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Improving Fine Motor Skills Through Clay Media For Children Aged 4 - 5 Years At Muslimat Nu 26 Kindergarten In Singosari, Malang

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Abstract *This study aimed to find out the fine motor of children through clay media activities in children aged 4-5 years in Kindergarten of Muslimat NU 26 Singosari. The design of this study used classroom action research The number of subjects was twenty children of group A consisting of 14 boys and 6 girls by involving or collaborating with group A teachers which used two cycles in Kindergarten of Muslimat NU 26 Singosari. The data were collected by having observation to childrenc activities. The result showed that the use of clay media to improve children's fine motor which am be seen from the third meeting of the first cycle of children'c learning outcomes, there were 10% in making upright, flat, tilted and curved lines; there were 20% in making a geometry; there were 30% in making various forms from the ground media see and in meeting of the second cycle the children's learning outcomes, there were 40% in making upright, lot, tilted and curved lines; there were 60% in making geometry; there were 75% in molting various shapes from the round media. In conclusion, the application of clay media has been proven to improve children'c fine motor skills.*

Keywords: Clay Media, Fine motor

Introduction

Early childhood education is an effective period for developing various potentials in children, as during this time brain development reaches a significant leap of about 80%. This period is ideal for developing fine motor skills through activities such as shaping using clay media (Yamin and Jamilah, 2013:3). According to Semiawan (2009:44), fine motor skills involve modifying existing concepts into new ideas, essentially combining two old concepts into a new one. Munandar (2009:12) explains that fine motor skills are the result of interactions between an individual and their environment, and the ability to create new combinations based on known data, information, or elements.

Children's fine motor activities in creative shaping are often not optimal due to inadequate classroom management methods that fail to foster creativity and skill development. Observations conducted during the second semester of the 2024/2025 academic year from April 2 to 16, 2025, at Muslimat NU 26 Kindergarten in Singosari, revealed that during a universe-themed lesson in Class A (20 students: 14 boys and 6 girls), using clay helped children express imagination and improve social interaction. Natural materials like clay are more enjoyable for children due to their soft and flexible texture, which can be shaped into various forms. Thus, clay serves as an effective medium for stimulating imagination and enhancing fine motor skills.

Despite this, teachers often rely on plasticine due to its convenience and reusability, as well as parental pressure to prioritize academic readiness over creative play. To address this issue, this classroom action research (CAR) explores the use of clay media to improve fine motor skills in 4-5-year-old children at Muslimat NU 26 Kindergarten. Clay, as a natural, safe, and accessible material, holds potential for developing children's imagination and creativity.

Sulastianto (2006:15) defines shaping (membutsir) as forming clay or wax into specific shapes or figures using creative power. This research applies effective learning methods using clay media to foster creativity. The research problem is: "How can clay media be used to improve fine motor skills in 4-5-year-old children at Muslimat NU 26 Kindergarten, Singosari?" The objective is to determine how children's fine motor skills can be improved through clay activities. The study offers both theoretical and practical benefits: enriching theoretical knowledge and applying techniques in real classroom settings.

METHOD

Researchers use classroom action research as a research design that can be carried out by teachers or educators as managers of education programs. Classroom action research is an action research conducted in the classroom with the aim of improving the quality of learning (Arikunto, 2010:23). This classroom action research will be conducted collaboratively with participation, meaning research that involves collaboration between teachers and researchers. The actions taken in this research aim to resolve existing issues, while also enhancing the quality of learning by using clay media in the classroom.

The research is conducted at TK Muslimat NU 26 Singosari located on Jalan Masjid RT. 03 RW. 02 Dusun Biru, Gunungrejo Village, Singosari District, Malang Regency. The observation period runs from April 2 to April 5, 2025, with the following schedule (1) request for permission to The head of the Muslimat NU 26 Singosari kindergarten will conduct observations on Monday, May 24, 2025. (2) The observations will take place over 1 week from April 2 to April 5, 2025. (3) The implementation of the research will be carried out on April 7, 2025, for cycle I session 1, April 8, 2025, session 2, and April 9, 2025, session 3. Cycle II session 1 will be on April 14, 2025, session 2 on April 15, 2025, and session 3 on April 16, 2025. The subjects of this study are all children in group A, totaling 20 children consisting of 14 boys and 6 girls, involving the teacher as a collaborator.

