

The Effect of Active Learning Strategy Index Card Match-Typed on Childrens' Ability to Count

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Abstract - This background of this study is motivated by the ability to count children still not developed in PAUD Tanjung Jati Islamic Education Foundation. The purpose of this study was to see the effect of active learning strategy called index card match-typed on children's ability to count. Quantitative approach with quasi experiment design was applied in this research. The population of this study is 30 students of the B PAUD group at Tanjung Jati Islamic Education Foundation which is divided into 2 groups namely group B1 and group B2. Saturated Sampling was used in this study. Based on the calculation of the t-test obtained $t_{count} > t_{table}$, so that the alternative hypothesis was accepted. Thus it can be concluded that the active learning strategy index card match-typed has a significant effect on children's ability to count in PAUD Tanjung Jati Islamic Education Foundation.

Keywords - Ability to Count, Index Card Match.

I. INTRODUCTION

According to Witherington in Susanto (2011: 53) suggests that cognitive is the mind that can be used quickly and precisely to overcome a situation to solve problems. According to Sujiono (2008: 23) cognitive development illustrates how the child's mind develops and functions so that they can think. Cognitive processes are related to the level of intelligence (intelligence) that characterizes a person with various interests, especially aimed at ideas and learning.

Yusuf (in Masitoh 2005: 9) describes the importance of children's cognitive development, namely: (1) Able to think using symbols; (2) Children's thinking is still limited by perception, they believe in what they see and only focus on one dimension on one object at the same time, their thinking is centered; (3) Thinking is still rigid, the way of thinking is focused on the state of the beginning or end of a transformation, not on the transformation itself; (4) Children have begun to understand the basics of classifying things on

a one-dimensional basis, such as the similarity of colors, shapes and sizes.

The development of cognitive abilities of children in kindergarten aims to develop children's thinking skills so that they can process learning gains, can find various alternative solutions to problems, help children develop mathematical logic abilities and knowledge of space and time, develop the ability to think carefully. Cognitive abilities are often referred to as children's thinking abilities. The ability to think is also very closely related to ability to count.

According to Susanto (2011: 98) counting is the basis of some of the knowledge used in every human life. In each of its activities humans cannot be separated from the role of mathematics in it, ranging from addition, subtraction, division, to multiplication, all of which cannot be separated from everyday human life.

Nowadays, the teacher in developing cognitive to children by using and media that are less varied. This was

seen when the writer made an observation in PAUD Tanjung Jati Islamic Education Foundation in developing ability to count skills. Teacher only using simple media rather than using advanced media such as magazines. So that children are less interested in learning activities.

Based on observations conducted in the PAUD Tanjung Jati Islamic Education Foundation, researcher found that childrens' cognitive development is not optimal, there was the lack of interest in children's learning, especially ability to count skills have not developed well, there was still children who do not know the symbol number, lack of ability children in mentioning the sequence of numbers, and the learning strategies applied are not on target.

If this problem is allowed to drag on, then the child's cognitive will not develop optimally, the child will lose his golden opportunity because the child does not get motivated according to his learning progress while playing and playing while studying. So that children's cognitive development in accordance with the pattern of development.

Looking at the above phenomenon, the researchers are interested in conducting research with the title "The Effect of Active Learning Strategy Index Card Match-Typed (ICM) on Children's Ability to Count in PAUD Tanjung Jati Islamic Education Foundation". The reason the the topic is due to the Active Learning Strategy Index Match-Typed is interesting in its use, so it could reduce children's boredom in learning and ultimately can improve children's ability to count.

Active learning is one strategy to activate students in learning. This strategy is one of the learning strategies that involve the mental and work of the students themselves. Students must use the skills, study ideas, solve problems and apply what has been learned. Active learning must be agile, fun, passionate and passionate. Students even often leave their seats, move freely and think hard. The high level of activity and motivation of students in learning will affect learning outcomes.

According to Samadhi (2008) active learning is all forms of learning that allow students to play an active role in the learning process itself both in the form of interactions between students and students with instructors in the learning process.

