



Effect Of Educative *Puzzle* Games On The Level Of Creative Thinking In Children Preschool Age 5 - 6 Years At Nidzamiyah Kindergarten

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Abstract

Puzzle educative game is a game for training creativity, regularity, and power of concentration by arranging pieces or parts from particular image. Some previous research showed that using puzzle had an impact on cognitive development, which can stimulate children's creative thinking abilities so it can increase their creativity. This study was conducted to know the impact of playing puzzle educative game for creative thinking level in preschool 5-6 years old of this study was using one group pre post test design. Subject of the study selected 26 respondents, were taken a samples by total sampling technique. Data collection method used was Torrance Test of Creative Thinking observation sheet. Data analysis of this study using the Wilcoxon Signed Ranks, the result showed was obtained ($p = 0.000 < 0.05$). This result indicate the significant correlation of puzzle educative games on children creative thinking level. Meanwhile, the difference between posttest results obtained in the study were 29 respondents (73%) had creative thinking good behavior analyzed using Wilcoxon Signed Ranks test obtained a significance level of ($p = 0.000 < 0.05$). Conclusion, there was a difference in outcome for intervention and it shows correlation of puzzle educative games and children creative thinking level. It is expected that nursing institutions can educate teachers for planning activities of learning in schools by using puzzle educative games to maximize the development of children's ability in creative thinking.

Keywords : *Educative Games, Puzzles, Creative Thinking Level in Children*

INTRODUCTION

One of the developments in preschool children is related to thinking power in solving problems, logical thinking, language, memory, thinking skills, as well as relating to motor skills and emotions. As for their development, children have problems in the development process of preschool children, namely emotional mental disorders which are the result of continuous interaction with the environment, so parents and the environment must be able to provide good and positive stimulus or stimulation for optimal brain development. Piaget's theory is supported that children will develop through the results of continuous interactions with the environment.

One of the disorders that causes problems in the developmental stages of preschool children is the development of cognitive aspects, namely emotional mental disorders which are the result of a process of continuous interaction with the surrounding environment, which influences children in developing creative thinking skills towards something in different, new ways, exploring existing patterns so that new patterns emerge, and finding relationships between unrelated phenomena.

Based on *the Global Innovation Index*, 2018, it can be said that a country will not progress if its society does not have innovation, and there is little creativity and strong character in it which is said to be a creative and innovative society. Research that has been conducted regarding creativity and innovation in Cambodia has a score of 26.7 out of 100 targets achieved with a student failure rate of 35.8% and only 15.5% of the population is educated, in the Philippines it has a score of 31.6 out of 100 targets, in Brunei Darussalam it has a score of 32.8 out of 100 targets and in Vietnam it has a score of 37.9 out of 100 targets (*Global Innovation Index*, 2018).

According to data from the results of *the global creativity index* in terms of technology, talent and tolerance, Indonesia is ranked 115th out of a total of 139 countries. This data shows that creative thinking skills in Indonesia are still relatively low, even though the Indonesian government

has integrated creative thinking skills into the education system (Vendiktama, et al. 2016). Study Kismurbani (2012), in Klaten stated that children's ability to obtain results that children's creativity can be seen from the percentage of children's creative achievement of 48.09% is lacking, and only 3 children, 17.65%, have their creativity well developed out of 17 preschool children.

Based on a preliminary study conducted at Nidzamiyah Kindergarten on November 4 2020, modified observations were carried out using *the Torrance Test of Creative Thinking (TTCT)* measurement, which was obtained from a total of 14 students aged 5-6 years with a sufficient/moderate level of thinking, 4 students (29 %) and less . as many as 10 students (71%).

Creative thinking disorders in preschool children often occur because changes in the use of activities in response to the development of creative thinking abilities are still relatively low (ERIC, 2002 in Ariska, 2017). Because of this impact, it triggers the provision of stimulation in using educational game tools comprehensively and with quality that can stimulate or stimulate the brain . One of the educational game tools is *puzzles* .

