**Effect Of Interactive Media In Fun Learning On Cognitive Abilities In Children Aged 5-6 Years****Aulia Maulida Kurnia Utomo[✉], Rina Windiarti****DOI: 10.15294/belia.v12i1.65721**

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Abstract

Opportunities and challenges in the era of technological development in the world of education are to encourage innovation and creation in the development of the learning process (Primayana, 2019). The learning process that is applied at the level of educational units for kindergartens has not run optimally in the level of developmental achievement, teachers still often use the same methods or conventional teaching processes that seem boring (Nur et al., 2020). The use of interactive media in fun learning is important to support teaching and learning activities so that the level of development achievement in early childhood is achieved (Shalikhah, 2016). Cognitive development is one of them. This study examines and measures whether there is an improvement in cognitive abilities in children after the implementation of fun learning using interactive media. This study uses a quantitative approach with experimental methods in the form of treatment in children. In addition, the type of method in this study is Pre-experimental single factor design or can be called One-Group Pretest-Posttest Design. The data analysis techniques are in the form of Paired Sample T-Test and all calculations used IMB SPSS Statistics 25. The results of data analysis mean value before the implementation of fun learning using interactive media is 44.20 and after the implementation of fun learning using interactive media is 59.37. It can be seen that there is an increase in the average score of 15.17. Based on the results of the test sample pairs T-Test shows the value of t count $> t$ table ($33.705 > 2.042$). In addition, it can be seen from the Sig value. (2-tailed) is 0.000, meaning ($0.000 < 0.05$). Based on the results, it shows that the alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected, thus it can be concluded that there is an influence of interactive media in the fun learning on the cognitive abilities of children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District Kendal Regency.

How to cite

INTRODUCTION

The role of teachers cannot be replaced by any sophisticated technology because the role of teachers or educators is to provide moral education, character, and example. Therefore, in the face of technological developments since early childhood education (ECD) children have to be introduced to technology-based learning because children need to be equipped with 21st century competencies from an early age. Educators can take advantage of advances in technological developments in the field of education to update learning methods or media in order to improve the results to be achieved to the maximum (Primayana, 2019). The teaching and learning process is also one of the information delivery activities, namely from educators to learners. Therefore the process of teaching and learning uses media and the media used is called Learning media. Learning Media needed in Early Childhood Education is learning that can create a fun learning process. Nur et al., (2020) explains that the learning process applied at the level of educational units for kindergartens has not run optimally in the level of developmental achievement. One of them is the aspect of cognitive development in early childhood. The factors causing the delivery of learning that is not optimal is the lack of understanding and creativity possessed by educators in the application and selection of learning methods. Even according to the results of observations of researchers in PPL activities or field work practices, the learning process of teachers still often use the same method or conventional teaching process, meaning that the method used by teachers is a repetition of the routine of existing learning activities, such as the *calistung* method (reading, writing and counting) using LKS or worksheets. The learning started initially with marching, singing, entering the classroom, and the learning process using the method of lecturing. If the learning process at the level of the educational unit for kindergarten still uses conventional teaching processes or learning models that are carried out by means of educators explaining and students listening, the development of some aspects of education to be achieved is found less developed to the maximum (Nur et al., 2020).

The use of interactive media in the fun learning is important to support teaching and learning activities so that the level of development achievement is accomplished (Shalikhah, 2016). The term fun learning comes from the word fun which means enjoyable, then learning means study. Fun learning is process of learning

that is enjoyable and entertaining, where the interest of learners in learning will eventually become a fun learning experience. It can be interpreted that fun learning is a learning method that leads to an atmosphere of learning and teaching that is deliberately created through learning design. According to Syahid, (2019), the concept of the fun learning is like a chef who will serve the food and must go through the stages of mixing and then the stages of cooking. The concept of fun learning based on the stages of the activities of educators and learners in organizing the learning process, namely the existence of a detailed activity plan and theory in containing the allocation of time, indicators of achievement of learning outcomes and the steps of the learning process in each subject. (Hanafy, 2014). Researchers use interactive media to support the Fun Learning, using Microsoft PowerPoint as a software supporting interactive media. Interactive Learning Media based on Microsoft Power Point is found to make it easy for educators to combine several media such as text, images, sound and even video so that it can be an interesting interactive media. Microsoft Power Point is an application that is often used in presentation activities, because this software is very effective, easy and professional. Hence, with the use of interactive media supported by Microsoft Power Point Software is expected to facilitate teachers in delivering effective and interesting information to students (Abbas et al., 2020). Learning Media needed in Early Childhood Education is learning that can create a fun learning process.

