


Influence Active Mathematics to Ability Getting to Know the Concept Measurement Child Age 5-6 Year in Tk Three Human Gems New York

 <https://doi.org/10.31004/jele.v10i4.1103>

*Qeysha Alea Febriani, Yeni Solfiah, Rita Kurnia^{abc} 

¹²³Universitas Riau, Indonesia

Corresponding Author: qeysha.alea2525@student.unri.ac.id

ABSTRACT

Learning draft measurement in park children Still tend passive, so that not enough support children's understanding optimally. This study aims to determine the effect of the Active Mathematics model on the ability to recognize measurement concepts in children aged 5-6 years at Tri Insani Permata Kindergarten. The study used a quantitative approach with a pretest and posttest experimental design. The sample consisted of 15 children who were given treatment through the Active Mathematics model. Data analysis was carried out statistically to measure the effectiveness of the treatment. An increase was obtained significant on the average score of measurement recognition ability, from 13.27% (Starting to Develop category) to 78.96% (Very Well Developing category). The Active Mathematics Model has been proven to have a significant effect on increasing the ability to recognize measurement concepts, with a contribution of 64.06% which is included in the moderate category.

Keywords: *Active Mathematics, Early Childhood, Getting to Know Draft Measurement.*

Article History:

Received 19th June 2025

Accepted 28th July 2025

Published 29th July 2025



INTRODUCTION

Early childhood education is the main foundation in shaping a child's personality in the future. At this time, children are in a very important phase of development, namely the golden age, where they have the ability to absorb information very quickly, both from positive and negative things. Therefore, providing the right educational stimulation is very crucial to prepare children to face the next level of education and to form the basis of moral, cognitive, and socio-emotional development (Kurnia et al., 2020). The way of thinking of early childhood is different from that of adults; it often seems illogical and confusing. Child can think about things Which No each other related simultaneously. According to Piaget (197), at the preoperational stage (ages 2–6 years), children begin to use symbol for represent world surrounding (Kurnia, 2018: 4).

The National Council of Teachers of Mathematics emphasizes that all children and their families own high expectations for mathematics learning. These expectations need to be supported by curriculum and program Which strong as well as environment Study Which in accordance with the stage development child. Learning mathematics Which effective for child age early covers exploration to material Which rich, discussion group, as well as implementation concepts in various contexts of life. Social interaction and active communication between participants educate and educator very important for help child construct meaning and understanding of draft mathematics (Seefeldt et al., 2012).

One of the basic mathematical concepts that can be introduced early on is the concept of measurement. Measurement is the process of determining the quantity of an object by comparing it to certain units, both standard and non-standard. For example,

children can measure the length of a table using a pencil or block as a measuring tool (Handayani, 2017). Learning about measurement in early childhood must be adjusted to their level of development, as material that is too complex can cause confusion and hinder the child's understanding. In the learning process, children can be introduced to a variety of activities that involve measurement, such as using a ruler, beams, cubes, or other non-standard tools. They can also be invited to observe temperature using a thermometer or compare heights using a rope. These activities help children develop observation, classification, and problem-solving skills through a concrete and hands-on approach.

By the end of preschool, most children are able to group objects according to attributes such as size, shape, or color. They can also name categories that have the most, the least, or the same number of objects. Through exploration, play, and social interaction, children learn to classify, organize, represent, and use information to answer questions they pose themselves. In class, children learn measurement concepts by using measuring tools directly, making estimations, recording results, and making comparisons. Teachers also benefit from a deep understanding of basic measurement procedures and concepts, especially when assessing children's readiness for the topic. However, based on national assessment results such as the National Assessment of Educational Progress, it is known that children often have difficulty understanding basic measurement concepts. Measurement involves determining the quantity of both physical attributes (such as length, height, weight, and volume) and non-physical attributes (such as time, temperature, and money). For example, the length of a table can be measured directly through the repetition of measurement units (iteration), while measuring time requires indirect tools such as clocks and calendars. Children are first introduced to non-standard units before progressing to formal measurement systems.