Previous research (Mokhtari et al, 2016) used computer *puzzle games* the percentage of creative thinking ability in the initial condition was 48.09%, then after the intervention there was an increase in stage I of 65.88% while in stage II it was 82.35% of 17 students. Using puzzles increased creativity *which* was the result of thinking creatively. creative.

Based on the background described in above, the researcher chose research respondents with a vulnerable age of 5-6 years, who in Indonesia are generally included in TK B group. The researcher chose the location in Nidzamiyah Kindergarten, because it included criteria that were in accordance with the needs of this research as respondents, willing to be respondents, and had used educational *puzzle* game application. So the researchers chose the title "Influence of Games "Educative *Puzzles* on the Level of Creative Thinking in Preschool Children Aged 5-6 Years at Nidzamiyah Kindergarten ".

METHODS

In this research, the design used was comparative analysis with a pre-post approach test in one group (*one group pre post test design*), which is a type of research that reveals cause and effect relationships by involving one group of subjects. The subject group was observed before the intervention, then observed again after the intervention. Before being subjected to treatment, a group is given a *pretest t* , then after the treatment another measurement is carried out to determine the effects of the treatment

RESULTS AND DISCUSSION

Result

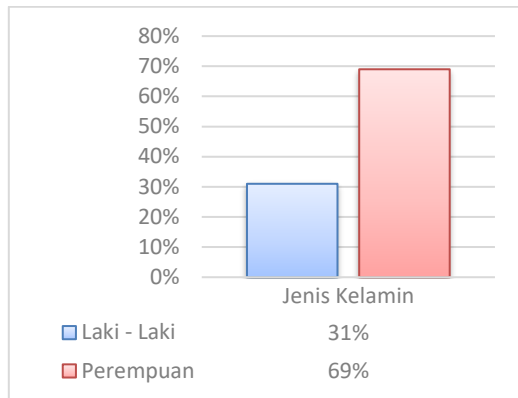


Diagram 1 Characteristics of Respondents Based on Gender

Diagram 1 shows that the percentage of the total number of respondents is male as much as 8 respondents (31%) and female as much as 18 respondents (69%).

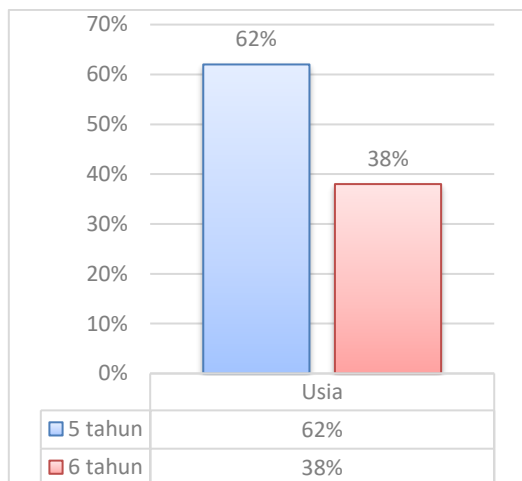


Diagram 2 Respondent Characteristics Based on Respondent Age

Based on diagram 2 above, it is known that out of a total of 26 respondents. Some respondents aged 5 years were 16 respondents (62%), and respondents aged 6 years were 10 respondents (38%).

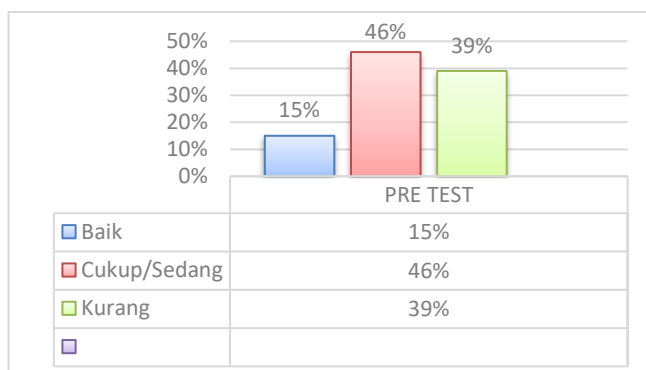


Diagram 3 Distribution of Respondents' Level of Creative Thinking Based on TTCT Test Results before being given the educational *puzzle game treatment* at Nidzamiyah Kindergarten

Based on diagram 5.3, it is known that out of a total of 26 respondents, 10 respondents (39%) had less than 10 respondents (39%), 12 respondents (46%), and 4 respondents (15%) had a good level of creative thinking.

