Abstract: Fine motor skills are an important ability for children to have. This research aims to improve the fine motor skills of children aged 4-5 years through charcoal finger painting activities. The research method used is the Class Action Research Method (PTK) which is carried out through 4 stages, namely planning, implementation and observation, reflection. The research subjects were 20 group A students at RA Ar-Rohmah. The data collection technique uses observation and documentation with a target of 75% success as seen in the child's ability in 1) eye and hand coordination, 2) finger strength, 3) wrist flexibility. The results of the research showed that there was an increase in the pre-cycle, the results were 47.5%, the results in cycle 1 were 72.5% and the results were 83.5% in cycle II, which means that charcoal finger painting activities can improve children's fine motor skills.

Keywords: Fine Motor Skills, Charcoal Finger Painting, Early Childhood

Introduction

Education is a conscious and planned effort to create a learning atmosphere and learning process in such a way that students actively develop their potential to achieve religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves and society [1]. Early childhood is a group of children who are in the process of growth and development that is unique [2]. They have unique and different patterns of growth and development in each child.

Early childhood education is needed especially to encourage early childhood growth and development and prepare children for the next level of education [3]. The purpose of early childhood education is to form quality Indonesian children, namely children grow and develop in accordance with their developmental stages, so that they are optimally prepared to achieve maturity in the future [4]. Some aspects of development that need to be developed by early childhood during the golden age are religious and moral values, social-emotional, cognitive, artistic and physical motoric [5]. In general, parents focus more on cognitive and language development, but it is no less important to develop children's psychomotor development.

Psychomotor development is the development of the ability to control body movements through coordinated actions between the central nervous system and muscles. [6]. In this development, a complex organ system develops and this organ is formed in the early period of development, physical development is closely related to motor development [7]. Physical-motor development includes the development of physical movements through coordinated activities of nerve centers, nerves, and muscles [8].
Hurlock says physical-motor development is defined as the development of mature factors that control body movement, and the brain as the center of motion [9]. Well-stimulated physical-motor development of children will make children's motor skills develop optimally and be able to be independent in fulfilling their daily activities such as being able to hold a pencil tightly and write neatly, because children can coordinate between eyes and hands.

According to Hurlock, fine motor skills are abilities possessed by children that involve small muscles and eye and hand coordination [10]. Meanwhile, according to Feder, fine motor skills are motor coordination, eye-hand coordination, visual motor skills, high coordination, and very precise style adjustments [11]. Damayanti says fine motor is a movement that uses fine muscles or certain parts of the body, which is influenced by opportunities to learn and practice [12]. So the definition of fine motoric is a movement that involves certain body parts carried out by small muscles with fingers that are done correctly. By practicing fine motor skills, children can be creative by coordinating their eyes and hands, such as cutting with a straight cut, connecting two sheets of paper with a paper clip. According to Rohyana, fine motoric of children aged 4-5 years including, can use pencils, draw, cut using scissors, write printed letters [13].

The importance of children's fine motoric is so that children are easy in writing, cutting, collaging, coloring and children have physical strength that is increasingly developing more complex [14]. With children's fine motor skills getting better, children are able to write neatly, draw, color, paint and can improve children's academic abilities [15].

However, not all children's fine motor skills develop according to their developmental stage as the results of observations made at RA Ar-Rohmah Wonokoyo Kloposepuluh Sukodono Sidoarjo in group A that out of 20 children there are 12 children whose fine motor skills look still low, for example when children write the writing is not perfect, collage that takes a long time, folding paper that is not in accordance with the instructions given, and children look still stiff in doing it. This is due to the lack of learning activities that stimulate fine motor skills such as cutting, collaging and so on which are useful for developing children's fine motor skills. Because teachers often focus too much on reading, writing and counting, they forget to train children's fine motor skills. Children should be given the opportunity to try and do new things. There are learning principles for early childhood education such as learning through play, oriented to the needs of children, child-centered, active learning [16]. So, in accordance with the stage of early childhood development, namely playing while learning, there needs to be fine motor development activities in accordance with the characteristics of early childhood, finger painting activities can be carried out.

