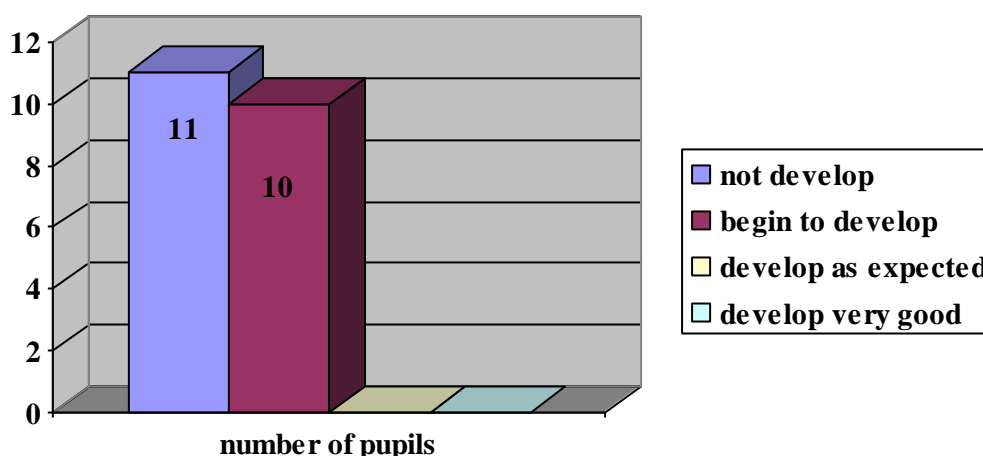


Figure 1. The Pupils Basic Mathematics Ability on Pre-cycle

Table 1 proves that basic mathematics ability of pupils aged 5-6 years have categorized not develop. It is because 52% pupils have categorized not develop, and it dominates the number of students in the class. In figure 1, it can be seen that the highest bar chart is in blue with a description of not develop. Classical percentage ability was still calculated 0% because pre-cycle was first observation and as foundation for improvement for observation result on next cycle. This condition showed that pupils basic mathematics ability had not developed yet. The cause factor is the lack of creative teacher in modifying learning model for developing pupils basic mathematics ability. In this research is applied number fishing game on cycle I aiming to improve pupils basic mathematics ability aged 5-6 years in RA Khairin Islamic School.

Cycle I

Before conducting cycle I, lesson plan is arranged conducted in the class, namely:

- a. Preparation of weekly lesson plan and daily lesson plan, the preparation of daily lesson plan used as it already was in schools so not to interfere other learning activity. So number fishing game was conducted in the end of core learning, where pupils who got boring would get game that they liked and interested them.
- b. Preparing place and used tools are basket and fishing rod.
- c. Preparing observation sheet and documentation.

Based on the pre-cycle meeting conducted by researcher, pupils basic mathematics ability was still low, that is why researcher continued to cycle I conducted 3 times meeting. Before learning activity took place by using playing media of number fishing, researcher prepared it so the writing was done well. In this stage, the researcher conducted the activity prepared on daily lesson plan to improve pupils basic Math, what researcher did were:

- a. Opening learning activities with greetings and singing.
- b. Pupils watch video for recognizing kinds of number.
- c. Motivating pupils to focus on doing numbers fishing games.
- d. Preparing smiling emoticon and movement that make pupils cheerful
- e. Providing direction about practices based on indicators
- f. Pupils did practice number fishing game.
- g. Monitoring numbers fishing game

After doing the fishing numbers, the pupils response was very happy. At the first meeting when introducing the game of fishing numbers looked the pupils were so enthusiastic and wanted to play it, but for the initial meeting, there were still some who were confused about the purpose of the number fishing game so that at the end of the meeting it was explained again that

number fishing game was not just a game but also it aimed to improve understanding of pupils basic Mathematics. Then interviews with teachers related to the game of number fishing to improve pupils basic mathematics ability. The interview results obtained, teacher said that there was an improve in the pupils basic mathematics abilities where 14 of 21 pupils could answer teacher's statement about recognizing odd number, even number, and addition. Observation data result of basic mathematics ability on cycle I was presented on Table 2 and figure 2:

Table 2. Pupils Basic Mathematics Ability on Cycle I

No	Average of Score	Number of Children	Percentage of Score	Information
1	0-7	0	0 %	Not develop
2	8-14	7	33 %	Begin to develop
3	15-21	14	67 %	Develop as expected
4	22-28	0	0 %	Develop very good
Total		21	100 %	-
Classical Percentage Ability		7	33 %	not achieve (<80%)

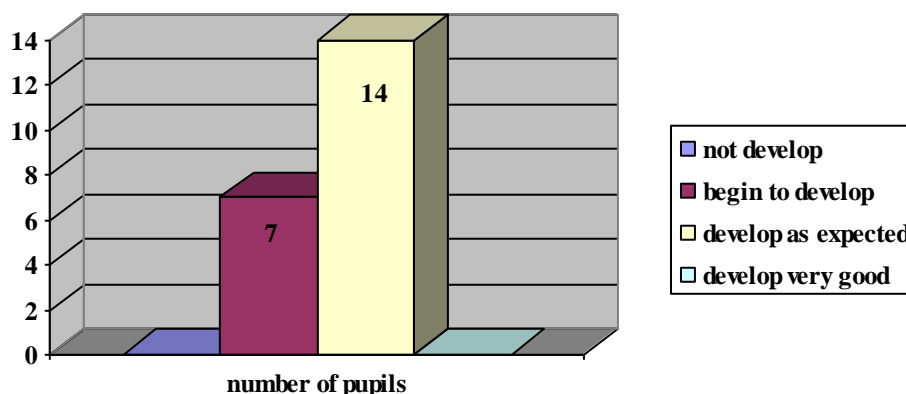


Figure 2. Pupils Basic Mathematics Ability on Cycle I

Table 2 proves that basic mathematics ability of pupils aged 5-6 years have categorized developed as expected. It is because 67% pupils have categorized developed as expected, and it dominates the number of students in the class. In Figure 2, it can be seen that the highest bar diagram is in cream color with the information developed as expected. If it is compared with observation, on pre cycle, there is an improve of pupils basic mathematics ability after using number fishing game. However the result of classical percentage ability got only 7 Of 21 pupils (33%) experiencing the increase of basic mathematics ability on cycle I is 65% compared by their ability on pre cycle. Then research and learning used number fishing game and was continued on cycle II.

In the cycle II expected could improve basic mathematics ability better and complete after using number fishing game. Reflection result on the cycle I is:

- a. In the beginning activity, pupils had good respond
- b. Many pupils were less focus in handling the hook to number that would be taken
- c. Class condition was not conducive yet

Cycle II

The implementation in cycle II was arranged based on the results of reflection in cycle I and continued to use the numbers fishing game. The following learning plan of cycle II were:

- a. Preparing daily lesson plan with theme of universe

- b. Giving stimulus to pupils by giving reward, if they could answer the question well and followed the lesson well
- c. Creating cheerful song so pupils were happy
- d. Preparing tools and materials to do the number fishing game
- e. Preparing observation result of pupils basic mathematics ability.

On cycle II, learning activity was based on daily lesson plan and aimed to improve pupils basic mathematics ability. The following learning activities conducted on cycle II were:

- a. Opening learning activity with greeting and singing.
- b. Motivating pupils so that did number fishing game more focus
- c. Preparing smiling emoticon and movement so pupils were happy and spirit
- d. Explaining is practiced and indicators that ought to be achieved by pupils
- e. Demonstrating first before children practiced it. During the demonstration, the teacher does this in stages while doing questions and answers, so that children who were not focused become focused and can use the number fishing game.
- f. Monitoring the process of number fishing game conducted by pupils

Pupils respond after doing number fishing game on cycle II looked very happy and enthusiastic. The pupils were more orderly and regularly when fishing numbers. After learning was done, the interview with teacher was done following monitoring process and learning result. The teacher stated that the change happened significantly while the teacher gave questions to pupils about addition and almost all pupils answered well. Likewise, when the teacher asked the types of number, odd number and even number, the teacher was very happy because the research was conducted by using number fishing game that has impact on pupils basic mathematics ability. Observation data result of basic mathematics ability on cycle II was presented on table 3 and figure 3:

Table 3. Pupils Basic Mathematics Ability on Cycle II

No	Average of score	number of children	Score percentage	Information
1	0-7	0	0 %	Not develop
2	8-14	0	0 %	Begin to develop
3	15-21	8	38 %	Develop as expected
4	22-28	13	62 %	Develop very good
Total		21	100 %	-
Classical Percentage Ability		19	90,4%	Have achieved (>80%)

