THE SNAKES AND LADDERS GAME CAN HELP CHILDREN'S COGNITIVE DEVELOPMENT IN THE EARLY YEARS

Nur Azizah[1], Umi Kusyairy[2], Eka Damayanti[3]
[1,2,3] Faculty of Tarbiyah and Teacher Training, UIN Alauddin Makassar, Indonesia.
azizah.nurijah99@gmail.com[1], umikusyairy@uin-alauddin.ac.id[2], eka.damayanti@uin-alauddin.ac.id[3]

Abstract

This study aims to determine the increase in cognitive development before and after being given a game of snakes and ladders to group B students at RA Perwadina Tokka, Alehanue Village, Sinjai Regency. This research is descriptive quantitative research. The population of this study was group B which consisted of 21 children consisting of 12 girls and 9 boys. The sample in this study was 10 children consisting of 5 girls and 5 boys. This research instrument uses observation and documentation guidelines. The data analysis technique used is descriptive statistics. The results showed that there was an increase in cognitive development in group B children in RA Perwanida Tokka as evidenced by the value after playing the Snakes and Ladders Game which was 21.1 higher before playing the Snakes and Ladders Game which was 13.9 with a difference of 7.2. It can be concluded that there is an increase in cognitive development through Snakes and Ladders Games for students. The research implies that the use of Snakes and Ladders Games can be used to improve cognitive development in students. Therefore this research can be used as a consideration and reference for the community, especially parents and educators at RA Perwanida Tokka, Alehanuae Village to improve cognitive development through the Snakes and Ladders Game.

Keywords: *Snakes and Ladders Game; Cognitive Development; Early Childhood*

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Coresponding Author:
Email Address: azizah.nurijah99@gmail.com
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INTRODUCTION

Early Childhood Education is a level of education before basic education which is a coaching effort shown to children from birth to the age of six. Early childhood education is carried out by providing stimuli to help physical and spiritual growth and development so that children have the readiness to enter further education. Article 28 of Law Number 20 of 2003 concerning the National Education System paragraph 1 includes children who are still in the age range of 0-6 years.

According to Suyadi (2014), early childhood education is education that is held to facilitate the growth and development of children as a whole or emphasize the development of all aspects of a child's personality. Early childhood education provides opportunities for children to develop their personality and potential to the fullest. Early childhood education institutions need to provide various aspects of development such as cognitive, language, social-emotional, and physical-motoric (Suyadi, 2014).

Apart from this, cognitive development is one of the important aspects of development to be stimulated. Cognitive development is the early cognitive development of children according to Piaget is the development of the pre-operational stage that lasts from the age of 2-7 years on stable concepts are formed, mental reasoning appears strongly egocentric and then begins to weaken, and the formation of belief in magical things (Jahja, 2011). Educators must stimulate a child's cognitive development in a variety of pleasurable ways.

Based on the facts obtained, not all educators can pleasantly apply cognitive development stimulation. This is supported by the results of initial observations and interviews with teachers, and principals of RA Perwanida Tokka, out of 21 children, some children lack development of numeracy skills. This is marked when children count there are still some children who cannot sort numbers and lack of children's ability to count.

Based on preliminary findings, researchers show that snakes and ladders play less actively encouraging children's cognitive abilities. This situation makes teachers integrate all aspects that are important in the snake and ladder game because the snake and ladder game that is done effectively will have a good effect on improving cognitive abilities. According to Vygotsky, newborn children have relatively basic mental functions such as the ability to understand the outside world and focus attention. In the process of cognitive development of children, Vygotsky emphasizes more on social processes or interactions with the environment and friends (Sumanto, 2013).

