Use of Number Card Playing Method to Improve Early Childhood Numeracy Skills

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DOI: 10.26858/tematik.v8i2.27549

Abstract:
The improvement of numeracy skills carried out in group B through number card playing activities at PGRI Ujung Indah Kindergarten, Mallusetasi District, is expected to increase through this study. The approach used in this research is qualitative. This research uses classroom action research (Classroom Action Research). Data collection is carried out using observation and documentation methods, data is collected and then analyzed using descriptive analysis techniques through the initial elaboration of the research until the end of the treatment given. The study's results during the first treatment process showed a percentage rate of 20%. In cycle II there was an increase with a percentage of 87%. For the activity aspect of pairing numbers on objects from the lowest to the highest numbers, the number in cycle I was as much as 33%, and an increase in cycle II showed a rise to 87%. Based on this data, the indicator of learning success is achieved because it has been at ≥ 70%.

Keywords: Numeracy ability; number card; early childhood

INTRODUCTION
Cognitive development is one of the most essential aspects in children's lives because the development of children's ability to think, the ability to learn, acquire new concepts, and children's understanding problem-solving is part of the aspects of cognitive development so, of course; this is very important to develop (Sari, D. P, et al. 2019). Cognitive Development is one of the children's abilities to express or interpret objects or events in the surrounding environment so that children can understand the world through new thoughts/concepts described by Piaget (Maryam, S.2019).

The development of children's cognitive abilities from an early age is divided into various aspects, especially mental development in the field of mathematics in early childhood, through providing a stimulus for the introduction of mathematical concepts for early childhood as an effort to prepare for the next level (Mertadi, G. A. M., Pudjawaran, K., & Raga, G. 2014). Cognitive development in child mathematics is simply a process of
processing numbers. Mathematical skills in early childhood or early numeracy can be started with a simple mathematical concept introduction activity, namely an introduction to symbols in the form of numbers/numbers, geometry, and measurement. Providing stimulus through adding numbers, sorting and mentioning numbers, and adding or subtracting is part of number recognition activities carried out as a form of stimulation in improving mathematical skills in children. Other activities, such as simple geometry recognition, can be presented through objects or media that have triangular, circular, square, and different shapes, then the introduction of measures in units of numbers, namely distance (far-near), units of measurement (short-long, area-narrow), units of scales (light-weight) and so on.

The interaction of teachers and children is one of the learning activities that are able to stimulate children's self-confidence, in the context of implementing learning, this is intended so that the learning objectives formulated earlier are achieved, and an educator should have the knowledge and skills to be able to apply these goals. so that the teacher must be able to choose the media used in learning and use the right strategy for the learner's objectives. The number recognition strategy can be understood easily if the use is appropriate so that children do not find it difficult to understand the concept of numbers themselves. Implementing the teaching and learning process will be easier for children to understand through the use of media as a tool in presenting material and increasing children's interest in following the learning process.

Children's ability to recognize numbers and sequences of numbers and understand the concepts of addition, subtraction and division can help them optimally stimulate their numeracy skills. However, there are still many children who are still reluctant to learn, many are afraid to learn mathematics because it is difficult; it makes children have no essential ability to participate in learning, resulting in children's abilities not being appropriately stimulated. It is necessary to provide compelling, engaging, and fun learning activities that have meaning for children (Utami, Y. S.2018).

Learning media is a means to make it easier for a teacher to achieve goals in learning. The media should pay attention to several things, namely the suitability of the media with the material. The media can create a conducive learning climate and atmosphere so that teachers should understand in detail the learning media used to make it easier for teachers to provide explanations, describe the material, and demonstrate and analyze a state or object to the child (Nataliya. P,2016). Sujiono (2007: 76) explained that the ability to count is children's knowledge of numbers, solving mathematical problems such as relationships between numbers and simple calculation operational procedures to children from an early age because this time it is a very strategic time for children to get to know simple mathematical concepts such as numeracy activities (Pakasi in Sriningsih. 2009:45), the most essential thing that must be understood in developing the ability to count begins with the introduction of the concept of the main symbol of numbers, namely the mention of names, symbols/ symbols, sequences and finally quantities which is then continued to the idea of learning to calculate units of numbers, teams of numbers, comparing and connecting units of numbers to others, as well as understanding the relationship between objects and symbols (Yazid Busthomi.2012: 105-106).