Technical use of interactive media in the learning fun that will be used by researchers is to make a presentation slides using Microsoft PowerPoint with material according to learning topics. For example, in the topic "myself" sub topic "Five Senses", the researchers will make a presentation material with each slide using images such as eyes, hands, nose, tongue and its name, and the researchers also added motion videos and songs that aim to facilitate children in remembering the various of five senses. The end of the slide can be filled with a Quiz "Guess Me", the researcher will input one image of the five senses. Then the learning technique is that the researcher displays the material that has been made using a projector screen, then the researcher or teacher can explain each slide shown. For example, on a slide with a picture of the five senses "eyes", the researcher will explain that the eye is one of the various senses and then an interaction with the child can be done by asking "What do we do with eyes, kids? To see, to see what? To see the scene-

ry, pictures, people and the like” and so as with the next slide. After entering the quiz slide, researchers will provide an opportunity for children to come forward and guess what pictures are on the slide and explain the use of the images that have been successfully guessed. For example, the image of “hands “ is used for writing, holding, pushing, grasping and others. So as with the next slide quiz. If there are some children who have not had the opportunity to come in front because of limited time or material, the researcher or teacher can continue it at the next meeting with additional material.

The game” Guess Me “ according to Zwagery (2021), is an activity that can train various forms of emotions in early childhood by using pictures and stories that can describe something that will be guessed. It can be concluded that in the game” Guess Me “ later the researcher will show a picture related to the material or theme to be taken, then students are asked to answer after the educator explains the clue that mentions the characteristics and the functions of the image. Thus learning while playing can be one of the methods to produce the expected level of developmental achievement (Zwagery 2021).

There are 6 aspects that need to be developed in early childhood, namely moral-religious, physical-motor, cognitive, social-emotional, art and language. Playing is one of the ways to develop cognitive abilities through the ability to recognize, remember, think convergently, divergently and provide perception. While the provision of learning at the level of educational units for kindergartens is divided into several aspects, namely aspects of art development, aspects of motor physical development, aspects of cognitive development, aspects of language development and aspects of moral and religious development. Furthermore, some of these aspects are tied into one with a theme, so that the delivery of the material is more focused or the theme is used as a guide and learning instructions (Fardiah et al., 2019).

According to Permendikbud 137 of 2014 on the National Standards of early childhood education there are standards for the level of achievement of Early Childhood Development and one of them is cognitive aspects. Where the standard level of achievement of early childhood development in cognitive aspects is learning activities and problem solving, logical thinking and symbolic thinking. Therefore, in the development of cognitive aspects in children, the proper handling of several aspects is needed, one of which is from the aspect of educators or teachers who

are directly related to the learning process and the second environment for children. It is because environmental factors will have a considerable influence on changes in children’s attitudes. Based on the definition, it can be concluded that learning is a process of interaction between early childhood and teachers with learning resources and learning environments that can help students learn well and in accordance with the stage of development. This will result in better behavior change (Khaeriyah et al., 2018).

The purpose of this study was to determine how the influence of interactive media in fun learning on early childhood cognitive abilities in kindergarten AR ROCHIM South Kaliwungu District, Kendal Regency. There have been many studies that examine cognitive abilities but each study certainly has different characteristics in applying it, in the selection of themes and research methods used. This study uses a quantitative approach with experimental methods in the form of treatment in children. In addition, the type of method in this study is Pre-experimental single factor design or can be called One-Group Pre-test-Posttest Design. The population in this study is all children in kindergarten AR-ROCHIM amounted to 52 children and the sample used in this study amounted to 30 samples. It is based on journals and previous research results that apply qualitative or quantitative methods with the type of single subject Research method.

The following is a previous study that can be used as a reinforcement of the novelty of this study. (1) A research conducted by Devara Udayana et al (2015) entitled “Model User Experience application on introduction learning to count as Interactive Media learning for Early Childhood Education”. The results concluded that interactive media in this study produced an average value with a very high category that has a percentage of 93% and 92%. Thus, the interactive media in learning for early childhood can produce a significant effect on 30 samples of children aged 4-6 years in kindergarten Aryandini. (2) A research conducted by Siti Istiqomah (2018) entitled “Interactive Multimedia-based learning videos on early childhood cognitive aspects”. The results of the study concluded that interactive multimedia-based learning can improve cognitive aspects in children kususnya ability classification. This can be seen from several schools that became the place of observation which is in kindergarten Swadharma Kumara, Serongga, Gianyar. (3) A research conducted by Hasanah & Uyun, (2019) at Tk Khadijah Al-Muayyada Sampang entitled “Early Childhood Cognitive Development As-

essment (Tk Khadijah Al-Muayyada Sampang case study)" that observation techniques, achievement scales and children's work can be used to measure cognitive development in children.