Finger painting is a painting technique using fingers and hands with watercolors without using brushes[17]. Charcoal is an active compound with a fine black powder texture, and has no odor[18]. Charcoal Finger Painting is a painting technique using fingers using activated charcoal powder. This is in accordance with research conducted by Evivani, showing that finger painting activities to see a significant effect, this activity can be used to develop children's fine motor skills [19]. Likewise, research has been conducted by Astria that the method of playing through finger painting activities can improve children's fine motor skills [20]. In addition to these studies, there are other media that can be used to improve fine motor development in children, namely finger painting activities using cassava flour, in Wahyuni's research producing finger painting activities using cassava flour can help improve children's fine motor skills and can increase children's creativity [21].

This shows that cassava media is used because cassava has materials that are safe for early childhood so that children can discover and try new things through natural materials. So in this study researchers also used charcoal because charcoal is safe for early childhood. So it can be concluded that Finger Painting activities can provide sensations to children's fingers so that children can control finger movements and form concepts and can improve children's fine motor skills because this finger painting activity is in accordance with the child's learning development stage, namely playing while learning.

Charcoal Finger Painting activities in this study are carried out by drawing using fingers with charcoal powder or activated charcoal powder. Finger painting can train children's fine motor skills and creativity. This activity only uses the fingers of the hands as a tool. The raw material used is fox glue mixed with charcoal powder or activated charcoal powder. As well as other materials, namely sheets of white paper that are thick and difficult to tear such as calendar paper, white cardboard, and so on. With this charcoal finger painting activity can help teachers in training fine motoric early childhood. Also, natural materials can also provide variations in teaching for teachers so that children do not feel bored during the learning process.

Based on the above background, this study aims to improve children's fine motor skills through Charcoal Finger Painting activities for children aged 4-5 years at RA Ar-rohmah Wonokoyo Kloposepuluh Sukodono Sidoarjo.
Methodology

This study uses classroom action research, classroom action research is research that teachers use to solve learning problems that occur in the classroom. Through this research, it is expected to improve and increase children's fine motor skills that occur in group A aged 4-5 years at RA Ar-Rohmah Wonokoyo Kloposepuluh Sukodono Sidoarjo.

The activity that will be carried out in improving children's fine motor skills is Fingerpainting. There are 4 stages in classroom action research according to Kemmis and Mc. Taggart, namely: planning, action, observation, and reflection [22]. The subject of classroom action research was conducted on children aged 4-5 years at RA Ar-Rohmah Sukodono Sidoarjo District with a total of 20 children. The data collection techniques used in the study are observation, interview and documentation.

Observation in this study was carried out by observing children's fine motor skills through Charcoal Finger Painting activities. Documentation is obtained from RPPH, RPPM, PROSEM, PROTA and documentation when learning takes place. Observation to measure the improvement of children's fine motor development skills, which refers to indicators of fine motor development of children aged 4-5 years, namely 1) eye and hand coordination 2) strength of the fingers and 3) increased flexibility of the wrist [23].

Data analysis in this study is descriptive qualitative and quantitative. The provisions for the success of this study are with a success target of 75%.

Results and Discussion

The implementation of this research was carried out at RA Ar-Rohmah Wonokoyo Kloposepuluh in Sukodono District, Sidoarjo Regency. The group studied is the age of 4-5 years or Group A, the number of students is 20 students. The implementation of this research was carried out in four stages: (1) The planning stage is to draft teaching materials that have been adapted to the lesson plan. Planning begins with making a study group for children then proceeds with determining the theme and sub theme as outlined in the lesson plan for three meetings; (2) The implementation stage, is to carry out learning based on the design that has been made, namely the implementation of the lesson plan from the lesson plan; (3) The observation stage, is carried out by filling out the observation sheet, namely the observation sheet of teacher activities and children's activities by following learning using charcoal finger painting media; (4) The reflection stage, is to evaluate and discuss the results of children's fine motor skills through charcoal finger painting activities.

Description of Pre-Action Data

The initial step taken by researchers before conducting action research is through observation or observation to determine the level of children's fine motor skills before implementing Charcoal Finger Painting activities. In this pre-cycle activity, the researcher takes action to measure the level of children's fine motoric abilities by giving examples of how to fold what has been provided, it can be seen that children find it difficult to do activities and there are even children who are desperate and do not want to continue because they feel tired, but here the researcher still accompanies the children to do folding activities until completion. Children still really need stimulus because it can be seen that children's fine motor skills at this institution look still low. In this institution, the results obtained from the pre-cycle observation are 47.5%. During this time, educators in providing fine motor learning for children use coloring and sticking activities so that this situation is done repeatedly, of course, causing boredom in students.