Motor development refers to movements that involve only certain body parts and are performed by small muscles, such as skills using fingers and precise wrist movements (Sujiono, 2009:1.14). From longitudinal studies on infants and toddlers, there are five common principles of motor development, namely that motor development depends on the development of nerves and muscles, the learning process of skills will not occur if the child is not mature, motor development follows a predictable pattern, and norms of motor development.

Clay is useful for training the hands or small muscles and practicing simple shaping skills. This helps motor development, skills training, attitudes, and appreciation in children as follows:

a. Training children's accuracy and precision
b. Training observation
c. Training accuracy skills
d. Training creativity
e. Training the economical and frugal use of materials
f. Training to utilize waste items into new objects for play, as well as for art and practical items.

A child's attitude is shaped by whether they like or dislike the results of the shapes they have created. From several actions that have been taken, it will certainly train the child's attitude towards what they do and the rules that must be followed.

Appreciation is gained from instilling attitudes, skills, experiences in creating, and knowledge in combining plastin and clay. Thus, they will develop a sense of value, love, and maintain at least the work they have achieved or their friend's work. The development of a child's fine motor skills is very important and requires the right stimulation to optimize the development of fine motor skills. Jamanis (in Nurani, 2012:54) states that development is a cumulative process, meaning that previous development will become the basis for subsequent development. Development is a qualitative process related to the maturation of an individual, viewed from progressive and systematic changes within a person.

In line with Gardner (in Sutama et al., 2009:37), it is stated that every child has kinesthetic intelligence at their core. Kinesthetic (physical) intelligence is the ability to use both mind and body simultaneously to achieve desired goals effectively. With kinesthetic intelligence, for example, walking, maintaining balance, and regulating movement in dancing, among others. Regular and directed training can help children achieve optimal motor skill proficiency, and subsequently, mastery of these skills can foster self-confidence and a positive self-concept. Therefore, in facilitating children's activities, adults need to pay attention to the developmental tasks of

children, especially concerning the characteristics of children's physical motor development.

This research uses instruments as planners, executors, observers, interviewers, data collectors, data analysts, and report compilers. In addition, this research uses observation as an instrument to obtain data and information about child development. To make the observation more directed, the researcher uses an observation instrument that is filled out and developed by both the researcher and collaborators, while still referring to the indicators of child development achievement. The procedure used by the researcher in carrying out this activity is classroom action research (CAR), which uses two cycles, namely cycle I and cycle II. Each cycle consists of four components: planning, action implementation, observation, and reflection.

According to Hurlock (in Noorlaila 2010:50), through motor skills, children can adapt to the school environment. In preschool, children are trained in writing, drawing, painting, and marching. They have control over their own bodies, children need adequate rest after engaging in an activity, and the development of large muscles (gross motor skills) is more dominant than that of small muscles (fine motor skills). That is why children are not yet able to perform complex activities, and they often struggle to focus their gaze on small objects. This is due to the coordination between their hands and eyes still not being perfect, as children's bodies are still flexible, and the skull protecting the brain is still soft. Therefore, teachers must be careful and responsive when encountering children who are fighting. Girls are more skilled at performing practical tasks, especially those related to fine motor skills.

The purpose of motor development is to carry out coordinated physical activities in order to enhance flexibility and preparation for writing, balance, agility, and to train courage as well as to express oneself and create with various ideas and imaginations using various media into a work of art. Each child's physical motor development has different characteristics according to their age and developmental stages. As children grow older, their motor skills also improve. Essentially, children love to learn, as long as the learning is done in a fun play setting. A child's mastery of regular motor physical movements will facilitate them to actualize their physical motor potential in beneficial activities in daily life.

For example, being able to dress independently, exercise, write, and even dance. This is very beneficial for maintaining physical and mental health or spiritual well-being. Because if a child is healthy both physically and mentally, that child will find it easier to live in society or navigate life within the community. According to Gardner (in Sutama et al. 2009:39), kinesthetic intelligence has a significant role, such as enhancing psychomotor skills, social skills, building self-confidence and self-esteem, laying the foundation for a sporty lifestyle, and improving health. Psychomotor skills refer to the ability to coordinate a person's body parts with the brain to function synchronously to achieve physical goals, such as climbing, hanging, swinging, jumping, leaping, swimming, riding vehicles, and so on.