Based on the problems that arise, the researchers are interested in researching the cognitive abilities and fun learning using interactive media, with a study entitled "The effect of Interactive Media in Fun Learning on cognitive abilities in children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District Kendal Regency."

RESEARCH METHODS

This research is carried out in order to know or obtain scientific truth. To obtain the truth, it is necessary to have a quantitative research method. According to Sugiyono, quantitative method is a research method based on the philosophy of positivism that is used to examine the related population or samples, while data collection using research instruments, and data analysis is statistical/quantitative. Those aim to test the hypotheses that have been made or determined. Quantitative research methods are divided into two kinds, namely experimental method and survey method. Experimental method is a method used to test the effect of a particular treatment in directed conditions. The research uses pre-experimental method with one group pretest posttest design technique. One group pretest posttest research technique design is a research design that gives a sample before the treatment applied (pretest) and after the treatment applied at the end of learning (posttest) (Iswara et al., 2018).

This research is carried out in order to know or obtain scientific truth. To obtain the truth, it is necessary to have a quantitative research method. According to Sugiyono, quantitative method is a research method based on the philosophy of positivism that is used to examine the related population or samples, while data collection using research instruments, and data analysis is statistical/quantitative. Those aim to test the hypotheses that have been made or determined. Quantitative research methods are divided into two kinds, namely experimental method and survey method. Experimental method is a method used to test the effect of a particular treatment in directed conditions (Sutisna, 2020). The variables in this study consist of independent variables which is fun learning and dependent variables, which in this study, is cognitive ability. The determination of the subject of research can be started from determining the population and

research sample. Amirullah (2015), explains that the population is some of the research subjects that have general characteristics and have certain conditions in accordance with the research problem. It can be concluded that the population is the entire subject of research that can be in the form of people, events or objects that are intended by the researcher to be researched (Amirullah, 2015). The population in this study is all children in kindergarten AR ROCHIM Protomulyo Village in South Kaliwungu District, Kendal Regency, totaling 52 children.

The sample is a portion of the population taken as a source of research data collection. It can be concluded that the sample is a number of research subjects taken from the population and the number is less than the population and can be used as a representative of the population as a whole (Amirullah, 2015). In this study the researchers used nonprobability sampling technique that is purposive sampling. According to Lenaini (2021), Purposive sampling is a sampling method used by non-random sampling researchers or can be attributed to researchers who have certain criteria in sample selection. The samples in this study were children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District Kendal Regency with a sample of 30 children consisting of 19 boys and 11 girls.

The research instruments are tested using validity and reliability tests before being used. Instrument reliability test results that have been calculated and analyzed using IBM SPSS Statistics 25 with Cronbach's Alpha test produces a value of 0.869. Thus with the results of the final value of the instrument is declared reliable because it has a final value of $0.869 > \text{Cronbach's Alpha } 0.6$, and research instruments can be used to take data that will then pass the statistical test. According to Yogi (2014), research instruments are data collection tools in a study with the aim of finding results and conclusions. While Sari (2015), argues that research instruments are tools that are used to assist a study in collecting data, such as questionnaires, observation sheets, interview guidelines and others. It can be concluded that the research instrument is a tool used to measure research variables. This research Instrument uses several statements as a research guide so that it is easy to observe before and after children are given fun learning lessons using interactive media. In this study, a form of measurement checklist is applied. The result of filling the scale can be seen from the score obtained. The following is a grid of research instruments broadly.

Table 1. Instrument Grilles Widely

Indicators	Statements
Learning and solving problems.	Children can mention other sweetening ingredients in the manufacture of healthy drinks besides sugar.
	Children can find out another smoothing tool in the manufacture of a healthy drink "kunir asem" (sour turmeric).
	Children can draw traditional food shapes according to their experience and knowledge.
Logical Thinking	Children can draw healthy drink shapes according to their experience and knowledge.
	Children can classify the shape of traditional food "Klepon".
	Children can classify the form of a healthy drink "milk box".
	Children can choose shapes of the same color from examples of healthy drink images.
	Children can group the examples of "traditional food" images according to their types.
	Children can group the examples of "healthy drinks" images according to their types.
	Children can find out the cause of mangoes that can become one glass of healthy drink.
	Children can sort the shapes of the "traditional food" picture examples based on the order from largest to smallest.
Symbolic Thinking.	Children can sort the sample images of "healthy drinks" by order from smallest to largest.
	Children can name the numbers 1 – 10 with the example of the picture "traditional foods" shown.
	Children can name the numbers 1 – 10 with the example of the picture "healthy drinks" shown.
	Children can count examples of pictures of "traditional foods" in boxes.
	Children can count examples of "healthy drinks" pictures in boxes.
	Children can match the number or number of pictures of "traditional foods" with the number symbol.
	Children can match the number or the number of "healthy drinks" pictures with the number symbol.
	Children can recognize or name the various vowels and consonants of the "traditional foods" names.
	Children can recognize or name the various vowels and consonants of the "healthy drinks" name.