In in practice, learning measurement in park children often time still passive. Children are only given assignments and student worksheets (LKPD), which can cause boredom, decreased motivation to learn, and difficulty understanding concepts. taught. Approach Which monoton Also at risk hinder development children's social-emotional. Therefore, teachers need to develop active, fun learning methods that are in accordance with the characteristics of early childhood. To overcome this, teachers are expected to provide various activities that involve direct experience in measurement, both with non-standard units, historical units, and standard units such as meters and kilogram (Reys et al., 2017). Experience the will to form a strong foundation in understanding the concept of measurement, which will be very useful when children enter the next level of education. Interesting and age-appropriate learning media also play an important role in improving the understanding of mathematical concepts. Media that is designed visually and contextually can attract children's attention and help they understand the material more easily (Salwa, 2022).

Based on the description, it is necessary to make efforts to improve the quality of mathematics learning in kindergartens, especially in the introduction of measurement concepts. One approach that can be used is Active Mathematics, which is an interactive learning model based on real activities that are relevant to children's lives. Learning media are developed in the form of interesting books that are adapted to the child's environment, helping them understand measurement concepts more effectively. This study aims to determine the influence of Active Mathematics on the ability to recognize measurement concepts in children aged 5–6 years at Tri Insani Permata Kindergarten. Therefore, the researcher intends to conduct a trial study entitled “The Effect of Active Mathematics on the Ability to Recognize Measurement Concepts of 5–6 Year Old Children at Tri Insani Permata Kindergarten.”

METHOD

This study uses a quantitative experimental approach. Quantitative research is a systematic scientific study of phenomena and the causal relationships within them, with data that can be measured and analyzed statistically, mathematically, or computationally. This approach is based on the philosophy of positivism, which believes that phenomena can be classified, observed, measured, and have a causal relationship (Paramita et al., 2021). Experimental research is conducted to see the effect of independent variables (X) on dependent variables (Y) by giving certain treatments, then observing the impact. The purpose of this study was to determine the effect of Active Mathematics based on the concept of measurement on the ability to recognize the concept of measurement of children aged 5-6 years at Tri Insani Permata Kindergarten, Pekanbaru.

This study consists of two main variables: the independent variable (X), which is Active Mathematics, and the dependent variable (Y), which is the ability to understand the concept of measurement.

Table 1. Design Study One Group PreTest-PostTest design

Pre- Test	Treatment	Post- Test
O ₁	x	O ₂

The information in this study includes three key components related to the research design. O₁ refers to the measurement results of children's ability to understand the concept of measurement before being given treatment using unit size. X represents the treatment provided through the use of the Active Mathematics approach. O₂ refers to the measurement results of children's ability to understand the concept of measurement after receiving the treatment using unit size. This design allows researchers to assess the effectiveness of Active Mathematics in improving the understanding of measurement concepts in children.

FINDINGS AND DISCUSSION

Results Study

This study aims to improve the mathematical abilities of children aged 5–6 years through the introduction of measurement concepts as an effort to stimulate early understanding of mathematics. Learning activities are designed based on field observations, which show the need for more engaging methods that align with child development. Therefore, the researcher uses an Active Mathematics approach based on measurement concepts, with thematic variations to avoid monotonous and boring learning. This study employs a quantitative approach with an experimental type, based on the philosophy of positivism. This approach emphasizes objective phenomena that can be measured quantitatively using statistical techniques and is conducted under structured and controlled conditions. The experimental method is used to determine the effect of a specific treatment on other variables in a systematic manner.

Description Place Study

Tri Insani Permata Kindergarten is one of the Early Childhood Education Institutions (PAUD) private Which has stand since July 2009 and is at in lower shade Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia. This institution plays an active role in the development of early childhood education in the Tampan District area. Since its inception, Tri Insani Permata Kindergarten has been committed to shaping children's character through an approach comprehensive Which covering development physique, cognitive, social, emotional, and spiritual. Currently, the institution is led by Afrida Ariyanti as the principal, supported by five educators. Learning activities are carried out using the Merdeka Curriculum and are adjusted to the characteristics of early childhood development. This study involved 15 children aged 5–6 years, consisting of 6 girls and 9 boys. During the research process, the approach used was quantitative with experimental methods.