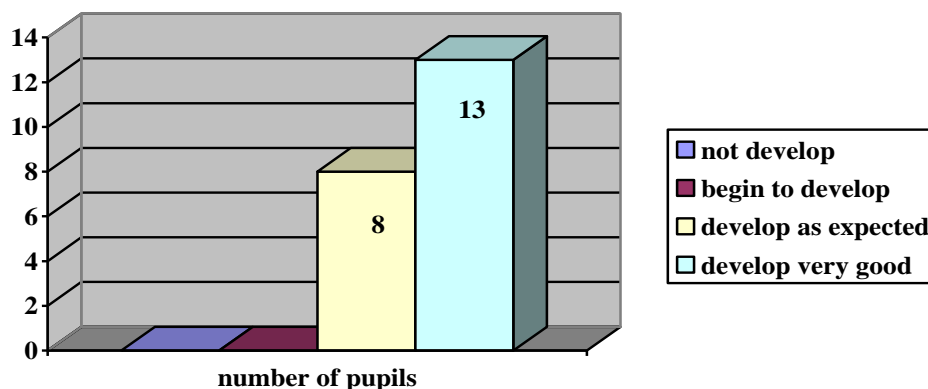


Figure 3. Pupils basic mathematics ability on cycle II

Table 3 proves that basic mathematics ability of pupils aged 5-6 years have categorized developed very good. It is because 62% pupils have categorized developed very good, and it dominates the number of students in the class. In Figure 3, it can be seen that the highest bar diagram is in Tosca blue with the information developed very good. If this was compared by observation result on pre cycle and cycle 1, there was an improve of pupils basic mathematics ability after using number fishing game. Classical percentage ability result got 19 of 21 pupils (90,4%) that increased basic mathematics ability on cycle II 65 % compared by the ability on cycle I. Thus, research and learning used number fishing game was stopped on cycle II because from the observation classical percentage ability had achieved requirement minimal 80%.

2. Discussion

The final results of this research indicated that 8 of 21 pupils had basic mathematics ability categorized developing as expected (38%) with average of 18, 13 pupils categorized developing very good (62 %) with average of 22, and none categorized not developing yet or beginning to develop. If this was compared by observation result on cycle I so classical percentage ability got high score those were 19 of 21 pupils (90,4%) that increased more than 65% on basic mathematics ability. The improve happened after number fishing game was used. Thus, this research result proved that the use of number fishing game as action improving successfully basic mathematics ability on pupils aged 5-4 yearsold in RS Khairin Islamic School.

This research result was supported by some previous researches that had published on national and international journal, those are Noermayanti & Hasibuan (2017) proves that there is an improve in recognizing number concept 1-5 on pupils aged 3-4 years old in KB Tunas Bangsa Kedungturi Gudo Jombang through fishing game. Noermayanti & Hasibuan's research examined the subject, namely children aged 3-4 years, while this study examined the subject, namely children aged 5-6 years, but both age ranges are still in early childhood education so that the research can be used as a reference source that supports the this research results.

Hartini (2012) number fishing game has been success in improving pupils Mathematics ability, so there is an improve in every indicator especially in mentioning numbers 1-20, recognizing number symbol with things until 20, and connecting/ putting up number symbol with materials until 20. To make learning more interesting for pupils, teachers should be more creative in designing learning media and introduced by playing in order to improve pupils ability to learn. Research result from Witrimus & Reswita (2019) proves that the use of fish fishing game effects on numeracy ability of children aged 5-6 years in Early Childhood Education SPS Mutiara Belia Pekanbaru. This research is the same as this research which uses game fishing, but the difference is in the type of fishing game. Witrimus & Reswita's research used fishing games while in this study using number fishing games as the results of research by Izzaturrohmaniyah et al. (2019) and Apsari & Suryana (2019) show that the application of numerical fishing games can improve the ability children in recognizing the concept of numbers. However, Izzaturrohmaniyah et al's research only examined recognizing the concept of numbers in children, while this study analyzed more complex basic mathematics abilities, namely: recognizing the numbers, ability in counting until twenty, and ability in counting by unit.