(Source: Research Data 2022)

After the study was conducted, the researchers analyzed the data with data analysis

techniques that are Paired Sample T-test using Microsoft Excel and IBM statistics 25. In addition, the researchers also analysed data in the form of descriptive test (pretest-posttest), normality test to determine whether the data is normally distributed or not and hypothesis test with Paired Sample T-test technique to determine whether there is an increase in the cognitive abilities of children or not.

RESULTS AND DISCUSSION

After the research done by the researcher, the data obtained which will then be analyzed so that it will produce answers to hypotheses in the study. In this study, the researchers used descriptive analysis in which the purpose of descriptive analysis is to describe and describe the data that has been obtained, so that it can see the value obtained from the cognitive development of the children before (pretest) and after (posttest) given treatment by applying fun learning using interactive media. The results of this descriptive analysis become the results of the data as it should be with no make-useful element conclusions in general. The following are the results of descriptive analysis of pretest data on cognitive abilities of children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District, Kendal Regency.

Table 2. Description of Pretest and Posttest Data

Descriptive Statistics								
	N	Range	Mini mum	Maxi mum	Sum	Mean	S t d . Devia- tion	Vari - ance
Pretest Experiment	30	28	27	55	1326	44.20	7.029	49.407
Post - test Experiment	30	35	38	73	1781	59.37	8.608	74.102
Valid N (list-wise)	30							

(Source: Research Data 2022)

Based on the table above, the data comparison between the results of pretest and posttest values with the number of respondents 30 children aged 5-6 years, it can be seen that there is an influence of interactive media in the fun learning on the cognitive abilities of children aged 5-6 years

before the treatment conducted 12x (pretest) and after the treatment conducted (posttest). In the smallest (minimum) pretest value obtained from the child's cognitive ability is 27, then an increase in the results of the smallest (minimum) posttest value is 38. While the largest value (maximum) pretest data is 55 and an increase also in the results of the largest value (maximum) posttest data is 73. Furthermore, the mean value of the pretest data of children's cognitive ability is 44.20 and the posttest data of cognitive ability is 59.37.

According to Sudjana (2010), the categorization on the increase is to make interval classes using formula. The following is the pretest and posttest data on the influence of interactive media in fun learning.

Table 3. Pretest Data Collection Results

No	Interval	Category	Amount	Percentage
1	66 – 80	BSB (<i>Berkembang Sangat Baik</i> / very well developed)	0	0%
2	51 – 65	BSH (<i>Berkembang Sesuai Harapan</i> / developing as expected)	7	35%
3	36 – 50	MB (<i>Mulai Berkembang</i> / starting to develop)	21	55%
4	20 – 35	BB (<i>Belum Berkembang</i> / undeveloped)	2	10%
Total			30	100%

(Source: Research Data 2022)

Based on the table above, it can be seen that there are no children who have a “very well developed” category (BSB / *Berkembang Sangat Baik*). While the percentage of developing very well (BSB / *Berkembang Sangat Baik*) is 0% because there are no children who fall into that category. Furthermore, children who are included in the category of “developing as expected” (BSH / *Berkembang Sesuai Harapan*) have a percentage of 35% with a total of 7 children. The category “starting to develop” (MB / *Mulai Berkembang*) has a percentage of 55% with the number of 21 children. Whereas the category of “undeveloped” (BB / *Belum Berkembang*) has a percentage of 10% with the number of 2 children. It can be concluded from the table of categories of pretest results above that the category of “starting to de-

velop” (MB / *Mulai Berkembang*) have the most number of children of all categories. Therefore cognitive abilities in children still need to be improved further. Here is the diagram of the posttest results for the clearer data.

Table 4. Posttest Data Collection Results

No	Interval	Category	Amount	Percentage
1	66 – 80	BSB (<i>Berkembang Sangat Baik</i> / very well developed)	7	23%
2	51 – 65	BSH (<i>Berkembang Sesuai Harapan</i> / developing as expected)	20	67%
3	36 – 50	MB (<i>Mulai Berkembang</i> / starting to develop)	3	10%
4	20 – 35	BB (<i>Belum Berkembang</i> / undeveloped)	0	0%
Total			30	100%

(Source: Research Data 2022)

Based on the table above, it can be seen that the “undeveloped” category (BB / *Belum Berkembang*) has a percentage of 0% with a total of 0 children. Then the category “starting to develop” (MB / *Mulai Berkembang*) has a percentage of 10% with the number of 3 children. In the category of “developing as expected” (BSH / *Berkembang Sesuai Harapan*) has a percentage of 67% with a total of 20 children. While in the category of “very well developed” (BSB / *Berkembang Sangat Baik*) which is 23% with the number of 7 children. Hence, for the clearer results of pretest and posttest data, the researchers present it in the form of a diagram below.

