

Effectiveness of Flashcard in Improving Cognitive Ability of 5-6 Year Old Students

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Abstract

The theme in this research is relevance to the topic hoax and child development. The research aims to improve children's cognitive ability. Subject used for effectiveness test of 27 students of Aisyiyah I Kadipiro Surakarta. The data were collected through observation. The data analysis used the qualitative analysis and non parametric analysis *Wilcoxon* test at the significance level of 0.05. The result of this research are as follows. Flashcard are feasible to be used for increase children's cognitive abilities 5-6 year old students. This can be seen from the result of *Wilcoxon* test which indicated that $p < 0.005$ i.e 0.000, meaning that the flashcard was effective to improve cognitive ability significantly.

Keywords: flashcard, cognitive ability, early years

1 INTRODUCTION

Kindergarten is a period of Golden Age or also known as the golden age. At the same time, all the potential of both the growth of both brain and physical growth so rapidly that children need various stimulus to be able to develop all aspects of its development in accordance with the needs, interests and age. Provision of stimulus in all aspects of child development is considered very important, because it can be useful to develop all the potential that exists within the child.

As we know, from a variety of child development, cognitive ability is a skill that must be developed from an early age. UNICEF (2014) explains if recent research confirms that the first five years are critical for a child's brain development, and the first three years are the most important in shaping the child's brain architecture. Initial experience provides the basis for the development and functioning of the brain organization during life. In addition, in the first years of life, neurons in our brain form new connections at a staggering 700-1,000 per second speed and this speed will never happen again in the years that follow.

Data obtained from the World Bank (2010) regarding early childhood development in Indonesia, especially in the cognitive sphere, found that one of the proven ways to measure children's cognitive or how children use their memory to achieve something is through drawing card games or can also be called with flashcard. In a survey conducted through international comparisons, the ability of four-year-old Indonesian children is equivalent to Jordanian children and better than Filipino children, with approximately 30% of children failing to play colors and shapes. So now children still need learning media to improve cognitive abilities such as counting, counting, number recognition, and knowing similarities and differences.

Cognitive development has a very important role in the child's life both this time and in the future because almost everything is done related to cognitive ability. However, based on the observation results in kindergarten that the cognitive abilities of children experience problems. This is indicated by the low ability of children to remember and the low ability of children to call the symbol number. The problem is because the method used by the teacher is less appropriate. The teacher still uses the lecture

method. In addition, the limited media is also a constraint in cognitive learning. So there is no appropriate media to developed the cognitive abilities of children.

Based on the above problems, the researchers are interested to conduct research entitled the influence of flashcard media to improve the cognitive abilities of children 5-6 years old.

2 METHOD

2.1 Cognitive Ability

Cognitive is one aspect of development in early childhood that occurs from infancy to adulthood. It is important to build children's cognitive abilities early on as they are used as a child's stimulus for their knowledge in the future. Cognition refers to the processing of information, the ability to understand, and relate to the process of thinking.

Santrock (2007: 243) states that Piaget emphasizes to children to actively build their own cognitive worlds, information from the environment is not simply poured into their minds. Through the environment will be able to give positive impact for children by providing experiences. So it can be said that cognitive development will determine success in the future related to the ability to think.

Santrock (2007) also argues that there are four stages in the child's cognitive development, the sensorimotor stage passed by the child at the 0 to 2 years old, the preoperative stage at the 2 to 7 years old, the concrete operational stage at 7 to 11 years old, and formal operational stage at 11 years old to adult. Kindergarten children enter into concrete pre-operational stages in which children use words and images to present their world. As Ojose (2008) points out, at a concrete preoperational stage a child can improve language skills, symbolic thinking, and the use of logic even in a limited stage. At this age the ability of children begin to grow gradually that is by developing the use of language and the ability to think in symbolic form. In every stage of cognitive development will certainly happen important things that should not be missed by parents and by educators, because at every development and change that occurs is a learning process that requires attention. If passed and not get attention, then the child's development will be less than optimal and can also be developed not in accordance with what we expect.

Papalia, Feldman, and Martorell (2014: 245) reveal that symbols can help children to remember and think about something that is not physically present. An example is when a child draws only on the basis of his memory. Symbolic ability by using symbols (words, numbers, or images) is a form of human communication done verbally. A child's understanding of numbers is seen when a child is 5 years old, where most children are able to count from number 1 to number 20 or the child is able to know the relative size of the numbers 1 through 10. Furthermore, the stage of progress of the symbolic ability in children is marked by the understanding of the child in space, causality, identity, categorization and numbers. Some of these understandings already exist in children when toddlers, others have begun to develop as children enter early childhood but that understanding has not grown to the point that the child enters the middle childhood.