One game that can improve children's cognitive development is the snake and ladder game. This game was chosen because in addition to the media that is easy to get is also very effective in creating an interactive atmosphere between children. Through snakes and ladders, games can create a fun atmosphere while educating early childhood skills. As stated by Chabib (2017) in his research visual-based learning media in the form of Snakes and Ladders Games is an effective medium to increase children's absorption and understanding of lessons, especially discussions that are difficult to accept without media intermediaries. One game that can improve cognitive development in recognizing numbers is to use the snake and ladder game as the right medium. The same thing was also stated by Sari (2020) that cognitive improvement activities are carried out in an interesting and fun way (Sari, 2020). Snakes and Ladders is a messaging game for kids played by 2 or more people. The game board is divided into small squares and some boxes depicted several "ladders" or "snakes" that connect with other boxes (Melsi, 2015). Snake and ladder media is a fun activity, played by a group of people using a board divided into small boxes and several boxes depicted several "ladders" and "snakes" as a link in each box, and has the meaning of ladder means going up while the tail of the snake means going down (Maisayoh, 2010).

The concept of snake and ladder game is a game played by 2 or more children by throwing dice consisting of several boxes in which there are pictures, in the game there are

pictures of snakes and ladders, if in the game getting a ladder means going up according to the ladder and if you get a snake then in the game participants must go down according to the path of the snake. Participants are declared victorious if participants arrive at the finish first (Santrock, 2007).

Based on the explanation above, it is necessary to research improving cognitive development through Snake and Ladders Games in students. This study tried to provide stimulation in the form of Snakes and Ladders Games to improve children's cognitive abilities in RA Perwanida Tokka, Alehanuae Village, Sinjai Regency.

METHOD

The type of research used in this study is quantitative research using descriptive methods. The population in this study is group B students at RA Perwanida Tokka Kel. Alehanuae, Sinjai Regency consists of one class with a total of 21 students with details of 12 women and 9 men. The sample of this researcher amounted to 10 group B students in RA Perwanida Tokka. The sampling technique used by this researcher uses purposive sampling techniques. The data collection method uses observation and documentation. The data analysis technique used is descriptive statistics.

Table 1. Cognitive Development in Early Childhood Assessment Observation Sheet

Variable	Indicator	Descriptive	Research				Inf
			BB	MB	BSH	BSB	
Think symbolic ally	Mentions the symbols of numbers 1-10	1.1 Children can say numbers 1-10 in the game of snakes and ladders 1.2 Children can say numbers 1-10 by pointing to the numbers on the Snakes and Ladders Game Board.					
	Use number symbols to count	1.1 Children can add simple numbers using the game of Snakes and Ladders 1.2 The child can calculate how many dots there are on the side of the dice in the Snakes and Ladders Game					
	Match numbers with number symbols	1.1 Children can match dice numbers with the snake-ladder game board 1.2 Children can match symbols of numbers 1-10 with the snakes and ladders board game					

Variable	Indicator	Descriptive	Research				Inf
			BB	MB	BSH	BSB	

Information	Score
BB = Undeveloped	1
MB = Start Growing	2
BSH = Develop as Expected	3
BSB = Very Well Developed	4

RESULT AND DISCUSSION

Description of Cognitive Development Before Being Given the Snake and Ladder Game in Group B Learners

The cognitive development of children before being given treatment using Snakes and Ladders Games shows that there are still some children lacking development in their counting skills. This is marked when children count, some children are not able to sort numbers and there are still some children who cannot recognize numbers. Cognitive development in each student in group B at RA Perwanida Tokka, Alehanuae Village, Sinjai Regency before being given a snake and ladder game on each indicator of cognitive development was still not optimal. This can be seen when mentioning the number symbol some children are not able to say numbers and there are still some children who cannot recognize numbers. Using number symbols to count some children have not been able to add simple numbers in counting. Furthermore, to match numbers with number symbols, children have also not been able to match number symbols with Snakes and Ladders Games.

