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## OPTIMIZATION OF EARLY CHILDREN'S FINE MOTOR DEVELOPMENT THROUGH COLORING ACTIVITIES

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### Abstract

This research was conducted to optimize fine motor development through coloring activities at TKIT Zia Salsabila, Percut Sei Tuan District, Deli Serdang Regency. This research is qualitative with a case study approach. The research was conducted at TKIT Zia Salsabila, Percut Sei Tuan District, Deli Serdang Regency. The research data is in the form of coloring activities by TKIT Zia Salsabila students—sources of data obtained from students and teachers. Observation, interviews, and documentation carry out data collection techniques. At the same time, data analysis is done through data reduction, data presentation, drawing conclusions, and verification. The research results mention the coloring activities carried out at TKIT Zia Salsabila show that coloring activities are considered capable of optimizing children's fine motor development, so that coloring activities must be carried out regularly by parents and class teachers so that children's fine motor skills develop optimally.

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### Keywords

Coloring, Fine Motor, Kids, TKIT Zia Salsabila



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## INTRODUCTION

The importance of increasing the development of motor skills at an early age, in particular, to develop a child's physiology, stimulate children's communication, and enhance their cognitive abilities, is explained by several experts. All physiological functions of children, such as increased blood circulation, will be stimulated by the role of motor skills in developing their physiology, namely when they are moving (Kholis, n.d.). The role of motor skills is to give a child great confidence in his abilities so that he can take care of himself socially and emotionally. Children with better motor or movement skills will also be accepted by their friends' environment, while children who do not have certain motor skills will be less accepted by their friends' environment. Acceptance of friends and the environment will cause children to have good self-confidence. Therefore, it is better when children are small they can start learning various types of motor-physical activities freely according to their abilities and without being compared to other children. It's making kids want to do different things for fun, without fear and shame (Saripudin et al., 2019).

The development of fine motor skills is also influenced by increased myelination in the nervous system. Children are more efficient at using their hands as tools during middle and late childhood. You can use a hammer, a stick, tie shoelaces, and a dress for a 6-year-old. In the area of fine motor skills, girls usually have a huge advantage over boys (Santrock, 2009). Fine motor coordination in children improves and becomes more accurate when they are four years old. Children's fine motor coordination will improve when they're five years old, when their hands, arms, and body move well together and are directed by their eyes (Halilah & Suzanti, 2023). Boys tend to perform dances that help their bodies become more relaxed, whereas girls will rather manipulate their strong muscles to catch a ball or throw it. In addition, boys are more apt to show behaviors that increase their strength and speed (Khadijah & Amelia, 2020).

There are two kinds of grip skills in children, namely: a) Palmer grasping, which is the ability of children to hold objects with their palms, and Finger grasping, which is the ability of children to hold objects with their fingers, b) Drawing, children like to draw using various stationery such as crayons, markers, colored pencils, brushes, and so on (Ningsih & Watini, n.d.).

Kids' fine motor skills can be improved through art and coloring activities. They will be inspired to create or color pictures with the help of their teachers and the learning opportunities provided (Hana et al., 2020). Susanto explained that the ability and flexibility to control finger movement and instruments for exploration and expression in different ways are part of fine motor

skills. It follows that fine motor skills are, in fact, the ability of a person to coordinate minor muscles such as fingers, and this is what can be improved by doing different activities like painting or drawing. In early childhood, coloring activities begin with streaks of colors that are irregular or maybe outside the boundaries of the object being colored (Bahri et al., 2023).

According to observations at TKIT Salsa Ziabila in Percut Sei Tuan District, Deli Serdang Regency, the ability of finger and wrist movements is not optimal. This can be seen when the children are less enthusiastic when doing coloring activities. To achieve the highest level of enthusiasm, children's fine motor skills must be improved by preparing interesting learning strategies. The results of the other observations showed that learning activities had problems in group B TKIT Zia Salsabila. The problem with children's development of fine motor skills is that because there are no changes in the stimulation they get, their fingers and wrists cannot be explored. Due to the use of crayons in drawing activities that are often unsupervised, less diverse effects on motor performance occur.