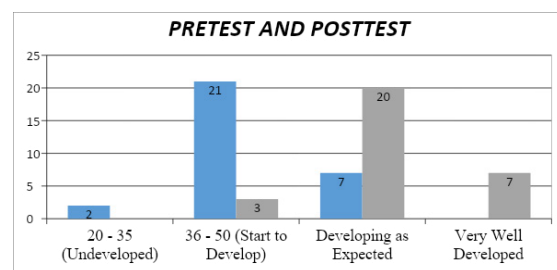


Figure 1. Graph of Pretest and Posttest results
(Source: Research Data, 2022)

Based on the pretest and posttest data diagram above, it can be seen that the number of children in the category of “undeveloped” (BB /

Belum Berkembang) before treatment using interactive media in fun learning learning is 2 children (10%). Then after treatment the number of children in the category of “undeveloped” (BB / *Belum Berkembang*) become 0 children (0%) which means it has a decrease and an increase in the category “starting to develop” (MB / *Mulai Berkembang*) and “develop as expected” (BSH / *Berkembang Sesuai Harapan*). The category “starting to develop” (MB / *Mulai Berkembang*) previously had a number of 21 children (55%), then it decreased to 3 children (10%). It can be interpreted that 19 children (45%) have increased into the category of “developing as expected” (BSH / *Berkembang Sesuai Harapan*) and in the category of “very well developed” (BSB / *Berkembang Sangat Baik*). Not only that the results of the data category of “very well developed” (BSB / *Berkembang Sangat Baik*) have a percentage of 0% where there is no percentage of children in the category, but after 12 times treatment using interactive media in fun learning, it has increased to 7 children (23%). It shows that the cognitive abilities in pretest results have increased with the posttest results. It can be interpreted that there are many cognitive abilities in children who have increased in the category of “developing as expected” (BSH / *Berkembang Sesuai Harapan*) and “very well developed” (BSB / *Berkembang Sangat Baik*).

The normality test is carried out with the aim of measuring the data distributed in normal or not normal research. According to Ghazali (2013: 112), the normality test has the purpose to determine the distribution of some regression data normally or not, whether it is variable or dependent (L. R. dan S. Sari, 2016). In this study, the researchers applied the one-Sample normality Test Kolmogorov Smirnov Test. The Kolmogorov Smirnov normality test is part of the classical assumption test. It is because a good regression model that has a residual value that is normally distributed. In one-Sample normality Test Kolmogorov Smirnov Test, researchers processed data using IBM SPSS Statistic 25 (Sugiyono, 2010).

Table 5. Normality Test Results of the Pretest and Posttest Data

One-Sample Kolmogorov-Smirnov Test

		Pretest Experi- ment	Posttest Experi- ment
N		30	30
Normal Parameters ^{a,b}	Mean	44.20	59.37
	Std. De- viation	7.029	8.608
Most Extreme Differ- ences	Absolute	.100	.102
	Positive	.072	.084
	Negative	-.100	-.102
Test Statistic		.100	.102
Asymp. Sig. (2-tailed)		.200 ^{c,d}	.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

(Source: Research Data, 2022)

Based on the data above, it can be seen that the normality test using Kolmogorov Smirnov showed that the pretest and posttest data on cognitive abilities in early childhood in kindergarten AR ROCHIM produce Asym values.Sig. (2-tailed) on the pretest and posttest data which are 0.200 and 0.200. Thus from the two data has a significant value which is greater than 0.05 or can be interpreted both data are normally distributed.

* Pretest value = 0.200 > 0.05

* Posttest value = 0.200 > 0.05

* Means of normal distribution

Hypothesis is an answer in the research problem that is temporary until there is the truth test through the collected data (Samsuri, 2003). Therefore, whether it can be seen an increase in the dependent variable that is influenced by the independent variable. In this study, the researchers used the calculation of Paired Sample T-Test Test for hypothesis testing. The determination of the null hypothesis (Ho) and also the alternative hypothesis (Ha) which has the aim to find out in both variables whether there is a positive relationship or not. Here are the results of the Paired Sample T-Test.