According to Nurani & Sujiono (2016) number fishing game can conducted by some steps: (1) put shark pattern into the tub; (2) ask children to catch the shark pattern by fishing rod; (3) ask children to mention number that has been written on the shark pattern; (4) ask the children to put the shark pattern into bowl that has same number to feed the shark; (5) then get back the shark pattern into the tub; and ; (6) ask children choose the next fisher. Meanwhile, in this study, a number fishing game was conducted with the steps in the second cycle, namely: (1) opening learning activity with greeting and singing; (2) motivating pupils so that did number fishing game more focus; (3) preparing smiling emoticon and movement so pupils were happy and spirit; (4) explaining is practiced and indicators that ought to be achieved by pupils; (5) demonstrating first before children practiced it. During the demonstration, the teacher does this

in stages while doing questions and answers, so that children who were not focused become focused and can use the number fishing game; and (6) monitoring the process of number fishing game conducted by pupils.

There are many benefits if number fishing game is used. Triharso (2013) reveals there are two advantages of number fishing game, can attract children's interest in understanding the concepts of numbers in a fun way, and can facilitate children's patience. Faizah & Hasibuan (2014) adds the other advantage of using number fishing game is interesting in children's learning because number fishing game is related directly in daily life. From some opinions, number fishing game has many advantages, so it is suggested to be used by education institution especially early childhood education to develop the childrens potential based on the advantages of this game. The other research about game is Katmada et al. (2014) indicated that the students' opinion about the game was positive, and suggest that with some extensions the game could be used as an effective tool in Mathematics learning. These findings are encouraging and suggest that game-based learning activities are well-accepted and appreciated by students. Finally, some corresponding conclusions and future improvements to the game are being discussed on the basis of the findings. So, application the game is interesting in Mathematics learning, include the number fishing game to improve the basic mathematics ability on children aged 5-6 years old

Another benefit found from using number fishing games is on children's cognitive development. The basic mathematics is part of cognitive development. The cognitive of early childhood according Piaget in Suyadi (2015) states that at 18 months 16 years, the child in pre operational stage. This stage is begun when the baby is 18 until 24 months. In the beginning the child can solve the problem by thinking it first through the mental, short after (at next stage), the child can learn the problem before acting and being involved directly in trial and error activity physically. According to Ramli (2015) basic Mathematics for children can be obtained through observation toward: (1) Recognizing the numbers, (2) ability in counting, (3) Ability in counting by unit. According to Piaget & Inhelder (1969) the aims of Mathematics learning for early children is as logical mathematical learning or learning to think logic and mathematical in fun and easy way. So the aim is not so that the children can count until hundred or thousand, but understand mathematical language and the use to think. Depdiknas (2007) says that the basic mathematics for children has aim, they: 1) can think logically and systematically through observations of concrete objects, pictures or numbers that are around the child, 2) can adjust and involve themselves in social life which in his daily needs requires numeracy ability, 3) have accuracy, concentration, abstraction and high appreciation power, 4) understand the concepts of space and time and be able to estimate the possibility of an event happening around it, 5) has creativity and have creativity and imagination in creating something spontaneously. According to Khadijah (2016) the aims of learning basic mathematics in kindergarden, which is to find out the basics of numeracy learning so that in time the child will be better prepared to follow numeracy learning at the next level which is more complex. While specially the aim of learning basic mathematics is in order to be able to think logically and systematically early on through monitoring of concrete objects or figures in the environment around children. So that children can involve themselves in social life which in their daily lives requires higher arithmetic, accuracy, concentration, abstraction and appreciation and have an understanding of estimating things.

From the analysis of the research result and discussion, it can be concluded that the basic mathematics ability is very important for early childhood and their lives in the future because every activity in this world is related to Mathematics so that it requires high mathematical or mathematical intelligence. Number fishing game has many advantages, that is to improve pupils Mathematics ability. This is in accordance with the results of this research which proves that the application of fishing games can improve the ability of basic mathematics in pupils aged 5-6 years in RA Khairin Islamic School.

E. Conclusion

Results of this research which proves that the application of fishing games can improve the ability of basic mathematics in pupils aged 5-6 years in RA Khairin Islamic School. While they are fishing, pupils are very happy, enthusiastic, active, and understand the basic Mathematics with the real concept. This research suggests teacher or other researcher to apply number fishing game to improve basic mathematics ability and make Mathematics concept become more real to pupils.