Implementation Study

Data collection in this experimental study was conducted through six meetings, consisting of one pretest, four treatments, and one posttest. Observations were conducted on 15 children aged 5–6 years. The schedule for implementing the experiment is presented as follows:

Table 2. Timetable Giving Treatment

Day/Date	Activity	Place
Wednesday, 21 May 2025	Pretest	School
Thursday, 22 May 2025	Treatment 1. The researcher conducted an introduction to measurement Long And do experiment together child.	School
Friday, 23 May 2025	Treatment 2. The researcher introduces the measurement Volume And do experiment together child.	School
Monday, 26 May 2025	Treatment 3. Researcher do introduction to measurement Mass And do experiment together child.	School
Tuesday, 27 May 2025	Treatment 4. Researcher do experiments by providing three activities in total, namely, measuring length, Volume, And Mass.	School
Wednesday, 28 May 2025	Posttest	School

Source: Processed Data Study 2025. Attachment 3 Page 57

Description Data Results Study

Data analysis in this study was conducted using the t-test through the assistance of SPSS software version 23. The t-test was used to determine the difference in results before and after treatment. This study aims to measure the effect of Active Mathematics on the ability to recognize measurement concepts in children aged 5-6 years at Tri Insani Permata Kindergarten.

Data collection was carried out through two stages of testing, namely the pretest and posttest, which were administered to 15 children aged 5–6 years. The general description of the data is presented in the form of a table, which contains basic statistical information to provide an initial overview of the research results.

Table 3. Description Results Study

Variables	Score X Possible (Hypothetical)				Score X Obtained (Empirical)			
	Xmin	Xmax	Mean	SD	Xmin	Mmax	Mean	SD
Pretest	8	32	20	4	9.00	16.00	13.27	2.19
Posttest	8	32	20	4	22.00	29.00	25.27	2.25

Description general Active Mathematics with Ability Know Draft Pre-treatment measurements using Active Mathematics for 5–6-year-old children.

In order for children to more easily understand the concepts of measurement, direct involvement during the learning process is very important. The role of teachers also plays a major role in creating meaningful learning experiences. This study provides a treatment of mathematics learning measurement concept to child age 5–6 years in Tri Kindergarten Human Gemstone. Technique Which used is observation, with four indicator main indicators and eight sub-indicators were developed. Observations were conducted on 15 children as research subjects.

Based on the pretest results, children's ability to understand the concept of measurement before being given treatment using the Active Mathematics model is presented in the following table:

Table 4. General Description of Active Mathematics with the Ability to Recognize Measurement Concepts before treat using Active Mathematics Child Age 5-6 year

No	Indicator	Sub Indicators	Score Ideal	Score Factual	%	Category
1	The concept of mass and the concept of length with comparison of objects	Children compare objects that are bigger and smaller. Children compare objects that are longer and shorter.	120	53	44.17	
2	Concept of mass, weight and volume through comparison of an object	Children compare objects with more and fewer quantities. Children compare objects that are heavier and lighter.	120	50	41.67	MB
3	The concept of volume length describes the amount of something	Children can sort and arrange objects from high to low. Children can sort and arrange objects from small to big.	120	50	41.67	MB
4	Get to know and use measuring instrument	Children can recognize and use non-standard measuring tools such as spans, footsteps, pencils/pens, and objects around them. Children can learn to use standard measuring tools such as meters, compasses, scales, and other measuring instruments.	120	46	38.33	
Amount			480	199		
Percentage					41.46	
Category						MB

Source: Processed Data Research 2025. Attachment 5 Matter 58

Based on Table 4, ability to recognize draft measurement on children aged 5–6 years classified as in category Start Develop (MB) with score total 199 or 41.46% of the ideal score. The indicator with the highest score is comparing objects based on their attributes, which is 53 or 44.17%, while the score lowest found in the indicators of knowing and use tool measure, namely 46 or 38.33%. Although there are differences in values between indicators, all achievements are still in the same category, namely Starting to Develop.