Several related studies; It is hoped that these will improve children's learning and motor skills in the kindergarten at Wendhi Kumara Unggahan using drawing activities. This can be seen from the results of observations in cycle I, showing that there are still many children whose fine motor skills are not yet at the criteria for developing as expected and developing very well, while the results of observations in cycle II showed an increase in children's fine motor results to the criteria of developing according to expectations but did not meet the indicators of success, the results of observations in cycle III, showed an increase in children's fine motor results to the criteria of developing according to expectations and already met the indicators of success (Ayu et al., 2021). Improving the Fine Motoric Ability of Children Aged 5-6 Years with the Squeezing Technique results in children's motor skills in cycle one at only 47% and cycle II at 53%, and it can be concluded that the squeezing technique through fun playing activities using media such as plasticine, playdough, rice, sand, and paper, or newspapers can improve children's fine motor skills to guide, direct and prepare children to enter the next level of education (elementary school). It is suggested that teachers be able to carry out playing activities using newspapers, playdough, plasticine, and sand with squeezing techniques because it can stimulate children's fine motor skills to be better (Hakim et al., 2022). The results of the three-cycle study on improving children's fine motor ability through mosaic techniques in Rautul Athfal Nurul Huda district, Sunggal Regency, and Deli Serdang Regency can be established that such activities will improve these skills. In the first and

third cycles, the research process has been successful. By using the mosaic technique, children's fine motor skills are greatly improved. The child's fine motor skills increased from 42.5% in the first cycle to 66.25% in the second cycle and to 82.50% in the third cycle (Sitepu & Jnaita, 2016). For parents and teachers, it is vital to understand more about the physical and motor development of children to have a better insight into how they develop those skills which will shape their future lives (Mayar & Sria, India, 2021). Whereas children's motor skills in cycle 1 were only 47%, and cycle II were 53%, it can be concluded that squeezing techniques through fun playing activities using media such as plasticine, playdough, rice, sand, and paper, or newspapers can improve motor skills subtle children to guide, direct and prepare children to enter the next level of education (elementary school) (Asia Rahim & Akil Musi, 2020).

The development of the fine motor can be achieved through a combination of mosaic, squeeze, and drawing, based on the results of previous research. The type of research and activities that have been conducted, as well as the type of class action research which has been used in prior research, is very different from this current research. While qualitative research was used in this study to optimize the fine motor development of children at TKIT Zia Salsabila, Percut Sei Tuan District, and Deli Serdang Regency, coloring activities were also carried out as part of these studies.

## **METHOD**

With the case study approach, this research is qualitative. TKIT Zia Salsabila Bandar Setia, Percut Sei Tanan, Deli Serdang, and North Sumatra have been involved in this research. For TKIT Zia Salsabila students, the research data consists of coloring activities. Where the skills in motor skills can be developed through these activities. Research data have been obtained from students and teachers at the TKIT Zia Salsabila. Observation, interview, and documentation with research instruments were used to gather data in the form of observation sheets, interviewer guides, and document reviews. To obtain information on children's fine motor skills through coloring activities for TKIT Zia Salsabila students, the researcher used an observation sheet. The researcher used the interview guidelines when conducting interviews with Kindergarten A class teachers, Kindergarten A companion teachers, and Kindergarten B TKIT Zia Salsabila teachers. To document, the researcher will provide coloring activity sheets of TKIT Zia Salsabila students as well as several relevant documents. A model of the Milles and Huberman method was chosen for data analysis techniques in this study, which took into account a series of stages from reduction through presentation to a

conclusion. The first step taken by the researchers was to reduce the color activity data of Zia Salsabila's TKIT students, obtained from the results of the observations and the documentation interviews after obtaining information on the activities of Zia Salsabila's TKIT students. The next step will be to present color activity data on TKIT Zia Salsabila's students when the information is cut down. In this study, data is presented in the form of tables and documentation.

## **FINDINGS AND DISCUSSION**

### **Findings**

Research conducted at TKIT Zia Salsabila to optimize children's fine motor development activities through coloring activities carried out by class A teachers and class B teachers at TKIT Zia Salsabila through interviews with Kindergarten teacher A Romauli Siregar, S.Pdi with class accompanying teachers Kindergarten A, Ami Zulhaira, S.E and Kindergarten B class teacher, Anis Tasya Farhanah as resource persons in optimizing fine motor development through coloring activities to obtain interview results on fine motor conditions of TKIT Zia Salsabila, which can be presented as follows:

**Table 1.** Fine Motor Skills of TKIT Zia Salsabila Kindergarten Students

<b>No.</b>	<b>Informant</b>	<b>Results</b>
1.	Kindergarten teacher A	Children can develop fine motor skills through coloring activities using crayons on the pages of children's magazines. Children can hold colored crayons, follow the lines on coloring magazine sheets, and color according to children's abilities without being forced.
2.	Kindergarten teacher B	Fine motor development through the activity of coloring pictures on magazine sheets. Children can give colors according to the pictures with neat coloring, not crossing the lines of magazine pictures, holding crayons correctly, and being able to match the colors that match the pictures.
3.	Kindergarten B accompanying teacher	Coloring activities are carried out under supervision so that children color as expected.