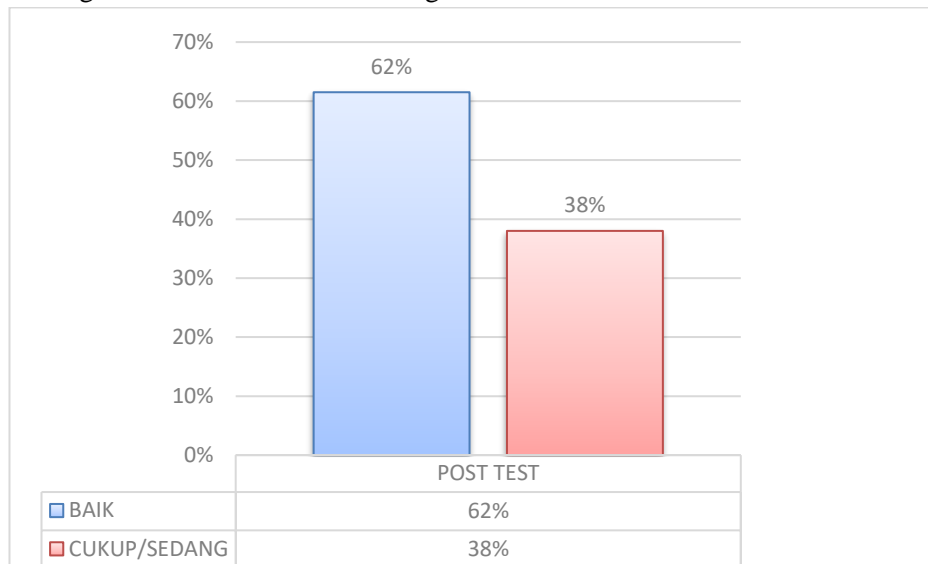


Diagram 4 Distribution of Respondents' Level of Creative Thinking Based on TTCT Test Results after being treated with the educational *puzzle game* at Nidzamiyah Kindergarten

Based on diagram 5.4, it is known that out of a total of 26 respondents, 10 respondents (38%) had a fair level of creative thinking, and 16 respondents (62%) had a good level of creative thinking.

Table 1 Wilcoxon Test Analysis Results Gaming Influence Educational *Puzzles* on the Level of Creative Thinking in Preschool Children Aged 5-6 Years at Nidzamiyah Kindergarten

		Test Statistics ^b	
			Post - Pre
1 it is	Z		-4,349 ^a
	Asymp. Sig. (2-tailed)		,000
have	a. Based on negative ranks.		
	b. Wilcoxon Signed Ranks Test		

Based on table known that the majority of respondents a good level of creative thinking. The significant influence of educational *puzzle games* is shown by the *Asym value. Sig. (2Tailed)/ sig(p) = 0.000* , $\alpha = 0.05$. It can be seen that if the $p \text{ value} < \alpha$ then H_0 is rejected and H_1 is accepted, meaning there is a game effect educational *puzzles* on the level of creative thinking in preschool children aged 5-6 years at Nidzamiyah Kindergarten

DISCUSSION

Based on the results of the analysis, it was found that there was an influence of the game educational *puzzles* on the level of creative thinking in preschool children at Nidzamiyah Kindergarten held on 18 – 30 January 2021 with discussions as follows :

1. Level of Creative Thinking in Preschool Children in Nidzamiyah Kindergarten Before Being Given Games Educational *Puzzle*

Based on the research results listed in diagram 5.3, the results were from 26 respondents before being given the game educational *puzzle* about the level of creative thinking with the characteristics of respondents who had less than 10 respondents (39%), enough 12 respondents (46%), and those who had a good level of creative thinking 4 respondents (15%) . So that the respondents were given the game before they were given the game educational *puzzle* who have an attitude lacking in the level of creative thinking almost the majority of the 26 respondents.