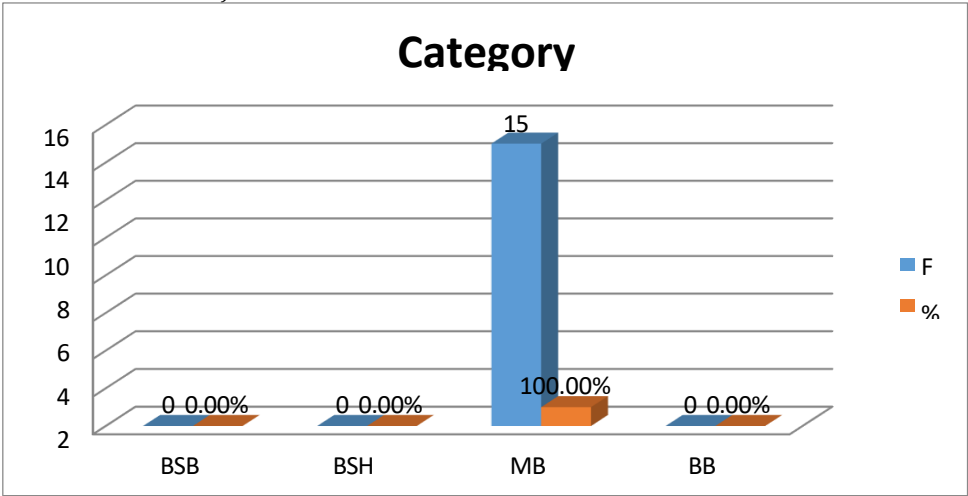
A description of children's initial abilities in recognizing measurement concepts before being given Active Mathematics treatment can be seen in the following table:

Table 5. Active Mathematics with the Ability to Recognize the Concept of Measurement of 5–6-Year-Old Children at Tri Insani Kindergarten Gems before being given treatment (pretest)

No	Category	Range	F	%
1	BSB	76- 100%	0	0.00%
2	BSH	51- 75%	0	0.00%
3	MB	26- 50%	15	100.00%
4	BB	0- 25%	0	0.00%
Amount			15	100.00%

Source: Processed Data Study 2025. Attachment 6 Matter 59

Based on Table 5, all children showed the ability to recognize measurement concepts in the Beginning to Develop category, with an achievement percentage of 100% of the expected number of subjects.



Picture 1. Ability Know Statistics (Pretest)

Overview of Active Mathematics with Children's Ability to Recognize Measurement Concepts Age 5-6 Years At Tri Insani Permata Kindergarten After Being Given Active Mathematics Measurement Concept (posttest)

The next stage in this research is providing treatment using Active Mathematics, Which implemented on 21st, 22nd, 23rd, 26th, 27th, and May 28 2025. After the treatment was given, a posttest was conducted on May 28, 2025 to determine the ability of children aged 5–6 years in recognizing the concept of measurement after participating in the learning. The results are presented in the following table:

Table 6. General Description of Active Mathematics with the Ability to Recognize Measurement Concepts after treat use Active Mathematics Child Age 5-6 year (posttest)

No	Indicator	Sub Indicator	Score Ideal	Score Factual	%	Category
1	Draft mass and the concept of length with the comparison of objects	1. Children compare objects that are bigger and smaller. 2. Children compare objects that are longer and shorter.	120	102	85.00	BSB
2	The concept of mass, weight and volume through comparison on an object	1. Children compare objects with more and fewer quantities. 2. Children compare objects that are heavier and lighter.	120	94	78.33	BSB
3	Draft volume length describe the amount of	1. Children can sort and arrange objects from high to low. 2. Children can sort and arrange objects from small to big.	120	92	76.67	BSB

	somethin g					
4	Get to know and use measurin g instrume nt	Children can recognize and use non-standard measuring tools such as spans, footsteps, pencils/pens, and other objects around them. Children can learn to use standard measuring tools such as meters, compasses, scales, and other measuring instruments.	120	91	75.8 3	BSB

