

## **Sandpaper Letters: Sensory Exploration Sharpens Early Preschool Writing Skills**

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### **Abstract**

The purpose of this study is the early writing ability with Sandpaper Letters media in children aged 4-5 years at At-Taqwa Islamic Kindergarten, East Jakarta. The research subjects were 13 students aged 4-5 years at At-Taqwa Islamic Kindergarten, East Jakarta. The quantitative approach with the research method applied in this study is experimental research. Based on the results of hypothesis testing that has been carried out using the t-test, the average results of children's early writing ability before being given behavior were 17.53 and a standard deviation of 2.401 and after being given behavior were 30.61 and a standard deviation of 2.599. Thus, Sandpaper Letters media has an effect on the early writing ability of children aged 4-5 years. Based on the results of research conducted at At-Taqwa Islamic Kindergarten, East Jakarta, the use of Sandpaper Letters media can influence the early writing skills of children aged 4-5 years with data on the comparison of pretest and posttest using the t-test, the calculated t is 31,505. Because the value (Sig.2-tailed) is 0.000 <0.05, it can be concluded that there is a significant influence after using Sandpaper Letters media on the early writing skills of children aged 4-5 years.

Keywords: Early Childhood, Early Writing Skills, Sandpaper Letters.

## **1 INTRODUCTION**

Early childhood education is education provided before elementary school, either through formal or non-formal education (Law No. 20, 2003). Early childhood is the most important period for a child to listen, see, receive, and follow everything shown, heard, and exemplified. Early childhood, aged 0-6 years, is in the golden age throughout the span of human development. This period is particularly receptive to stimuli and engages in various activities in order to understand and master their environment (Sujiono., et al, 2013).

Early childhood education is a crucial tool for developing language skills. Reading and writing are essential language skills for children to continue their education. Understanding the importance of language learning for children, language is a means of communication, whether spoken, written, or symbolized, to convey ideas or desires so that others can understand them.

Initial writing ability is one of the basic skills that is important to develop from an early age. At this stage, children begin to learn to understand that written symbols have meaning and can be used to convey ideas, feelings, or information. Early writing skills not only include the activity of copying letters or words, but also involve fine motor coordination, letter recognition, writing direction, and the ability to imitate and form letters correctly.

Early writing involves several stages, from scribbling, drawing shapes resembling letters, writing loose letters, to writing simple words or sentences. At the age of 4-5, children are typically in a transitional stage toward more structured writing skills. Early writing also lays the foundation for the development of more complex literacy skills later

in life. This skill plays a role in fostering children's confidence in written communication and provides a means for them to express their thoughts and ideas independently. To ensure effective and enjoyable writing, it is important for educators to use methods and media appropriate to the child's characteristics and developmental needs.

Researchers used Sandpaper Letters as a medium for early writing for children aged 4-5 years. This medium was developed by Maria Montessori, equipping children with the basic skills needed for reading and writing, while also instilling an interest in language and communication. Sandpaper letters are educational props made from sandpaper and forming letters of the alphabet. The use of sandpaper aims to create an attractive medium that can be touched and felt by early childhood. So they can learn how letters are written. Based on this background, researchers want to know how Sandpaper Letters influence early childhood writing.

### **The Essence of Early Writing**

Early writing is an early writing activity that children can do, such as writing using curves and lines as letters, imitating writing or letters that can be recognized, writing their own name, writing a few words or short phrases (Ahmad, 2012). In other words, when children succeed in writing their own name or copying simple words, they feel proud and motivated to continue learning. Early writing is not only a physical activity, but an integral part of a child's cognitive, language, emotional, and social development.

Early writing is a movement that uses fine muscles or certain parts of the body, which is influenced by the opportunity to learn and practice. The ability to move objects from the hand, scribble, stack blocks, cut, write (Siti, 2012). The ability to write requires control of small muscles to achieve certain goals that include eye coordination, hands and movements that require hand or finger movements. This explains the need for development activities to control small muscles for early childhood which will be in line with the development of the scope of literacy, namely early writing in early childhood.