2.2 Flashcard

To develop children's cognitive abilities, media is needed as a tool for teachers to implement learning. Flashcard is one of the media that is considered able to improve children's cognitive abilities.

Asyhar (2012: 4) explains that Flashcard is a media that belongs to the type of visual media, when viewed from the form of flashcard including graphics media or two-dimensional media, the media that has a length and width and specifically to communicate messages education this can be used to express facts through the use of words, numbers and symbols.

In addition, Susilana and Riyana (2009: 95) argue that Flashcard is a medium of learning in the form of picture cards measuring 25 x 30 cm. The drawings are made by hand or photograph, or utilizing an existing image or photograph attached to flashcard sheets. Richard, Platt, and Weber (1985: 107) explains "Flashcards is a card with words, sentence, or pictures. It used as an aid or cue in a language lesson".

And then, it can be concluded that the flashcard is a tool in the form of a card that contains pictures, writings and numbers. How to use it is by showing a glimpse to the child. Through the flashcard can help children to train their cognitive abilities, especially to train his memory. The child's memory will work better when the child does an activity, because through the activity the child will

get the experience directly so that the child will remember easily what he did.

The research method used in this research is experiment with one group pretest-posttest design. Treatment results can be known more accurately because it can compare with the condition before being treated. Arikunto (2010) states that experimental research is a way to find a causal relationship between two factors that deliberately caused by the researchers by eliminating or reducing or setting aside other disturbing factors.

Subjects were 27 children who will be treated. For kindergarten used is TK Aisyiyah Kadipiro I Surakarta. At this stage is done by using Pretest Posttest Control Group Design method. The results obtained are used to determine the effectiveness of flashcard media.

Data collection technique used in this research is observation technique. Observation, used to collect data by direct observation (Sukmadinata, 2013).

Data analysis technique used in this research is Wilcoxon test analysis technique. The use of Wilcoxon test is because research data used only one class and subjects used less than 30 subjects. Wilcoxon test itself is used as an alternative to paired sample t-test if the research data is not normally distributed. Decision making in Wilcoxon test is sig. < 0.05 which means that there is a difference between the pretest and posttest results so that there is influence on the use of flashcard media to the cognitive abilities of children.

3 RESULT AND DISCUSSION

Effectiveness test

In this research is done to know the improvement of cognitive ability of children through observation data. The effectiveness test was conducted six meetings within three weeks. For pretest activities conducted before the study was conducted. Pretest was done a week before the study. The pretest activity is to find out how early child's cognitive abilities level.

Teachers provide treatment that is by using flashcard-based cognitive stimulation media after the pretest. Posttest administration aims to determine the cognitive abilities of children after being treated, increased or not. At the end of the learning activity that is after the treatment, the researcher gives

posttest to the child by using the observation sheet that has been available. As far as research is being conducted, all execution at the end of the learning study by using flashcard media can work well. The summary of pretest posttest results in children can be seen in the following table:

Table 1. Description of Research Data Result

	<i>Pretest</i>	<i>Posttest</i>
Subject	27	27
Min.	26	33
Max.	41	42
Std. Deviation	4.288	2.317
Sum	864	1046
Median	32.00	38.74

Based on the data in Table 1, the pretest posttest activity of children can be known the average value that can be in pretest result as much as 32.00, while the average value in posttest activity is 38.74.

Wilcoxon Test

Furthermore, the analysis used to determine the effect of media used is by using wilcoxon test analysis. The results of wilcoxon test analysis can be seen in table 2 below:

Table 2. Wilcoxon Test

	pretest – posttest
Z	-4.136 ^a
Asymp. Sig. (2-tailed)	.000

The calculation result of wilcoxon test can be seen based on table 2. The result of wilcoxon test is the significance value of the sig test. (2-tailed) less than (<0.05), it can be concluded that there is an increasing difference between cognitive ability in pretest and posttest activities.

4 CONCLUSION

The cognitive abilities of children 5-6 years old in TK Aisyiyah Kadipiro I Surakarta after being given an action obtained an average yield of 38.74. Furthermore it can also be seen through the Wilcoxon test test with a significant level of p < 0.05. This shows that the cognitive abilities of children 5-6 years old in TK Aisyiyah Kadipiro I Surakarta increased after the posttest.

Based on the research results obtained, the researchers will provide some suggestions that can be used as input for the parties involved in the scope

of early childhood education. The suggestions are as follows:

(1) The school may provide facilities that support the cognitive learning activities. Teachers can provide a more creative, innovative and fun variety of games to children who are able to develop cognitive abilities.

(2) For parents, attention is needed to the child so that the cognitive abilities of children can increase.

(3) For other institutions can be made references related to flashcard media to improve cognitive abilities of children aged 5-6 years. The results of this study are expected to provide knowledge in several ways to improve cognitive abilities.

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