Table 6. Test Results Of Paired Sample T-Test

Paired Samples Test									
		Paired Differences							
		Std. Devia- tion	S t d . E r r o r Mean	95% Confidence In- terval of the Differ- ence			T	Df	S i g . (2-tailed)
				Lower	Upper				
Pair 1	<i>Pretest Eksperi- men – Posttest Eksperi- men</i>	-15.16667	2.46469	.44999	-16.08700	-14.24634	-33.705	29	.000

(Source: Research Data, 2022)

Based on the table above, it can be seen that the value of Sig. (2-tailed) is 0.000, or it can be interpreted that the value of Sig. (2-tailed) is smaller than the Alpha value of the study ($0.000 < 0.05$), then thus H_0 is rejected. It can be concluded that H_a is accepted which means that there are differences in the results of cognitive abilities before and after the application of fun learning in children aged 5-6 years. In the table above, it can also be seen the average value (mean) in the data pretest and posttest cognitive ability is 44.2000 and 59.3667, so it can be concluded that there is an increase in the average cognitive ability of children after the 12 times treatment through fun learning from the results of the average value before the treatment.

Effect of Interactive Media in Fun Learning Terhadap Cognitive Abilities in Children Aged 5-6 Years

In this study, researchers use interactive media as a support for Fun Learning because it is important as a medium because it creates a fun learning process that improves the development of cognitive aspects in Early Childhood. According to (Sofiyah et al., 2020), fun learning can be defined as a learning by using media so that learning is more effective, makes it easier to deliver curriculum-appropriate material and results in changes in learners' learning outcomes.

Opportunities and challenges in the world of education is to encourage innovation and creation in the development of the learning process. According to Primayana (2019), with the development of technology, educators can take advantage of advances in technology in order to update learning methods or media in order to improve the results they want to achieve to the maximum.

According to Permendikbud 137 of 2014 on the National Standards of early childhood education there is a standard level of achievement of Early Childhood Development while one of the cognitive and motor physical aspects. Where the standard level of achievement of Early Childhood Development in cognitive aspects are learning activities and problem solving, logical thinking and symbolic thinking. Cognitive ability is an aspect of development that will be experienced by every child, with a focus on developing the ability to think complexly through reasoning and problem solving that will be experienced by children. While the purpose of the development of cognitive aspects is expected that children can have the ability to think logically, critically, be able to give reasons, be able to solve problems and find causal relationships in terms of solving problems.

Overall in learning fun learning using interactive media that has been implemented, namely from the pretest stage, treatment or treatment and posttest. Then it can be seen that the children can follow him well, very enthusiastic and show a happy expression but still controlled. This is in line with a research conducted by Alwahidi et al., et al (2021) in "Optimizing Learning interest with the Fun Learning method in the New Normal Era in Sengerang Village, East Praya District" that the concept of fun learning is a learning process that will create a fun learning environment but still controlled. Then it can be seen that day by day the children's cognitive development begins to increase according to predetermined indicators. Thus, based on data analysis pretest (before) and posttest (after) the treatment conducted using interactive media in fun learning can be seen that cognitive abilities in children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu

District has increased significantly. It can be seen from the results of calculations using IBM SPSS Statistica 25 that the results of the test sample pairs T-Test shows the value of $t_{\text{count}} > t_{\text{table}}$ ($33.705 > 2.042$). Then it can be interpreted that the calculated t value is greater than the table t value. By comparing the values of t_{count} and T table results in the conclusion that H_0 is rejected and H_a is accepted.

In addition, it can be seen from the Sig value. (2-tailed) is 0.000, means ($0.000 < 0.05$) then H_0 is rejected. Therefore, H_a is accepted because there are differences in the results of cognitive abilities before (pretest) and after (posttest) the implementation of fun learning learning using interactive media in children aged 5-6 years. Because before (pretest) the provision of treatment or treatment some respondents do not have or remember the scheme that they have experienced before such as remembering, knowing or imagining various traditional food names. As Piaget argues that "new Schemata will always evolve from existing ones" (Ibda, 2015). Therefore, there are differences in the results of pretest and posttest data after treatment. The differences in the results can also be seen from the average value (mean) data pretest and posttest cognitive ability of children is 44.20 and 59.37, then it is seen that there is an increase in the average score of 15.17. In each indicator of cognitive development of children is increased, such as the number of children in the category of "undeveloped" (BB) at the time of pretest amounted to 2 children (10%), then at the time of posttest decreased to 0 children (0%) or can be interpreted that the ability of children began to increase. It is because based on the theory stated by Jean Piaget that early childhood has 4 main periods that will occur in cognitive development. One of them is in the preoperational stage (2-7 years), according to Hijriati (2016), the preoperational stage is the stage that has the most obvious changes that will occur in children, namely in representation or symbolic activities so that in this stage a stable concept will be formed, one of them is reasoning appears. Whereas the category "starting to develop" (MB), pretest data showed the number of respondents is 21 children (55%) and the posttest data according to be 10% with the number of 3 children. It can be interpreted that 19 children began to increase their cognitive abilities into the category of "developing as expected" (BSH). So that in the category "developing as expected" (BSH), the data obtained before the treatment is 7 children (35%), then the results of the data obtained increased to 20 children (67%) after the treatment