Physical activity allows children to engage in many activities and interact with their peers. Thus, it can enhance and sharpen their emotional and social intelligence, how they communicate with friends, cooperate with one another, show empathy towards their peers, and so on. To help children master basic physical and motor movements, early childhood education institutions provide training materials and coordination that include the following aspects:

1. Skills in finger movements, muscle flexibility, and coordination. This skill development can be done with slight assistance through various activities such as; (a) taking care of themselves with minimal help; (b) making various shapes using modeling clay, playdough, or clay; (c) tracing and imitating to create vertical, diagonal, curved lines, and circles; (d) imitating simple paper folding; (e) sewing or basting; (f) cutting; (g) tearing; (h) (h) building a tower from cubes; (i) creating circles and quadrilaterals; (j) holding a pencil; (k) matching.
2. Skills in hand movement for muscle flexibility and coordination. Training skills in hand movement to develop muscle flexibility and its coordination system can be done by; (a) catching and throwing a ball while remaining stationary, walking or turning around, (b) bouncing a ball, (c) throwing and catching a bean bag.
3. Skills in moving the body and legs for balance, courage, and coordination. Skills in moving the body and legs for balance, courage, and coordination can be facilitated by assisting the child during activities through; (a) walking forward in a straight line, (b) walking on a balance beam, (c) walking on tiptoes, walking on heels while carrying a load, (d) walking backward, sideways in a straight line while carrying a load, (e) jumping, climbing, hanging, and swinging. (f) standing on the heels and

balancing on one foot, (g) running while jumping in balance without falling, (h) kicking the ball forward and backward, (i) crawling with various variations, (j) playing with hoops, (k) fantasy gymnastics, and riding a scooter or bicycle.

The data analysis used is through qualitative data, which includes observation results of the research implementation such as students' observation sheets, teacher interview formats, and documentation results. The observation analysis involves looking at the students to assess the extent of children's fine motor skill development in shaping clay media. The interview analysis involves observing the actions of the researcher with the subjects (children) to assess the results of children's fine motor skills in shaping clay, and the data analysis conducted by the researcher consists of collecting all results from the obtained documentation. obtained during the research (Supriadi, 2010:131). The collected data needs to be examined by collaborators, which is done through discussion, namely discussing the research data with collaborators to assist in analyzing and formulating the subsequent actions. Each action is considered successful if it meets two criteria of research success: the criteria of complete learning achievement and the criteria of success in the process of forming from clay media. The results are assessed for each meeting, based on the percentage of children involved in learning activities. The percentage is calculated using the formula.

$$P = \frac{F}{N} \times 100\%$$

Explanation:
P = The percentage of children who complete
F = The frequency for which the percentage is being sought
N = The number of children in a class

The level of mastery or ability of the child, in order to determine that the development of the child's ability to shape from clay media can progress, the interpretation of the child's learning activities is based on the criteria proposed by Arikunto (2006:214) as follows:

75%-100% = Very Good (SB)
50%-75% = Good (B)
25%-50% = Fair (C)
0%-25% = Poor (KB)

Result

Pre-action activities are tasks performed before the research is conducted. On Wednesday, April 2, 2025, the researcher held an interview with a teacher at the Muslimat NU 26 Singosari kindergarten before the action, and on Thursday, April 3, 2025, the researcher conducted an initial observation. The researcher made initial observations about the activities that would be carried out during the learning process. After the learning activities were completed and the children went home, the researcher met with the Group A teacher, acting as a collaborator, to discuss the upcoming research activities. On Friday, April 4, 2025, the researcher discussed the research plan with the Group A teacher. In that discussion, it was agreed that the subject of the research would be Group A with a total of 20 students, utilizing clay as a medium to enhance the children's fine motor skills.