As for the observations made, the objects observed by the researchers were students of Kindergarten A and Kindergarten B TKIT Zia Salsabila. To gain data that can be reported, a researcher observed and recorded the results of observations made during coloring exercises in this class:

**Table 2.** Fine Motor Skills of TKIT Zia Salsabila Kindergarten Students

No.	Class	Observation Result
1.	Kindergarten A	The Kindergarten class teacher A gives time for their children to be creative in using hand-eye coordination using the crayons in their hands to color the magazine sheets given, even though the magazine sheets the children color are not very neat and are still out of line.
2.	Kindergarten B	Kindergarten B class teachers and accompanying teachers still like to supervise their students' coloring activities so the children feel supervised. The positive side of the supervision and assistance provided by the teacher, children can color with crayons on their magazine sheets well, using one hand when coloring, and children can imitate shapes and make vertical and horizontal lines well. Through coloring activities, children called Uza or Nahda are allowed to complete all tests for developing their fine motor skills.

Based on the results of interviews and observations, as written in Table 1 and Table 2, the fine motor development activities used at TKIT Zia Salsabila use coloring activities with crayons on children's illustrated magazine sheets. In kindergarten A, where most children are less than five years old, the teacher's only hope is that the child will be able to hold the crayons, follow the lines of the coloring book, and color according to his or her ability without being forced to do so. Meanwhile, in Kindergarten B class, fine motor development activities also use coloring activities on children's magazine sheets, with the hope that children can give colors according to pictures with neat coloring, not crossing the magazine drawing line, holding crayons correctly, and being able to match colors that match the picture.

Optimization carried out for fine motor development at TKIT Zia Salsabila can be seen in several activities. For example, when coloring, children can scribble with one hand, be patient in queuing, complete coloring activities well, make vertical, horizontal, and left/right curves and circles, imitate shapes, and draw according to their ideas. Painting pictures that have been made by children themselves or filling in colors on existing picture patterns can help train the smooth muscles in children's fingers. Teachers and parents need to note that as they get older, the level of difficulty in coloring must also be increased to train the child's fine muscles and accuracy. At the early age of 3-4 years, for example, children can be given pictures that have a lot of space to color, such as big apples, big flowers, and so on. After the child can color pictures with wider spaces, then proceed with pictures that have narrower spaces, such as cars, rainbows, airplanes, fruit baskets, and so on. To assess children's abilities, you can use the group checklist assessment tool.

**Table 3.** Assessment Instrument Table

No.	Activity	Students				
		1	2	3	4	5
1.	Doodling with one hand					
2.	Be patient in waiting					
3.	Complete the coloring activity well					
4.	Create vertical, horizontal, and curved left/right lines and circles					
5.	Imitate shapes					
6.	Drawing according to his ideas					

**Note:** V = done X = not done

**Figure 1.** Coloring Activities in Kindergarten Class A



**Figure 2.** Coloring Activities in Kindergarten Class B



**Table 4.** Table of Assessment Results

No.	Activity	Students				
		1	2	3	4	5
1.	Doodling with one hand	V	V	V	V	V
2.	Be patient in waiting	V	X	V	X	V
3.	Complete the coloring activity well	V	V	X	X	V
4.	Create vertical, horizontal, and curved left/right lines and circles	V	V	X	V	V
5.	Imitate shapes	V	X	V	X	V

6.	Drawing according to his ideas	V	V	V	X	V
<b>Note:</b> V = done		X = not done				

From the assessment instruments used, the following data were obtained: the fine motor development of Students 1 and 5 developed well that day, while Students 2 and 3 received sufficient marks. Student 4 is still in the less category.

Based on the results of the judgment made, Student 4 still needs to get more attention from the teacher and parents. Parents and teachers must provide great motivation to Student 4 to be able to color even better and also draw shapes according to his wishes.