Source : Processed Data Study 2025. Attachment 7 Page 59

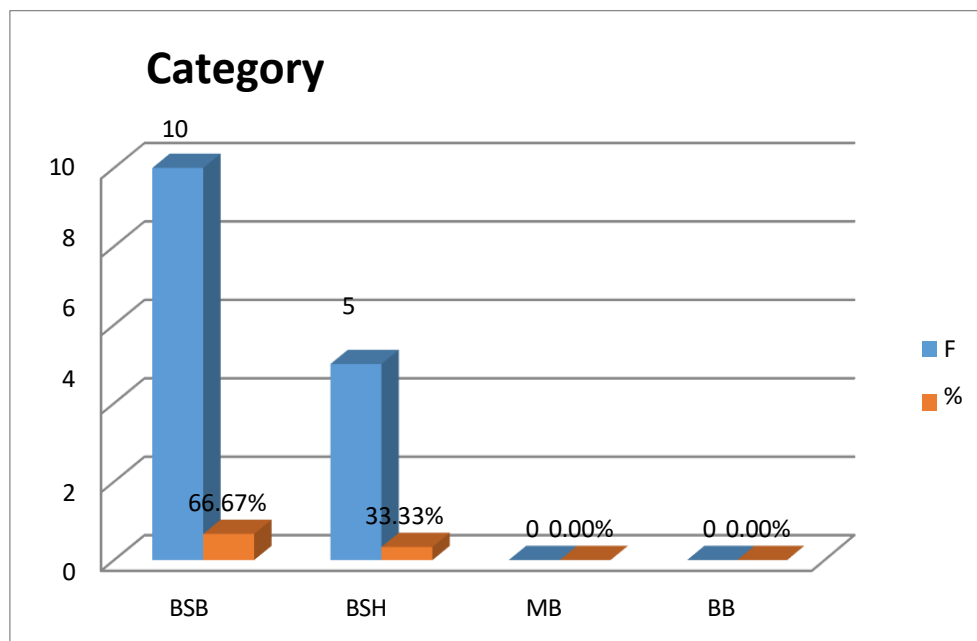
Based on Table 6, the ability to recognize the concept of measurement of children aged 5-6 years is in the Very Well Developed (BSB) category with a total score of 379 or 78.96% of what is expected. The indicator with the highest achievement is comparing objects. based on its attributes with a score of 102 (85.00%). Meanwhile, the indicator with the lowest achievement is knowing and using measuring instruments with a score of 91 (75.83%). The difference between these indicators is not significant because both are still in the same category, namely Very Well Developed (BSB).

Table 7. Active Mathematics with the Ability to Recognize the Concept of Measurement of 5-6 Year Old Children at Tri Insani Permata Kindergarten (posttest)

No	Category	Range	F	%
1	BSB	76- 100%	10	66.67%
2	BSH	51- 75%	5	33.33%
3	MB	26- 50%	0	0%
4	BB	0- 25%	0	0%
Amount			15	100%

Source: Processed Data Study 2025 Attachment 8 Matter 60

Based on Table 7, known that part big child, that is as much as 10 people (66.67%), own ability know draft measurement in category Developing Very Well (BSB). Meanwhile, 5 children (33.33%) others Also is at in the same category, so that all subjects show optimal achievements as expected.



Picture 2. Ability Know Draft Measurement (Posttest)

Influence Active Mathematics to Ability Getting to Know the Concept Measurement Child Age 5-6 Year in Tk Three Human Gems New York Comparison Data Pretest and Posttest

This study uses a one group pretest-posttest design, namely by comparing the results before and after treatment. The results of the pretest and posttest are presented in the following table.

Table 8. Recapitulation Ability Know Draft Measurement Child 5-6 Year At Tri Insani Permata Kindergarten

No	Category	Range Score	F	%	F	%
			Pretest		Posttest	
1	BSB	76%- 100%	0	0	10	66.67%
2	BSH	56%- 75%	0	0	5	33.33%
3	MB	41%- 55%	15	100.00	0	0
4	BB	<40%	0	0	0	0
Amount			15	100	15	100%

Source : Processed Data Study 2025. Attachment 10 Matter 60

Based on Table 8, there is difference significant between results pretest And posttest of the ability to recognize the concept of measurement of children aged 5–6 years. Before treatment, the majority of children is at on category start develop. After given treatment through four treatments, there was a significant increase: 5 children were in the category of developing according to expectations and 10 children reached the category of developing very well. In the posttest results, there were no more children in the category of starting to develop

Testing Data Analysis Hypothesis

This study uses quantitative data analysis according to the experimental method. The statistical test used is the t-test to determine the partial effect between the independent variables on the dependent variable, assuming other variables are considered constant with a 95% confidence level ($\alpha = 0.05$).

Homogeneity Test

Test homogeneity done for ensure that data Which analyzed originate from populations with similar levels of diversity. In this study, homogeneity analysis was performed using the Chi-Square test with the help of SPSS version 23 software.

Table 9. Results Homogeneity Test

Test Statistics		
	Pretest	Posttest
Chi- Square	2.267a	3.200a
df	6	6
Asymp. Sig.	.894	.783

Source : Processed Data Study 2025, Attachment 11 Matter 61

Based on table in on, mark Asymp Sig. pretest as big as 0.894 And posttest of 0.783. Since both significance values are greater than 0.05, Ho is accepted. Thus, the data in this study are homogeneous or have the same variance.