The implementation of the research in cycle I follows the flow of Classroom Action Research (PTK) which includes planning, action, observation, and reflection, where in the next cycle it is also carried out with the same flows. Cycle I consists of 3 meetings and reflections presented with 3 Daily Learning Implementation Plans (RPPH). In cycle I, the first meeting was held on Monday, April 7, 2025, with the theme 'Universe' and the sub-theme 'Celestial Body Moon'. The researcher observed the students' ability to draw the shape of a circle from clay media; it turned out that the students' participation in the activities was still not active. In cycle I, the second meeting was held on Tuesday, April 8, 2025, with the theme 'Universe' and the sub-theme 'Celestial Body Sun', where the researcher observed the students' ability to draw the shape of a triangle from clay media. In the process of activities during the second meeting of cycle I, it was almost the same as the first meeting,

only the method used was different to achieve the learning objectives. The learning material in the second meeting was to draw a triangle from clay media; the students were divided into four groups with each group consisting of five children. In cycle I, the third meeting was held on Wednesday, April 9, 2025, with the theme 'Universe' and the sub-theme 'Celestial Objects Stars'. The activity was to create a rectangular shape from clay media. The learning process in cycle I during the third meeting was almost the same as in cycle I during the second meeting, only the method used was different to achieve the learning objectives. The learning material in cycle I during the third meeting was to create a rectangular shape using clay media, and the children were given the opportunity to make rectangles according to their individual abilities.

The implementation of research in cycle II follows the flow of Classroom Action Research (CAR) which includes planning, action, observation, and reflection, where in this cycle it is also carried out in the same sequence. Cycle II consists of 3 meetings and reflections presented with 3 Daily Learning Implementation Plans (RPPH). In cycle II, the first meeting was conducted on Monday, April 14, 2025, with the theme "the universe" and the sub-theme "Rainbow Celestial Objects"; the activity media used was making circular shapes from clay. The second meeting of cycle II took place on Tuesday, April 15, 2025, with the theme "the universe" and the sub-theme "Cloud Celestial Objects"; the activity media used was making triangular shapes from clay. The third meeting of cycle II was conducted on Wednesday, April 16, 2025, with the theme "the universe" and the sub-theme "Lightning Celestial Objects"; in the third meeting of cycle II, the researcher used the same method, which was making square shapes from clay.

The results of the first and second cycle of research indicate that children's fine motor skills using clay media in Group A of TK Muslimat NU 26 Singosari for the academic year 2024-2025 are considered successful. Overall, the learning outcomes in the first and second cycles show very good results, starting from children's abilities to understand and create shapes from clay media, children's interest in learning (student engagement in learning), as well as the completeness of children's results.

Criteria for Success and Completeness

$$P = \frac{n}{N} \times 100\%$$
$$P = \frac{15}{20} \times 100\%$$
$$P = 75\%$$

Explanation:
P = The percentage of children who completed
n = Number of children who meet the Minimum Passing Criteria
N = Number of children in the class.

Criteria for Success and Completeness

Presentase Average Value

$$(NR) = \frac{Jumlah\ Skor}{Skor\ Max} \times 100\%$$
$$(NR) = \frac{231}{240} \times 100\%$$
$$(NR) = 91{,}25\%$$

Explanation:
75% < NR < 100% = Very Good
50% < NR < 75% = Good
25% < NR < 50% = Fair
0% < NR < 25% = Poor

Based on the discussion above, it can be concluded that clay media can improve the fine motor skills of children in group A at the Muslimat NU 26 Kindergarten in Singosari.

Research Results

Cycle	Observed Aspects	The number that succeeded from 20 students in the class.	Success percentage (%)
Cycle I Meeting 1	Drawing straight, slanted, and curved lines.	2 student	10%
	Making geometric lines	3 student	15%
	Making various shapes from clay media	3 student	15%
Cycle I Meeting 2	Drawing straight, slanted, and curved lines.	3 student	15%
	Making geometric lines	4 student	20%
	Making various shapes from clay media	3 student	15%
Cycle I Meeting 3	Drawing straight, slanted, and curved lines.	2 student	10%
	Making geometric lines	4 student	20%
	Making various shapes from clay media	6 student	30%
Cycle II Meeting 1	Drawing straight, slanted, and curved lines.	6 student	30%
	Making geometric lines	6 student	30%
	Making various shapes from clay media	7 student	35%
Cycle II Meeting 2	Drawing straight, slanted, and curved lines.	7 student	35%
	Making geometric lines	7 student	35%
	Making various shapes from clay media	8 student	40%
Cycle II Meeting 3	Drawing straight, slanted, and curved lines.	8 student	40%
	Making geometric lines	12 student	60%
	Making various shapes from clay media	15 student	75%