Cycle I Action

The stages in this research are planning, implementation, analysis and reflection. The action planning stage at the first meeting of cycle 1 includes: (1) Daily Learning Program plan (RPPH); (2) prepare learning media used to support the learning process with activated charcoal powder. (3) compiling observation sheets about fine motor skills activities. The first meeting was held on Monday, May 08, 2023 from 7.30 to 09.30 WIB with the theme of animals with the sub-theme of wild animals (tigers). Learning begins with welcoming children, lining up, and continuing with opening activities then core activities after the core activities the children take a break first to eat, drink and play. Today's theme is about wild animals with a discussion of tiger animals. The step in the process of improving children's fine motor skills is that the researcher introduces this activated charcoal powder. Then the researcher invites children to participate in feeling the texture of activated charcoal powder. Furthermore, the teacher conducts questions and answers related to today's learning.

Meeting 2 of cycle 1 was held on Tuesday, May 09, 2023 from 07.30-09.30 WIB with the theme of Animals with the sub-theme of wild animals (elephants). The core activity begins with the teacher explaining the activities that will be done today. Researchers introduced activated charcoal powder and glue. Then students try to mix activated charcoal powder with glue, then the teacher asks questions related to mixing charcoal and
glue. After that the activity continued with a question and answer about the activities carried out today, singing and praying home.

Meeting 3 in cycle 1 was held on Wednesday, May 10, 2023 from 07.30-09.30 WIB with the theme of Animals with the sub-theme of Wild Animals (Snakes). The researcher explained the learning activities today. Researchers invite students to paint using fingers on paper using charcoal. Observation was carried out simultaneously with assistance in learning. In the learning process of cycle I for 3 meetings from the initial activities to the end went well and smoothly as planned.

From the observations carried out in cycle I, it can be seen that children's abilities are able to show an increase from the previous 47.5% in the implementation of Cycle I slightly increased to 72.5%. However, this still does not show an increase in fine motor skills at the age of 4-5 years because this study is considered successful if the results of children's fine motor skills are 75-100%. In this case, researchers and group A teachers decided to provide further treatment so that the fine motor skills possessed by group A children increased to the maximum. During learning using Charcoal Finger Painting media, children look enthusiastic about learning. However, there are some children who find it difficult to apply children's fingers through paper media. This is because children feel disgusted and children look less focused in the learning process provided by researchers in Cycle I. In the next cycle, researchers used cat image media which is expected to improve children's fine motoric abilities because with cat images children look more focused and eager to follow the activities provided by researchers.

Based on the results of observations, interviews and documentation conducted at the 1st cycle stage, in an effort to improve fine motor skills at the age of 4-5 years at RA Ar-Rohmah Wonokoyo, the researcher and class teacher will take further action which is expected to improve fine motor skills in the class so that it can be in accordance with the specified target of 75-100%.

Cycle II Action

Based on the results of observation and reflection of cycle 1, the stages in this study are planning, implementation, analysis and reflection. The action planning stage in cycle II includes: (1) Daily Learning Program plan (RPPH); (2) prepare learning media used to support the learning process with activated charcoal powder. (3) compiling observation sheets about fine motor skills activities.

The first meeting of cycle II was held on Wednesday, May 17, 2023 from 7.30-09.30 WIB the theme used was Animals, with the sub-theme of Pet Animals. Learning begins with welcoming children, lining up, and continuing with opening activities then core activities after the core activities the children take a break first to eat, drink and play. Today's theme is about pets with a discussion of fish animals. The step in the process of improving children's fine motor skills is that the researcher introduces this activated charcoal powder. Then the researcher invites children to grasp the activated charcoal powder together. The next activity is for children to make fish words using plasticine. Then the next activity the researcher conducts a question and answer related to today's learning. Praying for home, finished praying the teacher says greetings and the child answers the greeting, the child leaves the class while saying goodbye and kissing the teacher's hand.

The second meeting of cycle II was held on Thursday, May 19, 2023 from 7:30 - 09:30 WIB with the theme of Animals, sub-theme Pets. The step in learning today is that children mix activated charcoal powder and glue using their hands in a container, then the researcher prepares a cat drawing media that will be done to improve children's fine motor skills. Then the next activity children paint using fingers with Charcoal Finger Painting media.