Test Normality

Normality test is conducted to determine whether the research data is normally distributed or not. This study uses the Kolmogorov-Smirnov test (One Sample KS) with the help of SPSS software version 23. The results of the normality test are presented in the following table:

Table 10. Test Normality

One Sample Kolmogorov-Smirnov Test		
	Pretest	Posttest
N	15	15

Influence Active Mathematics to Ability Getting to Know the Concept Measurement Child Age 5-6 Year in Tk Three Human Gems New York

Normal Parameters ^{a,b}	Mean	13.2667	25.26667
	Std. Deviation	2.18654	2.25093
	Absolute Positive	.185	.147
	Negative	.132	.147
Most Extreme Differences		-.185	-.120
Test Statistics		.185	.177
Asymp. Sig. (2- tailed)		.179c	.200c

Source : Processed Data Study 2025, Attachment 12 Matter 61

Based on Table 10, the data is said to be normally distributed if the significance value (Sig.) in the Kolmogorov-Smirnov test is greater than 0.05. The test results show the Sig. value in the pretest is 0.179 and in the posttest is 0.200. Since both values are greater than 0.05, H_0 is accepted. Thus, the data is normally distributed and meets the requirements for use in research analysis.

Hypothesis Testing

Comparison results pretest and posttest in study This analyzed using the paired sample t-test statistical test with the help of SPSS version 23. This test aims to determine difference Which significant before and after implementation Active Mathematics on the ability to recognize measurement concepts. The test criteria are: if the significance value (Sig.) < 0.05 then H_0 is rejected and H_a is accepted, which means there is a significant difference. Conversely, if Sig. > 0.05 then H_0 is accepted and there is no significant difference. significant. Results comparison pretest and posttest on class experiment shown in the following table:

Table 11. Test t
Paired Samples Test

		Paired Differences						
		Mean	Std. Deviation	d. Error Mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
				r.	Lower	Upper		
Pair 1	Pretest - Posttest	- 12,00000	1.25357	.32367	- 12.69420	- 11.30580	- 37,075	.000

Source: Processed Data Study 2025, Attachment 13 Matter 61

Based on table in on, known that mark test t count as big as 37,075. Because this is test two party, so Which used is mark absolute (t count = 37,075), without considering the negative sign (Sugiyono, 2010). The significance value (Sig.) of 0.000 is smaller than 0.05, so H_0 is rejected. Thus, it can be concluded that there is a significant influence of the use of Active Mathematics on the ability to recognize the concept of measurement of children aged 5-6 years.

To find out whether the hypothesis is accepted or rejected, it can be seen from the comparison between t count and t table. Based on the results of the t test with SPSS version 23, it is known that t count (37.075) is greater than t table (2.145) with a certain dk, so the alternative hypothesis is accepted.

$$\begin{aligned} DK &= (n- 1) \\ &= (15- 1) \\ &= 14 \end{aligned}$$

With dk as big as 14, obtained mark t table as big as 2,145. Because t counts greater than the t table, then H_0 is rejected and H_a is accepted. This means that there is a significant influence of the use of Active Mathematics on the ability to recognize measurement concepts in children.

Influence Active Mathematics to Ability Know Draft Measurement Children aged 5-6 years at Tri Insani Permata Kindergarten

Study This aiming for now so far where influence Active Mathematics on the ability to recognize measurement concepts in children aged 5-6 years at Tri Insani Permata Kindergarten, Pekanbaru.

Test Gains Normalized

$$G = (\text{Posttest score} - \text{pretest score}) / (\text{Ideal Score} - \text{pretest score}) \times 100\% \quad G = (379 - 199) / (480 - 199) \times 100\%$$

$$G = 180 / 281 \times 100\% \quad G = 64.06\%$$

The information in this study includes key terms used to assess the effectiveness of the treatment. "G" represents the difference between the pretest and posttest scores, reflecting the improvement after the intervention. "Posttest" is the value obtained after the treatment is given, while "Pretest" is the value recorded before the treatment. The figure "100%" is used as a fixed reference point to calculate the percentage of improvement, helping to measure the effectiveness of the treatment in a clear and standardized way.