Early writing is a child's ability to express themselves through writing, starting with drawing scribbles that approximate letter shapes and become words. This is the beginning of writing for early childhood (Widyananda, et al., 2022). A child's ability to express themselves through writing from an early age is an important foundation for children's literacy development. This process does not occur instantly, but rather through natural stages that begin with scribbling, drawing, and gradually forming symbols that resemble letters and finally become words. Through the use of sandpaper letters, children learn to recognize letters by seeing and touching, in addition to hearing each letter being pronounced. Children will feel the letters with their fingers, tracing the outer edges in the same direction as they will actually write them (Aminah, et al., 2021).

### **The Essence of Sandpaper Letters**

Sandpaper Letters are a learning medium that is usually used as the first introduction that children need to connect phonemes with written symbols (Susan., et al., 2010).

Sandpaper Letters is a time for children aged 3-5 years, when their language skills, especially writing, begin to mature and they are ready for stimulation. Using sandpaper letters as a learning medium maximizes the child's tactile abilities and good eye-hand coordination for writing (Montessori, 1964).

Sandpaper Letters is a medium that aims to help children associate speech sounds with written symbols as preparation for reading and writing activities (Gettman David, 2016).

Some of the definitions above can be synthesized that the media is made of square wood with a thickness of 1 cm with letters that In the age range of 3-5 years, children's language skills, especially in writing, begin to develop maturely and are ready to be stimulated. At this stage, it is important to introduce learning media that can help children connect phonemes (language sounds) and written symbols.



Figure 1. Sandpaper Letters Media

## 2 RESEARCH METHODS

This research is a quantitative experimental research, the research aims to investigate the possibility of a causal relationship by introducing one or more experimental groups to one or more treatment conditions and comparing the results with one or more control groups that are not subjected to treatment conditions (Sugiyono, 2013). The research used is a pre-experimental pre-test - post-test model research design, namely an experiment conducted to see the comparison before and after. From this *Pre-experimental design*, the researcher chose the design *The - one group Pre-test - Post-test Design*, the results of the research can be known from the results of the post-test experiment. This research was conducted at At-Taqwa Islamic Kindergarten, Pasar Rebo District, East Jakarta, with a sample of 13 children.

The sampling technique used was cluster random sampling. Cluster random sampling is a regional sampling technique used to determine samples when the object to be studied is very broad, for example, a country, province, or district. Therefore, with this sampling technique, the researcher took a sample by sampling one kindergarten in the population, thus obtaining the At-Taqwa Islamic Kindergarten as a sample institution.

The steps taken in *cluster random sampling* to determine this are by selecting 13 children in group A. Each individual who participates in the study has an equal opportunity to be assigned to either the experimental group or the control group for comparison.

## 3 RESEARCH RESULTS AND DISCUSSION

The presentation sequence includes data processing results in the form of data descriptions, testing of data analysis requirements, and testing of research hypotheses. At the end of the chapter, there is an explanation of the research results and limitations.

### 3.1 Description of Post-test and Pre-test Data on Initial Writing Ability

Based on the results of pre-test data processing of children's initial writing skills obtained from 13 students, the following values were obtained: Average 17.53; Median 17; Mode 17.00 and the highest value 21.00.

Based on the results of post-test data processing of initial writing skills obtained by 13 students, the following values were obtained: Average 30.61; Median 30; Mode 30.00; and the highest value 34.00.