In the learning process of cycle II for 2 meetings from the initial activities to the final activities went well as planned. From the results of Cycle II observations according to the assessment of fine motor skills of children aged 4-5 years, it shows a good percentage increase of 83.5%. Children's fine motor skills in trying to feel the texture of charcoal powder and glue, mixing glue and charcoal powder well and using children's fingers in the resulting image show an increase in this cycle II fine motor skills of children aged 4-5 years increased in accordance with the target researchers as shown in table 1.

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Based on table 1, the improvement of children's fine motoric abilities through Charcoal Finger Painting activities shows a significant increase from pre-cycle to cycle 1 and also 2 as shown in figure 1.

<table>
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<tr>
<th>Subject</th>
<th>Pre-Cycle</th>
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<td>Total</td>
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<td>72.5%</td>
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Figure 1. Graph of fine motor improvement

In the graph shown in Figure 1, the results of Charcoal Finger Painting activities can improve children's fine motor skills. This can be proven by the results of 2 cycles, in the pre-cycle obtained results of 47.5% (not yet successful), cycle I obtained results of 72.5% & (not yet successful), and cycle II obtained results of 83.5% (successful). Because this research is said to be successful if the level of completeness that must be obtained is between 75%-100%, therefore in cycle II it is said to be successful. Development activities to improve fine motor skills are very diverse. Activities provided for children aged 4-5 years are always oriented to the needs of the child. At that age, children need a variety of stimuli that are expected to improve every aspect of development possessed by children and one of them is fine motor skills. Thus, various children's learning activities should be carried out according to their needs and made very enjoyable. There are many methods and approaches that can be used by educators to improve every aspect of early childhood development. Charcoal Finger Painting activities can also be combined with other fine motor stimulation activities such as cutting, gluing, holding pencils, and matching colors [24].

The success in improving fine motor skills through Finger Painting activities in early childhood, cannot be separated from the role of the teacher in developing and selecting appropriate and interesting activities for early childhood, that early childhood really likes things that are interesting at their age. The most visible characteristic of children is that they are very easily bored. Detty Noviyanti in her research found that one way for teachers to increase students’ active involvement and participation in these activities is to provide a variety of fun activities such as singing, watching learning videos and doing activities that can improve fine motor skills such as (squeezing, tearing and so on) [24]. These activities can be used in the learning process so as to create an effective learning atmosphere to improve children's fine motor skills.

**Summary**

Charcoal Finger Painting in this study is done by drawing using fingers with charcoal powder or activated charcoal powder. This activity is carried out by introducing activated charcoal powder made from dried banana leaves, then students try to feel the texture of the charcoal powder and mix it with the glue that has been provided. Children can apply it to drawing paper media. In improving
fine motor skills through charcoal finger painting activities, children look so enthusiastic because they paint using their fingers which they rarely do. This provides a new experience for children that charcoal media or charcoal powder can be used to improve motor skills. Charcoal Finger Painting activities in children aged 4 - 5 years are able to improve children's fine motor skills. This fine motor ability increases as evidenced by the results of the value obtained from the Pre-Cycle which is 47.5% increasing to 83.5% in Cycle II action. Early childhood really needs a variety of stimulation and stimuli needed to improve the developmental aspects of each individual child. Because in accordance with the regulations set by the law that early childhood needs to get an education that is appropriate to its age. It is hoped that educators will be able to provide various stimuli and activities that are able to develop fine motor aspects with a pleasant situation in every activity.

Acknowledgments

Thank you to the principal and teachers of RA Ar-Rohmah Wonokoyo Kloposepuluh Sukodono Sidoarjo who have given permission and facilities for this research activity.

Reference


[20] J. Pendidikan et al., “e-Journal PG PAUD Universitas Pendidikan Ganesha,” vol. 3, no. 1, 2015, doi: Th20015e process of increasing of motor skills can be done with finger painting activities. The importance of finger painting activities on the development of fine motor and gross motor skills can help improve children’s creativity and art. Finger painting in school is drawing activities by using fingertips and colour pulp directly to drawing media. The purpose of the study is to analyze the development of gross motor and fine motor skills in finger painting activities. This research uses qualit.