Table 12. Category Gains Normalized

Normalized Gain	Category Evaluation
$G < 30\%$	Low
$30\% < G < 70\%$	Currently
$G > 70\%$	Tall

Source: Processed Data Study 2025, Attachment 14 Matter 61

Based on the calculation results using the Gain (G) formula, the increase value was obtained as big as 64.06%, Which including in category currently ($30\% < G < 70\%$).

Discussion Results Study

The ability to recognize the concept of measurement is very important in children's daily lives, because it affects academic and non-academic development, especially in mathematics learning. Unfortunately, this concept is not yet widely popular with early childhood children. Because still is at on stage introduction, as well as lack of media learning which are interesting. According to Fatdianti (2016), understanding draft measurement need implanted from an early age as the basis for children's ability to compare and measure objects accurately. Ulfah (2019) divides measurements into two types, namely physical (length, area, capacity, volume, and mass) and non-physical (time, temperature, money, and so on). Yuliana (2014) stated that children are considered to understand the concept of measurement if they are able to distinguish objects without numbers (superlative language), use non-standard measuring instruments, and choose tool measuring in accordance object. Temporary That, Siddiq et al. (2021) explain that the measuring ability of early childhood includes seven aspects, such as the use of standard and non-standard measuring instruments, distinguishing weight, volume, length, and load size. (Firdaus & Susanti, 2024) emphasizes that children aged 5-6 years should begin to recognize the concept of measurement in real contexts, such as measuring weight, body temperature, distance, and number of objects. This ability encourages creativity and a fun understanding of mathematics through activity play. Discussion in study This based on on the results of quantitative analysis through experimental design by looking at the differences in children's ability to recognize measurement concepts before and after Active Mathematics treatment, in order to determine the extent to which the treatment influences the improvement of children's understanding.

Results Study Before Given Active Mathematics on Ability Understanding the Concept of Measurement Based on Pretest Results

The pretest results show that the ability to recognize measurement concepts in children aged 5-6 year in Kindergarten Three Human Gemstone before implementation method Active Mathematics is still relatively low. From a total score of 199 with an average of 13.27%, all children (100%) are in the "Starting to Develop" category. The indicator with the highest score is comparing objects according to their attributes (score 53 or 44.17%), while the lowest score is in the indicator of knowing and using measuring

instruments (score 46 or 38.33%). Although there are differences in scores, all achievements are still in the same development category. Observations during learning also show that children are not yet able to understand and apply draft measurement in a way optimal. By Because That, effort is needed improvement through implementation Active Mathematics, which done through various activities contextual like use theme fruit and vegetable, things in around children, as well as standard and non-standard measuring instruments. This improvement is important considering that measurement skills are the basis for children's cognitive development, as stated by Solfiah (2018) that teachers have an important role in stimulating children's potential, including in mathematics learning which is ideally delivered in a fun and challenging way.

Results Study After Given Active Mathematics Based on Results Posttest

After implementing Active Mathematics, the ability to recognize measurement concepts of children aged 5-6 years at Tri Insani Permata Kindergarten experienced a significant increase. The child is seen enthusiastic, active, and enthusiastic follow learning Because method This packed in a way pleasant through game thematic and media Which varies. Results posttest shows a total score of 379 with an average of 78.96%. The highest indicator is in the ability compare object in accordance its attributes (85.00%) Which is at in Very Good Development (BSB) category. A total of 10 children (66.67%) achieved the BSB category and 5 children (33.33%) Developed According to Expectations, while no children were in the Starting to Develop or Not Yet Developing category. This improvement was due to the direct approach provided by Active Mathematics, which allowed children to explore their surroundings as a source of learning about measurement. Previously, children did not understand that objects around them could be used as measuring tools, but after treatment, they start to recognize draft said. Research this too find that method This is effective up to 64.06%, while the remaining 35.94% is influenced by other factors such as lack of family support or interest child to media learning. Matter this is in harmony with Solfiah (2018) Which States that Teacher need stimulate potential children through interesting mathematics learning. Musrikah (2017) emphasized that the concept of measurement can be found in everyday life, not only in the classroom. In addition, That, results study This supported by findings Solfiah (2020) Which state that the approach of playing while learning at home with parents can improve the statistical abilities of early childhood children by an average of 70.54% in the category of Developing According to Expectations. Overall, the application of Active Mathematics has proven effective in improving children's ability to recognize measurement concepts, although external factors also contribute to learning success.