One of the efforts that can be made so that children's cognitive development can develop is through learning activities while playing. This is in line with the results of research put forward by Holis (2016) that learning through play can influence the development of creativity and cognition in early childhood. Retnaningrum & Umam (2021) through the results of their research suggest that early childhood cognitive development is in the pre-operational period that cannot think abstractly so effective learning activities applied to them are play activities. The play has a major influence on child development, so the role of masters and educators is needed in providing supervision or guidance in choosing games that are appropriate to the child's development level (Fauziddin, 2018). Therefore, learning in RA must be designed as interesting as possible so that children do not get bored quickly and are more interested in following learning while playing. For cognitive development in group B children in RA Perwanida Tokka, Alehanuae Village, Sinjai Regency to develop properly, this study provides stimulation in the form of Snakes and Ladders Games in improving children's cognitive development.

Based on the explanation above, it can be concluded that cognitive development without stimulus in the form of the use of the Snake and Ladder game has not developed optimally. This is in line with research conducted by Maria Anjelina Tai, Marsianus Meka, and Natalia Rosalina Rawa (2021) on the limitations of learning media by teachers make the learning process less interesting so that children get bored quickly and get bored hearing the teacher's explanation. One of the limitations of media is still using pictures of numbers displayed on the classroom wall which makes children bored quickly and the lack of interactivity between teachers and students in the learning process (Tai, Meka, & Rawa, 2021).

Based on research conducted by Habsari stated that there were problems carried out at Pertiwi Srono Banyuwangi Kindergarten in group A with children's ability to recognize the concept of numbers 1-10 still low in terms of numerating number symbols such as pointing objects, sorting objects, and completing the sequence of numbers 1-10. This happens because

of the lack of ability of children in the kindergarten to recognize the concept of numbers which is done without media, and only provides worksheets in the form of assignments. Based on the explanation above, it is necessary to make an effort to develop the ability to recognize number symbols, one of which is by playing with snakes and ladders. The goal to be achieved is to determine the influence of playing snakes and ladders on the ability to recognize number symbols in children (Habsari, 2014).

Description of Cognitive Development After Being Given Snakes and Ladders Game in Group B Children

Children's cognitive abilities can be said to have developed very well. Children's cognitive abilities were seen when researchers provided observational guidelines for improving cognitive development through Snakes and Ladders Games. When first given the snake and ladder game, the child's response was very happy and enthusiastic. When the researcher explains what tools are used and how to play the snake and ladder game, then models how to play the game and after seeing and paying attention to what the child has explained when asked to name or do the things listed on the snake and ladder game board box the child can do it well. For example, when a piece stops at one of the snakes and ladder board boxes, children are asked to say the number symbols 1-10, children can say the number symbols 1-10 by pointing to the numbers that are played with snakes and ladders, children can add simple numbers, children can count points on the side of the dice, and children can match numbers with number symbols. The child can mention as requested. Giving Snakes and Ladders Games is done 3 times a week.

Based on the above, it can be concluded that cognitive development in early childhood can develop well if introduced to interesting and fun games. Because children will be enthusiastic about learning if there is a stimulus given in the form of fun activities such as snakes and ladders. The Snakes and Ladders Game is a fun play activity for children, has rules, and is carried out in groups using educational game tools in the form of Snakes and Ladders Games, namely a rectangular game board that has boxes containing numbers 1 to 40 accompanied by pictures of colorful and varied objects whose numbers correspond to the number symbol (Safi'una & Muhsinin, 2019).

In line with the results of research conducted by Tiara Raysia that using Snakes and Ladders Games can improve counting skills in children aged 5-6 years at Tunas Melati Kindergarten Bandar Lampung, so it can be interpreted that from the ability to count, match number symbols with numbers, use number symbols with objects and addition and subtraction have increased (Raysia, 2016). Research conducted by Eli Misyati resulted in the game of snakes and ladders as a medium that stimulates linguistic intelligence from an early age. The snake and ladder game media has been tested at Masajid Syuhada Kindergarten with the object of research being the ability to recognize the symbols of numbers 1-10. in cycle 1 it increased to 50% and in cycle II it reached its success indicator of 83%. It can be concluded that Snakes and Ladders Games can improve the ability of children in Masajid Syuhada Kindergarten (Misyati, 2013).