Suriasumantri (1982: 121) revealed that the ability to count is the concept of numbers that are poured into the language to obtain meaning from a series of statements run into mathematical concepts in the form of the use of symbols that are artificial in nature, which will get a sense if there is a giving of meaning because in the absence of a purpose a mathematical concept is only a dead formula. Meanwhile, Paimin (1998: 109) explained that the ability to count is the ability to understand symbols that are structured and have a relationship with each other in the operation of predetermined numbers, then presented
through an activity that stimulates/provides the proper guidance for the development of children according to their level. The stimulus given is intended to put pressure on very high curiosity by the child, the pressure given can be in the form of presenting material in a variety of compelling games and is based on the ability, and suitability of the child's needs and interests, so it is believed that the child has succeeded in learning the material provided through play activities because play is the child's passion at work. Stimulating development in early childhood at the kindergarten level has various scopes of action, not only in the cognitive sphere; numeracy games are arranged to promote children's mental readiness, and the social-emotional abilities presented are more attractive, creative, and varied. Improving numeracy skills in children must pay attention to factors that can affect them internally and externally, including the learning process that does not have attractiveness and the use of learning media is not varied, less fun, and monotonous learning activities so that children do not understand well, this is explained by Hidayat (Nataliya, P, 2016).

The curiosity possessed in children is very high, so it requires the right stimulus or arrangement according to the level of development; the inspiration provided can be in the form of learning support media in the form of various kinds of numeracy game tools for children based on the needs, interests, and abilities of children to be able to stimulate all child development through play. Play activities can direct children's development in every aspect of child development. The presentation of learning through play can make it easier for children to think and have their own fun to improve cognitive elements that require more complex thinking skills. Play activities become one of the right strategies with the help of teaching aids that can help smooth learning and increase children's creativity in counting.

Improving the abilities of each child is the ability to count through the characteristics of the child through the surrounding environment to be able to develop to the next stage, such as the ability to number numbers, read number symbols and connect objects according to their numbers. In numeracy learning, there are many benefits found, including through numeracy activities, children can get a basic understanding of good and correct counting operations, fun and presented interestingly, through this counting activity can avoid children's fears in learning to count to be able to help children in the future (Khan, R, I.Yuliani, N, 2016).

The improvement of children's ability to count, according to Sujiono is divided into two (Suhardjono 2007: 89), namely general and special goals; increasing the ability to trust in general in kindergarten has the aim that children have mental and physical readiness to continue education which begins with an understanding of the basics of numeracy learning to help children count at the next level of education through comfortable learning conditions, attractive, conducive and fun to develop numeracy skills specifically with the aim that children can 1). Think logically about concrete objects presented in the form of direct observations; 2) children can adapt and participate in the community using numeracy skills; 3) the child can understand the concept of space and time so that the child arranges a series of sequences of events that occur based on the description of the time and place where they occurred; 4) children can think through high abstraction and appreciation power to carry out an activity very carefully; 5) In creating something children can be creative and imagine spontaneously. The improvement of numeracy skills can be poured through play activities that will direct children's overall growth and development, which can influence improving children's numeracy skills, especially in cognitive development.