of fun learning using interactive media. It is the same as in the category of "very well developed" (BSB) which is increased from 0% data before the implementation of treatment to 23% or as many as 7 children.

Based on this, it can be concluded that the average value (mean) of the children's cognitive ability has increased and improved after being given treatment of fun learning using interactive media. Therefore, interactive media in the fun learning affect the cognitive abilities of children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District, Kendal Regency. This shows that there is a significant improvement in children's cognitive abilities in the level of learning achievement and problem solving, logical thinking and symbolic thinking through fun learning using interactive media.

CONCLUSION

Based on the results of a study entitled "The effect of Interactid Media in Fun Learning learning on the cognitive abilities of children aged 5-6 years in kindergarten AR ROCHIM South Kaliwungu District Kendal". The above discussion explains the influence of interactive media in the learning of fun learning on the cognitive abilities of children aged 5-6 years, it can be concluded that Interactive Media in the learning of fun learning can affect the development of cognitive abilities of children aged 5-6 years, this is because there is a significant increase in the development of cognitive abilities of children before and after the provision of treatment or treatment through learning fun learning using interactive media. Whereas the level of achievement of cognitive abilities in children is learning and problem solving, logical thinking and symbolic thinking.

The effect of interactive media in learning fun learning before and after treatment or treatment given to children aged 5-6 years can be seen based on the results of the average value (mean) data pretest and posttest cognitive ability which is 44.20 and 59.37, then it can be seen that there is an increase in the average score of 15.17. In each indicator of cognitive development of children is increased, such as the number of children in the category of "undeveloped" (BB) at the time of pretest amounted to 2 children (10%), then at the time of posttest decreased to 0 children (0%) or can be interpreted that the ability of children began to increase. While the category "start to develop" (MB) pretest data shows the number of the respondents is 21 children (55%) and the posttest data according to be 10% with the num-

ber of 3 children. It can be interpreted that 19 children began to increase their cognitive abilities into the category of “developed as expected” (BSH). So that the category of “developed as expected” (BSH), the data obtained before the treatment is 7 children (35%), then the results of the data obtained increased to 20 children (67%) after the treatment of fun learning. It also happens in the category of “very well developed” (BSB) which is increased from 0% data before the implementation of treatment to 23% or as many as 7 children. Based on this, it can be concluded that the average value (mean) of the children’s cognitive abilities have increased and improved after being given treatment of fun learning using interactive media. Therefore, interactive media in fun learning affect the cognitive abilities of children aged 5-6 years. This shows that there is a significant improvement in children’s cognitive abilities, especially in the level of learning achievement and problem solving, logical thinking and symbolic thinking through fun learning using interactive media.