Differences in Cognitive Development Before and After Being Given the Snakes and Ladders Game

The results of the study conducted on group B students in RA Perwanida Tokka, Alehanuae Village, Sinjai Regency, showed that there was a significant improvement in cognitive development before giving snake and ladder game treatment (pre-test) and after giving snake and ladder game treatment (post-test) in group B children.

Table 2. Obtaining Pretest-Posttest Scores for Each Student

Number	Student Name	Pretest Score	Posttest Score	Difference
1	NA	15	24	9
2	MF	14	21	7
3	AF	16	22	6
4	AR	13	22	9
5	AA	16	18	2
6	ZZ	11	19	8
7	ZR	13	20	7
8	FS	12	22	10
9	AR	14	19	5
10	AR	15	24	9

Based on the table above, it shows that there are clear differences in cognitive development before and after being given the snake and ladder game. Cognitive development in each child given the snake and ladder game experienced a clear improvement in each indicator. The difference in values before and after cognitive development in students of group B RA Perwanida Tokka before and after being given the snake and ladder game can be seen in the following table:

Table 3. Pretest and Posttest Scores of Cognitive Development in Group B Learners

Statistic	Cognitive Development in Group B Learners	
	Pretest	Posttest
Lowest score	11	18
Top marks	16	24
Range value	5	6
Average rating	13,9	21,1
Standard deviation value	1	2
Value variance	2,7	4,8

Based on the table above, shows that there are differences in range, average, standard deviation, and variance values between the pretest and posttest values of each indicator. The posttest scores experienced changes in cognitive development in group B students at RA Perwanida Tokka, Alehanuae Village, Sinjai Regency by being given a snake and ladder game. To find out more clearly the difference in cognitive development before and after being given the snake and ladder game can be seen from the value of range, average, standard deviation, and variance on each indicator of the research instrument.

Based on the presentation of the data above, related to cognitive development in group B students in RA Perwanida Tokka, Alehanuae Village, Sinjai Regency, shows that cognitive development in students has not developed optimally. This is seen in cognitive development before being given a snake and ladder game. Based on the results of the research that has been carried out, obtaining a pre-test, namely with the lowest score of 11 and the highest score of 16, the average score of 13.9. The presentation of cognitive development pre-test results showed that there were 10% of students in the low category of 1 student with the initials ZZ, 50% of students in the medium category of 5 students with the initials MF, AR, ZR, FS, AR, 40% of students in the high category with the initials NA, AF, AA, AR.

This is by research conducted by Fitri Astuti (2019) entitled efforts to improve children's cognitive abilities through Snakes and Ladders Games. This study used classroom action research, the source in this study was 15 group B learners consisting of 7 men and 8 women.

The results showed a significant increase in cognitive abilities after being given 2-class action. In cycle 1 the prevalence achieved is 55.7% and increases in cycle 2 reaching 86.8%. From these results, it can be concluded that doing snake and ladder game activities can improve children's cognitive (Astuti, 2019).

This is equivalent to a study conducted by Siti Istiqomah (2020), with the research title Application of the method of playing with snakes and ladders in developing the cognitive of children aged 5-6 years in PAUD Sriwijaya East Lampung. This research uses a qualitative descriptive approach with the type of case study research. Data collection techniques use observation, interviews, and documentation. Children's cognitive development through the Snakes and Ladders Game method at PUAD Sriwijaya East Lampung can be said to be good by looking at the data on children's cognitive development, namely those who began to develop (MB) reached 15%, (BSH) developed according to expectations 55% and (BSB) developed very well 30% (Istiqomah, 2020).