The introduction of numbers, according to Sudayarti (2006: 5), given to children of age can be done in various ways, including counting using fingers, stimulating the ability to measure through sports, singing while counting, summing objects, depending on activities through singing activities, introduction to the concept of numbers (comparing, pairing,
writing) to ten. The concept of numbers described by Diah Hartati (1944: 77) is introduced to children in two ways: recognition of numbers based on observational activities of children's pronunciation from the numbers 1 to 10, matching and mentioning the objects around and each number. Furthermore, children can group the introduction of number units according to the order of the number symbols from 1 to 10 correctly, which is then continued to imitate the number symbols, as well as carry out activities to match the set of numbers and fill in the empty number symbols (Novianti, R.2015)

The use of learning methods used should be centered on children through pleasant learning conditions, a learning atmosphere that is enjoyable and remains centered on children using learning facilities and infrastructure or can be applied through the medium of exciting and fun number cards, as well as various learning resources that support the provision of stimulus to children or use props, so that teachers need to understand how to choose the suitable media to stimulate child development and fulfilling the instinct of play as one of the learning resource activities in early childhood. One form of availability of learning media that complements the learning process in kindergartens is number cards.

Playing number cards, according to Mudjito (2007: 19) explains that "playing number cards is a playing activity carried out using a playing tool consisting of number cards." The use of number cards can increase children's enthusiasm in participating in play activities, through this activity children can be more active, able to think quickly, make it easier for children to solve problems and train the ability to work with friends, and can be played in numbers of more than three children. Learning in Kindergarten can be sought to obtain learning resources that can be of quality and used in learning more effectively are exciting and fun number cards for children so that children can enjoy playing while learning through the use of learning media or teaching aids, so the need for teachers to understand the selection of the suitable media to stimulate child development and fulfill the instinct of play as one of the activities that is a source of learning in early childhood.

According to Sujiono (2007: 76), it is stated that educational games in the form of number cards are a learning medium that is carried out in groups and individuals in the form of number cards, number cards in the form of learning media used in learning can make it easier for children to increase basic knowledge about symbols of numbers, colors, shapes sizes so that children are ready to accept further mathematics learning, so this is very important for children (Hasibuan, M. 2020). Hurlock (1994: 154) suggests that playing number cards can develop the ability to count through playing number cards to stimulate children's thinking power in counting; indirectly, this increases children's ability to concentrate. Playing while learning can make it easier for children to indirectly understand the concept of numbers. Experts also convey in the field of psychology that the early age of children is a time when children ask questions and create new things and explore through play.

According to Frobel (FIP, 2000: 63), The implementation of learning activities is expected to develop children's abilities in every aspect of their development through number cards, including a) Children cooperate and unite each other (easy to interact with friends / not play alone); completing an activity together (group); happy to praise friends/others; b) The child can understand 3-5 commands in order correctly for example: take a number card according to the teacher's direction, mention the color, sort the number cards from the smallest to the largest; c) Children can recognize the numbers 1 to 10 by sorting the lowest numbers to the highest number, making a sequence of numbers using a number card; d) Children play number cards by competing to pick up the corresponding number cards; e) The child can mention and sing number cards.
Learning activities are carried out using one of the media in the form of number card media that can contain variations of images and colors and is accompanied by many varied number symbols to make them more attractive and can improve the ability to recognize number symbols in children (Utami, Y. S. 2018). Number cards are card-shaped props measuring 5x5 cm from cardboard pieces used as a medium used by teachers in supporting the implementation of learning with a number written on each card according to the theme taught (Marselani, D. 2019). The steps for children's numeracy through the number card game, according to Mudjito (2007: 23), are as follows: a) The teacher prepares to share learning media in the form of number cards and drawing cards, b) The teacher provides an explanation of the rules of play and the tasks to be completed, c) The child is asked to match the number cards and drawings provided and placed on the table, d) Then the child is directed to play with the media provided and look for number cards based on the number of images present., e) The game continues until all the children try the game. The game is over until all the children have finished the game.

METHOD

Class Action Research aims to improve the quality of a subject as a group or individual to solve actual problems. This research uses classroom action research carried out in the form of collaborative participation to improve the quality of subjects in implementing learning. This PTK research was carried out through four activities given to group B students of PGRI Ujung Indah Kindergarten, Mallusetasi District. The stages consist of 1) Draft implementation of actions; 2) The process of carrying out actions; 3) Observations were held, and; 4) reflection on the results obtained. The data collection was carried out using observational techniques, which were then processed using quantitative analysis using a simple statistical formula.