Table 1. Description of Post-test and Pre-test Data for Initial Writing Ability

		Pre-test	Post-test
N	Valid	13	13
	Missing	0	0
Mean		17.5385	30.6154
Standard Error of Mean		.66617	.72092
Median		17,0000	30,0000
Mode		17.00	30.00 <sup>a</sup>
Standard Deviation		2.40192	2.59931
Variance		5,769	6,756
Minimum		14.00	27.00
Maximum		21.00	34.00
Sum		228.00	398.00

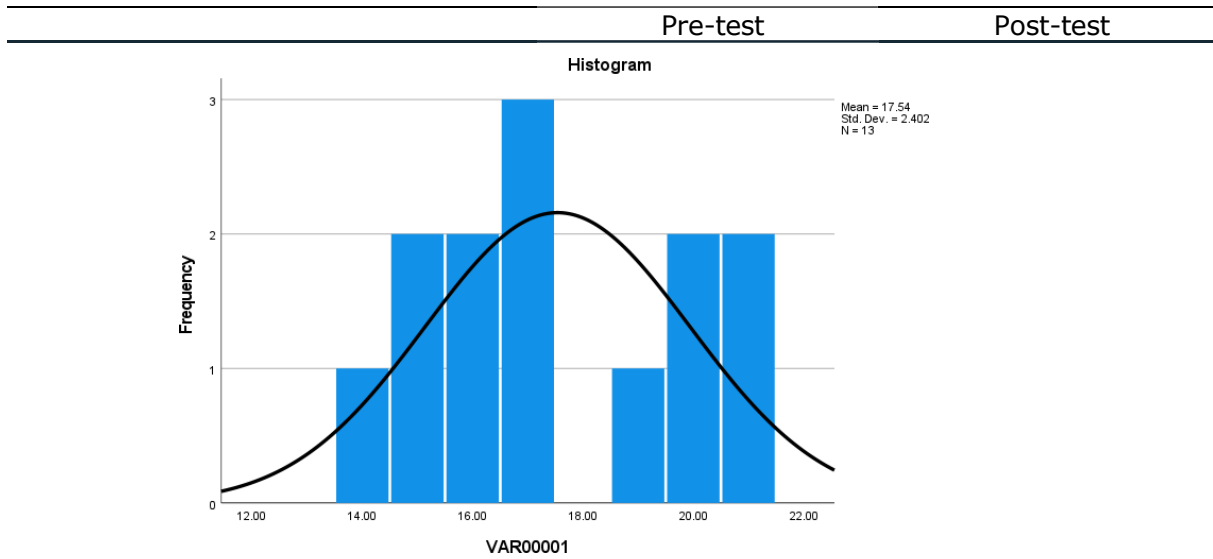


Figure 2. Histogram of Pre-test Initial Writing Ability

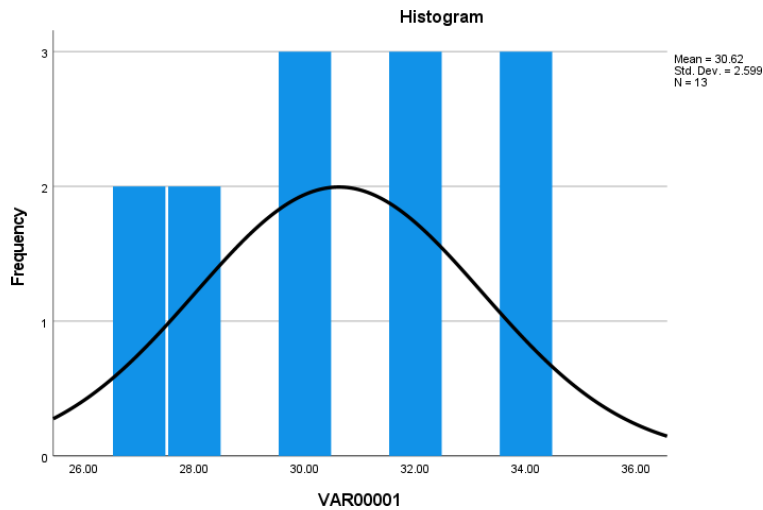


Figure 3. Post-test Histogram of Initial Writing Ability

### 3.1.1 Normality Test Results

Based on the results of the table above, the statistical value for Shapiro-Wilk was 0.917 and a sig or p-value of 0.226 > 0.005. Thus, the initial writing ability data was normally distributed.