REFERENCES

- Agustin, W., & Mas'udah. (2019). Peningkatan kemampuan kognitif melalui permainan memancing angka pada anak kelompok b tk pembina putra Surabaya. *Jurnal PAUD TERATAI*, 8(1), 1-4.
- Apsari, I., & Suryana, D. (2019). Improving the ability to know the concept of numbers through the game of fishing numbers in integrated islamic kindergarten adzkia iii Padang. *Education and Humanities Research*, 449(1), 101-106.
- Depdiknas. (2007). *Pedoman pembelajaran berhitung permulaan di tk*. Jakarta: Depdiknas.
- Faizah, N., & Hasibuan, R. (2014). Meningkatkan kemampuan mengenal konsep bilangan melalui metode bermain memancing angka pada kelompok b ra an nur. *Jurnal Pesona PAUD*, 3(1), 1-6.
- Hartati, S. (2015). *Perkembangan belajar pada anak usia dini*. Jakarta: Depdiknas.
- Hartini, P. (2012). Peningkatan kemampuan matematika anak melalui media permainan memancing angka di taman kanak-kanak fathimah Bukareh Agam. *Jurnal Pesona PAUD*, 1(1), 1-10.
- Irawati, R. M. (2012). Peningkatan kemampuan berhitung anak melalui permainan memancing angka di taman kanak-kanak sangrina bunda Pasar Tiku. *Jurnal Ilmiah Pesona Paud*, 1(3), 1-12.
- Izzati, R. E. (2017). *Perilaku anak prasekolah*. Jakarta: Gramedia.
- Izzaturrohmaniyah, Asfiyak, K., & Anggraheni, I. (2019). Penerapan permainan memancing angka untuk meningkatkan kemampuan mengenal konsep bilangan pada anak kelompok a raudhatul athfal al amin bonangan Pakis Malang. *Dewantara: Jurnal Ilmiah Pendidikan*, 1(2), 57-64.
- Katmada, A., Mavridis, A., & Tsiatsos, T. (2014). Implementing a game for supporting learning in mathematics. *Electronic Journal of E-Learning*, 12(3), 230-242.
- Khadijah. (2016). *Pengembangan kognitif anak usia dini*. Medan: Perdana Publishing. [https://doi.org/10.1016/S0262-8856\(98\)00132-2](https://doi.org/10.1016/S0262-8856(98)00132-2)
- Khadijah, & Armanila. (2017). *Permasalahan anak usia dini*. Medan: Perdana Publishing.
- Maisarah. (2019). *Matematika dan sains anak usia dini (edisi revisi)*. Medan: Akasha Sakti.
- Nadhiroh, U., & Sudarto, Z. (2017). Permainan memancing terhadap kemampuan konsentrasi anak autisme di tk putra harapan Sidoarjo. *Jurnal: Pendidikan Khusus*, 9(3), 1-11.
- Noermayanti, S., & Hasibuan, R. (2017). Peningkatan kemampuan mengenal konsep bilangan 1-5 melalui permainan memancing pada anak usia 3-4 tahun di kb tunas bangsa kedunguri Gudo Jombang. *Jurnal PAUD TERATAI*, 6(3), 1-5.
- Nurani, Y., & Sujiono. (2016). *Metode perkembangan kognitif*. Jakarta: Universitas Terbuka.
- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. London: Routledge & Kegan Paul.
- Ramli, M. (2015). *Pendampingan perkembangan anak usia dini*. Jakarta: Depdiknas.
- Runtutahu, T., & Kandou, S. (2017). *Pembelajaran Matematika dasar bagi anak berkesulitan belajar*. Yogyakarta: Ar-Ruzz Media.
- Sit, M. (2015). *Psikologi perkembangan anak usia dini*. Medan: Perdana Publishing.
- Suyadi. (2015). *Psikologi belajar anak usia dini*. Yogyakarta: Pedagogia.
- Triharso, A. (2013). *Permainan kreatif dan edukatif untuk anak usia dini*. Yogyakarta: Andi Offset.

Witrimus, & Reswita. (2019). Pengaruh permainan memancing ikan terhadap kemampuan berhitung anak usia 5-6 tahun di paud sps mutiara belia Pekanbaru. *PAUD Lectura: Jurnal Pendidikan Anak Usia Dini*, 3(1), 19–28.