CONCLUSIONS

Based on the research results, it can be concluded that the ability to recognize concepts measurement child age 5-6 year in Kindergarten Three Human Gemstone before implementation Active Mathematics method is in the category of starting to develop, with a percentage of 41.46%. This shows that children are still in the early stages of understanding measurement, such as comparing objects, identifying differences between two objects, sorting and arranging objects, and recognizing measuring instruments. After the application of the Active Mathematics method Mathematics, happen improvement significant, in where 78.96% child reach category is developing very well. Children show a better understanding of the concept of measurement through direct activities designed in the method. This increase shows a significant influence of the application of Active Mathematics on ability know draft measurement, with contribution as big as 64.06% and is classified in the moderate category based on the normalized gain assessment.

REFERENCES

- Abdullah, K. (2021). Quantitative research methodology (July 2022 edition). Aceh: Yayasan Penerbit Muhammad Zaini. ISBN 978 623 5722 91 7.
- Fatdianti, R., & Rianto, E. (2016). The effect of the project method on the ability to recognize the concept of size of group B children. *Journal of Educational Technology Students*, 5(1), 1–6.
- Paradise, I., & Susanti, RA (2024). Increasing Literacy Numeracy Through Media Dakon On Child Age 5-6 Year. *Journal Child Holistic Early Age Integrative (AUDHI)*, 7(1), 44–57. <https://doi.org/10.36722/jaudhi.v7i1.3025>
- Handayani, S., Sumarno, S., & Haryati, Y. (2017). Efforts to Improve Cognitive Ability in Introducing the Concept of Measurement to Early Childhood Through Role Play Methods. *Journal of Mathematics Education Works*, 4(1).
- Kurnia, R., Firdausia, S., & Novianti, R. (2020). The Relationship between Self Esteem and Self Adjustment in Children Aged 4-5 Years. *Aulad : Journal on Early Childhood*, 3(2), 95–102. <https://doi.org/10.31004/aulad.v3i2.68>
- Musrikah, M. (2017). Teaching mathematics to early childhood. *Martabat*, 1(1), 153-174
- Paramita, R. W. D., Rizal, N., & Sulistyan, R. B. (2021). Method study quantitative.
- Lumajang: Widya Gamma Press (APPT), Edition, 3..
- Reys, L.L. (2017). Helping children learn mathematics. Australia: Second edition Published.
- Rahmawati, R., & Mayar, F. (2023). Multimedia Interactive For Increase Ability Early Childhood Measurement. *Obsession Journal: Journal of Early Childhood Education*, 7(4), 4673-4681.
- Salwa, Siti. 2022. Introduction to the Concept of Measurement in Children Aged 4-5 Years Using Stacking Donut Media. *Al Athfal : Journal of Child Development Studies and Educational Management Age Early 5 (2): 43-54*. https://doi.org/10.52484/al_athfal.v5i2.357.
- Seefeldt, C., Galper, A., & Stevenson-Garcia, J. (2011). Active experiences for active children: Mathematics. Pearson Higher Ed.
- Shiddiq, KH, Palupi, W., & Dewi, NK (2021). Measurement Ability Profile For Children Aged 4-6 Years. *Early Childhood Education and Development Journal*, 31.
- Solfiah, Y., Anggraini, RT, & Hukmi, H. (2020). Analysis of Statistical Abilities of Children Aged 4- 5 Years in Pks Housing Pt. Bplp Enok District Indragiri Hilir Regency. *Review Journal Education And Teaching (JRPP)*, 3(2), 375-383.
- Solfiah, Y. (2018). Kindergarten Teacher's Ability In Teaching Mathematics In Kindergarten Pembina Of Pekanbaru City. *KINDERGARTEN: Journal of Islamic Early Childhood Education*.
- Ulfah, AK, Razali, R., Rahman, H., Ghofur, A., Bukhory, U., Wahyuningrum, SR, ... & Muqoddam, F. (2022). Various Research Data Analysis (Literature, Research and Development). IAIN Madura Press.
- Juliana, S. (2014). Improvement ability measurement through problem solving on children of group B2 of ABA 3 Kindergarten, Imogiri Bantul [Thesis, Yogyakarta State University].