RESULTS AND DISCUSSION

The implementation of this activity consists of activities that are focused on improving children's ability to count using the method of playing number cards. The action is to draw rainbow images 1-20. The implementation steps in the activity are as follows: 1) Educators provide number cards as preparation before the process of implementing continuous learning; 2) The teacher explains the tasks that the child will do in playing number cards; 3) Children aim to complete the task of playing number cards by matching number cards with picture cards to form a rainbow image using pieces of cards that have been placed on the table; 4) The teacher gives motivation to the protégé to play the number cards with the rainbow image; 5) The teacher gives the child time to play by looking for cards with the amount on the picture; 6) The game continues until the whole child has completed it. In the second core activity, the movement teacher linked a rainbow image with ten seriations (red kuninh, green, blue and purple). Followed by activities to compile rainbow picture puzzles.

The next stage is observation, observation is carried out when all the process of implementing actions has been completed; at this stage, it is carried out during continuous learning, where the researcher observes and writes a description of the child's development when the teacher delivers the material and carries out learning activities, which will keep the action of children's numeracy ability by researchers who act as observers who become results obtained an on this activity. In the teacher aspect, there needs to be an improvement in the next move based on the results obtained is still in the sufficient category, so it needs to be improved in the next move. The table below shows the resulting development in students.
Table 1. Recapitulation of Student Learning Outcomes Activities I

<table>
<thead>
<tr>
<th>No</th>
<th>Indicators</th>
<th>Observations</th>
<th>Sum</th>
<th>Average Value</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Numbering/calling a sequence of numbers from 1 to 20</td>
<td>8 4 2 1</td>
<td>26</td>
<td>1.73</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>Connecting/pairing number symbols with objects from 1 to 20</td>
<td>5 5 4 1</td>
<td>31</td>
<td>2.07</td>
<td>33%</td>
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</table>

In the indicator of the child's ability to number/call numbers from the order of 1 to 20, 8 children show their abilities are still in an undeveloped stage. The category of starting to develop shows four students, then the power of children following their developmental expectations, namely two children. In this activity, only one student obtains an outstanding development category with an average number of scores of 1.73, with a completeness of learning outcomes of 20%. The indicator of the ability to connect/pair the number symbol with objects from 1 to 20, namely five children who indicate their capabilities are still in the undeveloped stage, the category of starting to develop shows five students, then the power of children following their developmental expectations is four children, in this activity, there is only one student who obtains an outstanding development category with an average number of The score is 2.07, with completion of learning outcomes of 33%. The average ability to berhitung children under three and the overall learning outcomes are 20%, as described in the table below:

Table 2. Percentage of Learning Completion of Student Activities I

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Activity Results I</th>
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<tbody>
<tr>
<td>1</td>
<td>Rata-average value of children's ability to calculate</td>
<td>1.90</td>
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<tr>
<td>2</td>
<td>Percentage of student learning completion</td>
<td>20%</td>
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</table>

Observers in the implementation of learning get results that show the discovery of some found that there are weaknesses in observations made during the learning implementation process, namely the explanations submitted by the teacher are not clear, so children find it challenging to complete the activities given and look rigid, the provision of learning media such as cards is minimal, the lack of providing rewards or rewards to children for The achievement of the expected goal is to complete the activity, and the child is still not familiar with the exercises given. The implementation of learning implementation based on the results of embedding shows that the child's ability is still in the category of not meeting the achievement of the specified target of 75% of children showing suitable types; there is a need for improvement in the shortcomings in the implementation of learning so that researchers proceed to the next activity. The performance of action II is carried out by correcting weaknesses in movement I.