Snakes and Ladders Games can improve children's cognitive development because Snakes and Ladders Games can help children recognize numbers. It seems that children can say the symbols of numbers 1-10, use number symbols to count, and can match numbers with number symbols. The research is equivalent to that conducted by Kurnia Dewi Wulandari &; Muniroh Munawar (2017) with the research title The Influence of Snakes and Ladders Game media on the ability to recognize the symbols of numbers 1-10 in group A in RA as martyrs. The results showed that the average present score in the experimental class was 47.1 and the control class score was 63.05. The average posttest score in the experimental class was 65.15, while the average posttest score in the control class was 48.1 (Wulandari, 2017).

Children's cognitive abilities develop through playing with snakes and ladders. This is in line with Sriningsih's opinion that Snakes and Ladders Game media can be given to children aged 5-6 years to stimulate various areas of development such as cognitive, language, and social. Stimulated mathematical cognitive skills include naming number sequences, and recognizing number symbols, and number concepts. Language skills that can be stimulated through this game include vocabulary up–down, back and forth, up–down, and so on. Social skills training in this game includes the willingness to follow the rules of the game, and playing in turns.

One of the efforts that can be made so that children's abilities develop is a strategy that is suitable for childhood is needed, namely playing. The child's world is the world of play. Play in early childhood is very important because play will stimulate various aspects of child development such as social, emotional, physical and motor, cognitive, and language children. Therefore, early childhood is said to be an effective time for teachers and parents in providing understanding or learning to children by providing concrete examples or some educational teaching aids that will be more easily accepted effectively by children (Hasiana, 2017).

In addition, the use of snake and ladder card games can improve the ability to recognize number symbols in group A1 children of Bina kasih Batubelah Kindergarten, Kampar District, Kampar District, Kampar District, in the even semester of the 2016/2017 academic year, it can be seen from the pre-action 25%, in cycle I it increased to 50% and in cycle II it increased again to 87.5%57, so it can be concluded that using snake and ladder games can improve the ability to recognize early childhood number symbols. The results of research by Rena Regina Balkis &; Nur Ika Sari Rakhmawati (2019) suggest that picture number card media can be categorized as feasible and effective to be used as a game of interest in learning to recognize number symbols 1-10 after several stages of trials (Balkis &; Rakhmawati, 2019). So that conclusions can be drawn, namely by using snake and ladder game media can improve the ability to recognize number symbols in early childhood.

The obstacles experienced by researchers during the research process, among others: (1) some children disturb their friends when doing snake and ladder games. For; some children disturb when the theme is rolling dice and running snake and ladder game pieces, and some children can't wait to take from their theme to play the game (2) Students at the beginning of the study are a bit unruly.

CONCLUSION

Description of cognitive development in group B students before being given a snake and ladder game at RA Perwanida Tokka, Alehanuae Village, Sinjai Regency obtained the lowest score of 11 and the highest value of 16, with a range value of 5, a mean value of 13.9, a standard deviation value of 1, and a variance value of 2.7. Description of cognitive development in group B students after being given a snake and ladder game at RA Perwanida Tokka, Alehanuae Village, Sinjai Regency obtained the lowest score of 18 and the highest value of 24, with a range value of 6, a mean value of 21.1, a standard deviation value of 2, and a variance value of 4.8. This shows that providing stimulation in the form of Snakes and Ladders Games can help children improve their cognitive development. There was an increase in cognitive development in group B students after being given a snake and ladder game at RA Perwanida Tokka, Alehanuae Village, Sinjai Regency where there were differences, the difference can be seen from the lowest pre-test score which is 11 while the post-test score is 18, the highest pre-test score is 16 while the post-test score is 24, the pre-test range value is 5 while the value is 6, The mean value between pre-test scores is 13.9 while post-test scores are 21.1, standard deviation values between pre-test scores are 1 while post-test scores are 2, and the variance between pre-test scores is 2.7 while post-test scores are 4.8. So it can be concluded that cognitive development in group B learners with Snakes and Ladders Games can improve their cognitive development.

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