More than 2,400 years ago, Confucius declared three simple statements that revealed the importance of active learning. The statement was "what I heard, I forgot. What I see, I remember. What I do, I understand ". This statement

later modified by Melvin (2011: 23) can be expanded to become an active understanding of learning:

"What I heard I forgot. What I heard and saw I remembered a little. What I heard, saw, and questioned or discussed with others I began to understand. What I hear, see, discuss and apply I get knowledge and skills. What I teach to others, I master. "

Index Card Match consists of 3 syllables index, card, and match. According to the English-Indonesian dictionary (Echols, 1990) index which means instructions, guidelines, signs, or lists alphabetically. Cards according to the English-Indonesian dictionary (Echols, 1996) mean cards are arranged alphabetically, whereas according to the general Indonesian dictionary (Debdikbud, 1990) are square-sized paper that can be used for games with a specific purpose. Match means match, match, match, or balanced opponent. So the index card match is a card that is arranged in such a way as to match or find an opponent that is commensurate with using certain signs.

Index Card Match (ICM) is one of the active learning strategies included in the repetition strategy section. The type of ICM relates to how to recall what has been learned and the abilities and knowledge that has been obtained. This is in accordance with what was stated by Melvin (2011: 250):

"One sure way to keep learning in mind is to allocate time to review what has been learned. The material discussed by students tends to be five times more embedded in the mind than material that is not discussed"

This study aims to determine the effect of active learning strategies Index card match-typed on children's ability to count at PAUD Tanjung Jati Islamic Education Foundation.

II. METHOD

The quantitative with quashi-experiment design was applied in this study. Arikunto (2007: 207) argues that the experiment is a research method that is intended to determine whether there is a result of "something" imposed on the subject inquired.

In this study, researchers tried to see and reveal the extent to which the effectiveness of the active learning strategies index card match-typed toward children's ability to count by comparing the learning outcomes of the experimental class and the control class. In the design of this study, the experimental class was given treatment (x), while

in the control class with the conventional approach (y) then in both classes the same test (post-test) was carried out. In this study the population was 30 students in the B PAUD Education Foundation group Islam Tanjung Jati which divided into 2 groups, namely group B1 and group B2. Since this research is a quashi experiment, the two groups were selected without rendering but using saturated sampling techniques, where samples were taken from existing groups. The number of samples for each group was group B2 as many as 15 children as the control group (comparison) and group B1 as many as 15 as the experimental group.

The type of data in this study is primary data, that obtained from the original data. The data is the value of the test results conducted by the researcher. Data sources are students selected as research samples, namely B2. Data collection techniques namely research instrumentation used were tests. The data analysis technique is the two average similarity test which uses the t-test which previously of normality and homogeneity test.

III. RESULT AND DISCUSSION

a. Descriptive

This research was conducted at PAUD Islamic Education Foundation Tanjung Jati in the 2012/2013 school year. The sample of this study were B1 (experimental class) and B2 (control class). Both classes are given a test with a predetermined instrument. Class B1 as the experimental class has an average of 78 with the highest score of 91 and the lowest with 66. While the data on the ability to count B2 students as a control class that does not use the index card match with the interval class 48-77.

From the final test data, the experimental class group with 15 children, obtained the highest score of 91 and the lowest value of 66, from the value of the experimental group children, the overall score was 1165, with an average score of 78, the Deviation standard 6.97 and the Variance Value is 48.62

The Control class uses a conventional approach consisting of 15 people, who have the highest value 75 and the lowest value is 45, from the value of children from this control class group the overall value is 886 with an average of 59, standard deviation 9,47 and the Variance value is 89.79.

b. Data Analysis

1) Normality test

The normality test is done to find out whether the sample is normally distributed or not. The liliefors test is used in this method. In the liliefors test, if $L_{count} < L_{table}$ means the data are normally distributed. Based on the analysis of the normality test it can be seen that:

- a) Based on the calculation table in the attachment, the biggest calculation results for the experimental class is 0.1282 ($n = 15$), then the L_{table} is 0.220 with a significance level of 0.05. So $L_{count} < L_{table} = 0.1282 < 0.220$, thus it can be concluded that data comes from populations that are normally distributed.
- b) Based on the calculation table in the attachment, the biggest calculation results for the control class is 0.1398 with $n = 15$, then the L_{table} is 0.220 with a significance level of 0.05. So $L_{count} < L_{table} = 0.1398 < 0.206$, thus it can be concluded that data comes from populations that are normally distributed.