Table 3. Learning Outcomes of Students Activities II

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<tr>
<th>No</th>
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1 Numbering/calling a sequence of numbers from 1 to 20 1 1 9 4 46 3.07 87%
2 Connecting/pairing number symbols with objects from 1 to 20 1 1 8 5 47 3.13 87%

In the indicator of the child's ability to number/call numbers from the order of 1 to 20. There is one child who shows that their abilities are still in the undeveloped stage, the category of starting to develop shows one student, then the power of children following their developmental expectations is nine children. In this activity, only four students get an excellent development category with an average number of scores of 3.07, with the completeness of learning outcomes of 87%. The indicator of the ability to connect/pair the number symbol with objects from 1 to 20, namely one child who shows his power is still in an undeveloped stage, the category of starting to develop shows one student, then the ability of the child per his developmental expectations is eight children, in this activity, there are only five students who get an outstanding development category with an average number of values that is 3.13, with completion of learning outcomes of 87%. The average child's ability to hang out is above 3.10, and the overall learning continuity is 87%, as described in the table below:

Table 4. Percentage of Completion of Learning Activities II

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Activity Results</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>The average value of a child's ability to calculate</td>
<td>3.10</td>
</tr>
<tr>
<td>2</td>
<td>Percentage of student learning completion</td>
<td>87%</td>
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</tbody>
</table>

Reflection

The results of observations The implementation of the second activity showed the effect that there was an increase in the results of children's numeracy ability from activity one, which showed the ability results to be, on average above number 3. This indicates the achievement of the expected capability indicators. The improvement of numeracy skills in children shows the results of the research carried out that students who achieved more than 75% of the total presence of research subjects, as many as 15 children obtained good categories, so according to the data obtained by the researchers, this study no longer continued to the next activity. Improved numeracy skills in children show the result that the child.

Children's numeracy skills increase by numbering indicators, and children can count numbers 1 to 20 in the correct order, and children's hands can connect and match number symbols from 1 to 20. To develop mathematical skills at the primary level, the ability to count is needed for daily life, and an understanding of the concept of numbers can be expressed in various media or counting games. From the results of the research, each activity shows that there is an increase in numeracy skills. Here's a percentage chart comparing each meeting's learning outcomes.
Picture. 1. Percentage Comparison of Learning Outcomes of Each Activity

Based on the diagram above shows that in activity I percentage on the indicator and children can count numbers 1 to 20 in the correct order with a rate of 20%; in activity II, there is an increase with a percentage of 87%. For indicators, children could connect and match number symbols from 1 to 20 in the first activity, the rate was 33%, and activity II showed a significant increase of 87%. Based on this data, the indicator of learning success is achieved because it has been at $\geq 70\%$.

Through the use of learning media, children are willing to follow the implementation of learning because they are made in the form of games that are exciting and fun for children. Applying simple strategies is the teacher's ability to design education that is not monotonous. The success of teachers in implementing these strategies shows an increase in numeracy skills in children. So that this can be a teacher's guide in realizing the teacher's goals. Understanding numbers as part of mathematical concepts is fundamental to be given earlier or in the golden age through various methods adapted to the child's abilities. This follows the quote Sudayarti (2006:1) mentions that mastery of mathematical concepts, especially introducing concepts to numbers, is the most fundamental thing for early childhood to master and use to the next level.

Yazid Busthami (2012:105-106) mentioned that mathematical concepts are arranged through various essential mathematical focuses, such as the concept of simple mathematical numbers, numerators, children's understanding of the symbols of numbers on objects and their numbers, and connecting one-to-one numbers. The presentation of material poured into learning media should stimulate mental, social, and emotional readiness in children who are designed to be more exciting and varied. The use of methods such as media and giving time, giving gifts/rewards is a method that can be applied in introducing the concept of numbers to children to motivate children to remain active in learning and minimize the creation of a saturated learning atmosphere and other problems experienced by children.

CONCLUSION

The results of this study contain the results of the overall activity, so it can be concluded that playing number cards can improve children's numeracy skills; this is not based on the following data. Showed in an activity I, percentage on the indicators, and children were able to count numbers 1 to 20 in the correct order with a ratio of 20%; in activity II, there was an increase with a percentage of 87%. For indicators, children could connect and match number symbols from 1 to 20 in the first activity, the ratio was 33%, and action II showed a significant increase of 87%. Based on this data, the indicator of learning success is achieved because it has been at $\geq 70\%$. 
REFERENCES