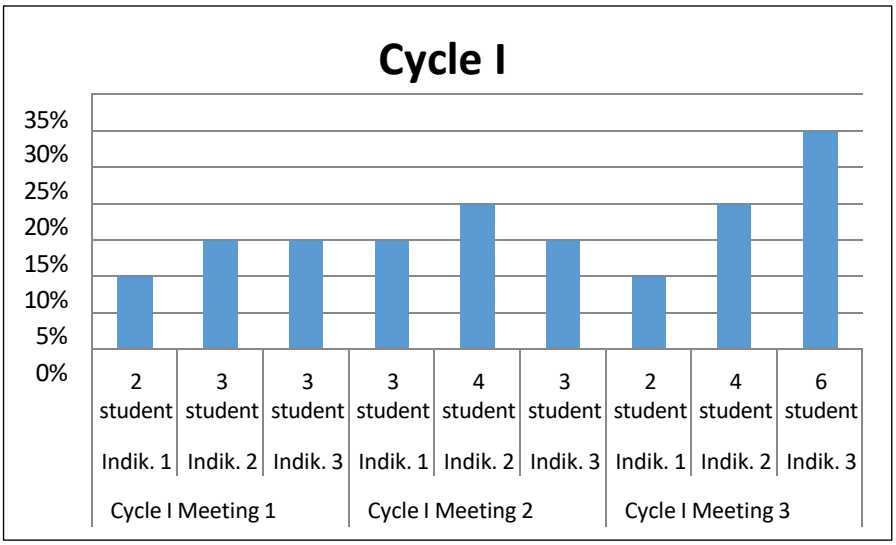

Diagram 1 Cycle I

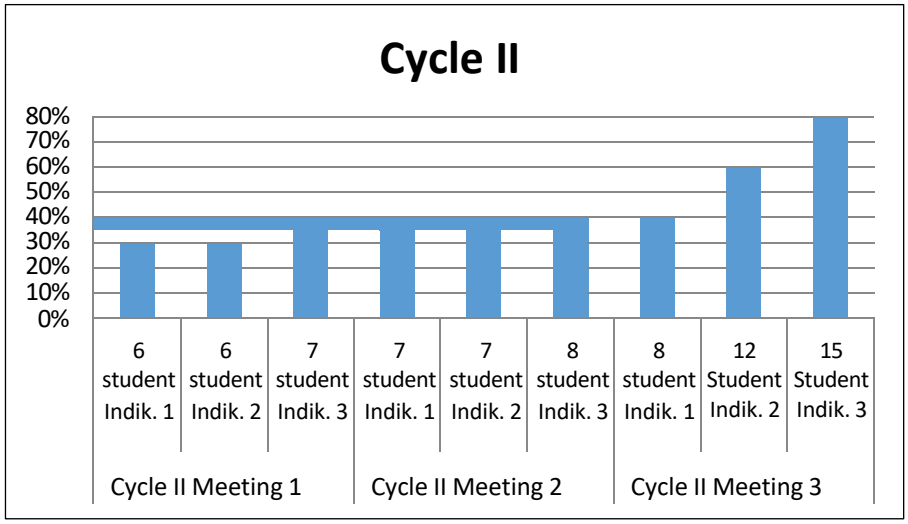

Diagram 2 Cycle II

Conclusion

The results of the pre-observation indicate that children's fine motor skills are very poor, which may be due to the fact that children are not yet accustomed to performing fine motor activities, and the learning activities are still teacher-centered, while children appear passive, and the learning atmosphere is boring and monotonous. Based on the pre-observation, improvements were made in the learning process to better motivate children to engage in motor activities. Based on the research findings, it can be concluded that the use of clay media can enhance fine motor skills in children aged 4-5 years at Muslimat NU 26 Singosari Kindergarten. This can be seen by comparing the percentage results in each activity per cycle. In the 3rd meeting of Cycle I, the children's learning outcomes in drawing vertical, horizontal, slanted, and curved lines was 10%, creating geometric shapes was 20%, and making various shapes from clay media was 30%. At the end of the second cycle meeting, the learning outcomes of the children in making vertical, horizontal, slanted, and curved lines were 40%, making geometric shapes was 60%, and creating various shapes from clay media was 75%. The higher the understanding and activity of the children in learning, the higher the learning outcomes achieved.

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