Table 2. Normality Test

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Early Writing Skills	.190	13	.200 *	.917	13	.226

3.1.2 Homogeneity Test Results

From the analysis results in the Test of Homogeneity of Variance table,  $F = 0.100$ ;  $df_1 = 1$ ;  $df_2 = 24$ , and  $p\text{-value} = 0.754 > 0.005$  or  $H_0$  is accepted. Thus, the data on children's initial writing ability is homogeneous.

Table 3. Homogeneity Test

		Levene Statistics	df1	df2	Sig.
post-test	Based on Mean	.100	1	24	.754
	Based on Median	.152	1	24	.700
	Based on Median and with adjusted df	.152	1	23,818	.700
	Based on trimmed mean	.094	1	24	.761

3.1.3 Hypothesis Test Results

Paired Samples Test, obtained a mean difference of 12.07 which means the difference in the score of the ability to recognize letters between before and after being given treatment. A positive value means that after being given the behavior, the child's initial writing ability score is higher than before being given treatment. Furthermore, in this table, the Std. Error mean shows an error rate of 0.383 for the average difference. Furthermore, from this table, the statistical value of  $t = 31.505$  with  $df = 12$  and a sig number or  $p\text{-value} = 0.000 < 0.05$  or  $H_0$  is rejected. Thus, it is concluded that there is a significant difference in children's initial writing ability between before and after being given treatment.

Table 4. Paired Samples Test

Paired Samples Test									
Paired Differences									
		Standard Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
Mean				Lower	Upper				
Pair 1	Pretest - Posttest	12.07692	1.38212	.38333	12.91213	11.24172	31,505	12	.000

3.2 Discussion

Based on the results of the hypothesis testing that has been carried out using the t-test, the average results of children's initial writing ability before being given behavior were 17.53 and a standard deviation of 2,401 and after being given behavior were 30.61 and a standard deviation of 2,599. This means that descriptively there is a difference in the average results of initial writing ability before and after being given treatment.

The Sandpaper Letters method can help students learn how to write letters using their two senses: touch and sight. By engaging these two senses, students will more easily understand and remember how to write letters.

Sandpaper Letters is an activity to develop children's early writing skills by feeling a board depicting letters or numbers, then repeating the activity on a board depicting letters or numbers, then repeating the activity in a tray filled with sand. The media uses a variety of facilities to explore textures, thus engaging children and developing their writing skills. According to research, children are given freedom to write. Furthermore, children are trained to move their hands and can use more muscles than when sitting at a table.

Thus, writing requires the development of fine motor skills related to children's manual dexterity. Activities using sandpaper letters can stimulate creative movement, thereby

improving writing skills in children aged 4-5 years. Furthermore, sandpaper letters can improve hand-eye coordination, where children use their eyes to see the letter shapes and their finger muscles to follow the letter patterns (Cahyani, 2019).

#### 4 CONCLUSION

This experimental research was conducted at At-Taqwa Islamic Kindergarten, East Jakarta. The subjects were children aged 4-5 years. The purpose of this study was to determine the effect of Sandpaper Letters on the early writing skills of children aged 4-5 years. Developing early writing skills is crucial for children aged 4-5 years.

Based on the results of research conducted at At-Taqwa Islamic Kindergarten, East Jakarta, the use of Sandpaper Letters media can affect the early writing skills of children aged 4-5 years with data on the comparison of pre-test and post-test using the t-test, the calculated  $t = 31.505$  was obtained. Because the value (Sig.2-tailed) =  $0.000 < 0.05$ , it can be concluded that there is a significant influence after using Sandpaper Letters media on the early writing skills of children aged 4-5 years. So, it means that  $H_0$  is rejected, which means that in this study the sandpaper letters method has an effect on the early writing skills of children aged 4-5 years at At-Taqwa Islamic Kindergarten, East Jakarta.

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