2) Homogeneity test

To determine the data that comes from the experimental class and the control class has a homogeneous or heterogeneous variance, then test the data with the Barlett test. (Data analysis can be seen in the attachment). Based on the data analyzed can be obtained $dk (2-1) = 1$, obtained The chi square (χ^2) table is 3.841 at a significant level of 0.05 and the results of the quadrad chi calculation (χ^2) are 0.967. The chi square calculated $<$ The chi square table ($0.967 < 3.841$). Thus it can be concluded that the data comes from homogeneous groups.

3) Hypothesis testing

After the homogeneity and normality test then continued with testing the t-test, to find out whether there were significant differences for the values of the two groups. If $t_{count} < t_{table}$ means there is no significant difference between the two groups.

The results of data analysis obtained $t_{count} = 5.936$ and $t_{table} = 2.048$ at a significant level of 0.05.

It can be seen $t_{count} > t_{table}$ at a significant level of 0.05. Thus it can be interpreted that H_a is accepted and H_o is rejected. So it can be concluded that the use of the index card match-type in improving the ability to count at early childhood is more effective than those who do not use the

index card match-type at the PAUD Islamic Education Foundation Tanjung Jati. This means that there are significant differences from the results of the development of ability to count of the experimental class children who use the index card match-typed compared to those who do not use the active learning index card match-typed.

From the data analysis that has been done before, it can be seen that there is a significant difference between the experimental class using the index card match type active learning strategy compared to the control class that does not use the active learning index card match-typed. The results of the study showed that the results of the final assessment given to children both for the experimental class and the control class, in the experimental class children scores were more prominent than the control class.

Then the results of data analysis that have been done show that $t_{\text{count}} > t_{\text{table}}$, this indicates that the use of index card match is effective in improving children's ability to count at the PAUD Islamic Education Foundation Tanjung Jati. Means the things stated in the hypothesis in this study are acceptable.

Some principles in teaching numeracy to children, including making fun lessons, inviting children to be directly involved, building the desire and confidence in adjusting numeracy, appreciating children's mistakes and not punishing them, focus on what the child is tired of. An exciting lesson by doing activities that connect counting activities with daily life.

According to Susanto (2011: 98) counting is the basis of some of the knowledge used in every human life. In each of its activities humans cannot be separated from the role of mathematics in it, ranging from addition, subtraction, division, to multiplication, all of which cannot be separated from everyday human life.

Counting is very important in everyday life even every minute, through counting can develop aspects of children's intelligence development by stimulating the brain to think logically and mathematically. So that children are attracted to numbers and can count easily.

The development of early childhood ability to count must be developed early for the future of the child. If there is an error in developing children's numeracy skills, the impact will result until the child is an adult. Among the effects is that the child will have a wrong concept in himself, for example in the introduction of numbers, if the child is mistaken in the concept of number 1 from him, then the adult number concept will be embedded in adulthood.

Index Card Match is one of the most effective active learning strategies that can be used by teachers in developing numeracy skills for children. Index Card Match (ICM) is one of the active learning strategies included in the repetition strategy section. The type of ICM relates to how to recall what has been learned and the abilities and knowledge that has been obtained. From the description of the discussion above, the researchers concluded that effective use of index card matches was used in developing children's ability to count in the PAUD Tanjung Jati Islamic Education Foundation.

IV. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion it can be concluded that there are significant differences in the childrens' ability to count who use the active learning strategy index card match-typed comparing those who do not active learning strategy index card match-typed. Overall, the active learning strategy of index card match-typed affects children's ability to count.

Based on the results of the above research, several suggestions were presented as follows:

1. To teachers who will develop childrens' ability to count at Early Childhood, you should use an active learning type index card match strategy in improving childrens' ability to count. The active learning strategy Index card match-typed will be more attractive to children so that motivated children and make happier in conducting learning activities.
2. To Researchers who wish to continue this research are expected to be able to apply it to other schools.

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