Von Oech (in Musrofi, 2013), the ability to think creatively includes imagining something that is already known with a different, new way of thinking, exploring existing patterns so that new patterns emerge.

Guilford (1950 , in Inchamnan, 2015), the result of creative thinking abilities is creativity which involves sensitivity to problems and curiosity as individuals in finding problems, managing differences and finding answers to things they don't understand . The results of Kim's (2011) research, measuring creative thinking abilities was carried out using *the Torrance Test of Creative Thinking* . This media for measuring creative thinking abilities is used to assess the development of creative thinking abilities in each type of activity. From the research results, it can be seen that the attitude of the majority of respondents seems to be less concerned about the importance of increasing creative thinking in preschool children so that it poses a bad risk for their children in the future regarding the child 's development and growth. One of the important risk factors for early language delay is limited expressive vocabulary, in the absence of neurological, sensory or cognitive stimulation that can influence development (Dwijayanti , 2008).

When preschool age children are very happy and enthusiastic about playing, the games chosen must be able to stimulate or stimulate the child's development. This means that one of the play activities that can be used is *puzzles*. Games are games that consist of pieces or parts of a particular image that can train creativity, order and concentration (Soebachman , 2012).

Efforts so that parents can care about and develop creative thinking in their children, one of which is playing educational *puzzle* games . So that it can increase knowledge which can influence parents in developing their children's creativity . So it can be concluded that more and more parents understand how developing children's creativity, the parents' attitude in maintaining the development of children's creativity will also be better.

2. Level of Creative Thinking in Preschool Children in Nidzamiyah Kindergarten After Being Given Games Educational *Puzzle*

Based on diagram 5.4, after playing a *puzzle educational game* about children's creative thinking, it is known that the characteristics of respondents who have a fair level of creative thinking are 10 respondents (38%), and those who have a good level of creative thinking are 16 respondents (62%).

From the results of this research, it can be seen that a child's developmental response can be influenced by educational games. Increasing development and growth on how to develop creative thinking in children by changing respondents' responses to how to develop through games.

The creative process is any process that produces something new where an idea or object takes a new form or new use from old elements (Harmon (in Wright, 2011)).

This game has an impact on developing children's creative thinking abilities by expressing new ideas , so that they can respond to respondents optimally so that respondents are more continuously productive by expressing these ideas.

3. Gaming Influence Educational *Puzzles* on the Level of Creative Thinking in Preschool Children Aged 5-6 Years at Nidzamiyah Kindergarten

The results of *the Wilcoxon Test calculation* showed that there was an influence of the game educational *puzzles* on the level of creative thinking in preschool children . This is stated in table 5. 1. It is known that the majority of respondents have a good level of creative thinking . The significant influence of educational *puzzle games* is shown by the *Asym value. Sig. (2Tailed)/ sig(p) = 0.000* , $\alpha = 0.05$. It can be seen that if the p value $< \alpha$ then H0 is rejected and H1 is accepted, meaning there is a game effect educational *puzzles* on the level of creative thinking in preschool children aged 5-6 years at Nidzamiyah Kindergarten. In the conclusion of the research, it was stated that the level of creative thinking after being given an educational *puzzle game* increased for the majority, they were able to capture all the positive things they got from the intervention, after their knowledge was sufficient, they reacted emotionally with the existing stimulus. Manifestations can be seen immediately, but can only be interpreted from the behavior in putting together the *puzzle* . Attitudes guide behavior so that we will act in accordance with the attitudes expressed. So in this case it is also a determining factor in the behavior of parents who train development and growth in stimulating creative thinking in preschool children.

CONCLUSION

Based on the results of research, analysis and discussion regarding the " Influence of Games. "Educational *Puzzles on the Level of Creative Thinking in Preschool Children Aged 5-6 Years in Nidzamiyah Kindergarten* , it can be concluded as follows: Level of creative thinking Before preschool children were given educational *puzzle games*, some respondents had a low level of creative thinking . Level of creative thinking In preschool children after being given an educational *puzzle game*, there was a positive influence. There is a game influence educational *puzzles* on the level of creative thinking in preschool children aged 5-6 years at Nidzamiyah Kindergarten

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