### Discussion

Motoric development is an aspect of individual development that stands out and can be seen. Body movements that are motorized by cooperation between muscles, brain, and nerves are called motor (Suhada, 2018). Motor skills are motor behavior that occurs continuously throughout the human life cycle and is influenced by task demands, individual biology, and also the environment (Nasution & Mayar, 2019). Children's motor development will be more optimal if the environment in which children grow and develop supports them to move freely (Murshid, 2018). Early childhood education, especially in Kindergarten, need to develop children's motor skills with various kinds of skills because children who have motor elements will feel happy if they can complete motor skill assignments and feel satisfied if they can see the results well (Rakimahwati et al., 2018) as for fine motor activities, for example, sewing, painting, coloring, weaving, sculpting, and moving hands and fingers (Sit, 2021).

Fine motor skills are physical skills that involve fine muscles and hand-eye coordination (Nurlaili, 2017). Every child who is carrying out activities uses movements from the fingers, and this shows that there is stimulation for the stages of development of children's fine motor skills (Kurniasih, 2021). Fine motor development is seen as important to learn because both directly and indirectly will affect children's behavior every day (Via et al., 2022). The role of educators and parents is very necessary for optimizing the development of fine motor skills of children from an early age (Fauziddin, 2017). The development of children's fine motor skills does not always run perfectly. There are times when children experience obstacles in developing their fine motor skills (Alisah et al., 2022). Fine motor development in children can be hampered due to several factors, namely since babies are not allowed to explore their environment, parenting styles applied by parents tend to be overprotective, less active in providing learning stimulation to children, children



are not accustomed to carrying out activities independently and are not used to the child to eat alone. Therefore the child's hands and fingers lack flexibility (Sandra Aditya & Gina, 2022).

After going through the observation and interview process, it can be concluded that fine motor skills in 2 Kindergarten A children and 3 Kindergarten B children in TKIT Zia Salsabila are still minimal because the five children observed only two children from Kindergarten B can do all the activities determined through an assessment instrument so that it can be said to be developing very well, while two more children are still in the category of starting to develop and one child is categorized as not yet developing.

As we know, fine motor skills can also be interpreted as the ability of children to move using fine muscles such as writing, squeezing, gripping, drawing, sticking, arranging blocks, and inserting marbles (Sitepu & Jnaita, 2016). 6-year-olds can use hammers, stick sticks, tie shoelaces, write, and use crayons (Santrock, 2009). Several previous studies have found that optimizing children's fine motor development can be increased through various activities, such as the ability of children's fine motor skills by squeezing techniques using plasticine or playdough (Hakim et al., 2022), improving fine motor skills by playing with used objects (Agustina et al., 2018), Improving fine motor skills with mosaic activities (Sitepu & Jnaita, 2016), This can also be done with collage activities (Wahyuni, 2018) and improve fine motor skills with drawing activities (Ayu et al., 2021). Activities carried out by several previous researchers are considered successful if the child can fulfill 50% of the activity indicators given to children in their fine motor development activities (Meriyati et al., 2020). Thus, coloring activities using crayons carried out at TKIT Zia Salsabila can be used as an activity to optimize children's fine motor development because, by coloring, children can coordinate their small muscles by holding crayons and writing down the colors on the crayons in the magazine that has been printed. Provided by the teacher. Based on the results obtained, two children from Kindergarten B were able to carry out activities based on the assessment instrument perfectly, even getting the Very Good Developing (BSB) category because children were able to help their friends when the coloring activity took place without direction from the teacher.

## **CONCLUSION**

Based on the results of observations, interviews, and the use of assessment instruments that were carried out, it can be concluded that optimizing fine motor development through fine motor activities at TKIT Zia Salsabila can be said to be effective. The activity of coloring using crayons on

children's magazine sheets carried out at TKIT Zia Salsabila was based on the results of observations of 5 children, namely three children from Kindergarten B and two children from Kindergarten A, two children from Kindergarten B were able to develop children's fine motor skills when coloring children were ably scribbling with one hand, waiting patiently in line, completing coloring activities well, making vertical, horizontal, left/right curves and circles, imitating shapes, and drawing according to ideas. So that parents and teachers are expected to be able to get used to coloring activities in children to be able to develop children's fine motor skills to the fullest.

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