REFERENCES

- Abbas, B., Halimah, A., Nursalam, N., & Mattoliang, L. A. (2020). Pengembangan Media Pembelajaran Interaktif Berbasis Multimedia. *Al asma : Journal of Islamic Education*, 2(1), 97. <https://doi.org/10.24252/asma.v2i1.13380>
- Alwahidi, A. A., Sani, M. I., Dewi, A. M., Darmawangsa, S. S., Alawiyah, T. N. A., Rohimah, S., Imtihan, Z., Hasmiati, W., Mustapida, H., & Sukenti, K. (2021). Optimalisasi Minat Belajar dengan Metode Fun Learning pada Era New Normal di Desa Sengkerang, Kecamatan Praya Timur. *Jurnal Pengabdian Magister Pendidikan IPA*, 4(2), 2–5. <https://doi.org/10.29303/jpm-pi.v4i2.682>
- Amirullah. (2015). Populasi Dan Sampel (pemahaman, jenis dan teknik). *Bayumedia Publishing Malang*, 16(4), 293–303.
- Drs. Tjetjep Samsuri, M. P. (2003). Kajian Teori , Kerangka Konsep Dan Hipotesis dalam Penelitian. Kajian Teori, Kerangka Konsep Dan Hipotesis Dalam Penelitian, 1-7. http://repository.unp.ac.id/1656/1/TJEJEP_SAMSURI_209_03.pdf
- Fardiah, F., Murwani, S., & Dhieni, N. (2019). Meningkatkan Kemampuan Kognitif Anak Usia Dini melalui Pembelajaran Sains. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 4(1), 133. <https://doi.org/10.31004/obsesi.v4i1.254>
- Hanafy, M. S. (2014). Konsep Belajar Dan Pembelajaran. *Lentera Pendidikan : Jurnal Ilmu Tarbiyah dan Keguruan*, 17(1), 66–79. <https://doi.org/10.24252/lp.2014v17n1a5>
- Hasanah, F., & Uyun, Q. (2019). *Islamic EduKids: Jurnal Pendidikan Anak Usia Dini Asesmen Perkembangan Kognitif Anak Usia Dini (Studi Kasus TK Khadijah Al-Muayyada Sampangan)*. 01(01), 31–37. <https://journal.uinmataram.ac.id/index.php/IEK/index>
- Hijriati. (2016). Tahapan Perkembangan Kognitif pada Masa Early Childhood. *Jurnal Pendidikan Anak*, 1(2), 33–49.
- Ibda, F. (2015). Perkembangan Kognitif: Teori Jean Piaget. *Intelektualita*, 3(1), 242904.
- Iswara, W., Gunawan, A., & Dalifa, D. (2018). Pengaruh Bahan Ajar Muatan Lokal Mengenal Potensi Bengkulu Terhadap Hasil Belajar Siswa. *Jurnal PGSD*, 11(1), 1–7. <https://doi.org/10.33369/pgsd.11.1.1-7>
- Khaeriyah, E., Saripudin, A., & Kartiyawati, R. (2018). Penerapan Metode Eksperimen Dalam Pembelajaran Sains Untuk Meningkatkan Kemampuan Kognitif Anak Usia Dini. *AWLADY : Jurnal Pendidikan Anak*, 4(2), 102. <https://doi.org/10.24235/awlad.v4i2.3155>
- Lenaini, I. (2021). Teknik Pengambilan Sampel Purposive Dan. *Jurnal Kajian, Penelitian & Pengembangan Pendidikan Sejarah*, 6(1), 33–39. p-ISSN 2549-7332 e-ISSN 2614-1167
- Nur, L., Hafina, A., & Rusmana, N. (2020). Kemampuan Kognitif Anak Usia Dini Dalam Pembelajaran Akutik. *Scholaria: Jurnal Pendidikan dan Kebudayaan*, 10(1), 42–50. <https://doi.org/10.24246/j.js.2020.v10.i1.p42-50>
- Primayana, K. H. (2019). Tantangan dan Peluang Dunia Pendidikan di Era 4.0. *Prosiding Seminar Nasional Dharma Acarya*, 1, 321–328. <http://jurnal.stahnmpukuturan.ac.id/index.php/dharmaacarya>
- Sari, L. R. dan S. (2016). Pengaruh Net Profit Margin (NPM), Return On Equity (ROE), dan Earning Per Share (EPS) Terhadap Return Saham pada Perusahaan Farmasi yang Terdaftar di BEI Periode 2010-2014. *Jurnal Ilmu dan Riset Manajemen*, Vol. 5(No. 12, Desember), 1–18.
- Sari, M. (2015). Instrumen Penelitian. *Journal Metode Penelitian*, 59–75.
- Shalikhah, N. D. (2016). Cakrawala, Vol. XI, No. 1, Juni 2016 101. *Pemanfaatan Aplikasi Lectora Inspire Sebagai Media Pembelajaran Interaktif*, XI(1), 101–115. google scholar
- Sutisna, I. (2020). Statistika Penelitian: Teknik Analisis Data Penelitian Kuantitatif. *Universitas Negeri Gorontalo*, 1(1), 1–15. <https://repository.ung.ac.id/get/karyailmiah/4610/Teknik-Analisis-Data-Penelitian-Kuantitatif.pdf>
- Syahid, A. (2019). Gembira bersekolah: memaknai fun learning di sekolah dasar. *Education*, 1(1), 1–7. <file:///C:/Users/Asus/Downloads/14287-30348-1-PB.pdf>
- Yogi, M. (2014). Instrumen Penelitian Kualitatif, Kuantitatif, Dan Pengembangan. *Implementation Science*, 39(1), 1–24.
- Zwagery, R. V. (2021). Permainan “Tebak Aku” untuk Menstimulasi Perkembangan Emosi Anak Usia Dini. *Jurnal PG-PAUD Trunojoyo : Jurnal*

Pendidikan dan Pembelajaran Anak Usia Dini,
8(1), 59–65. <https://doi.org/10.21107/pg-paudtrunojoyo.v8i1.10061>