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Improving Fine Motor Development with Collage Techniques in Group B Children

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Abstract
This study investigates the impact of collage activities on the fine motor skills development of children in Group B at Raudhatul Jannah Kindergarten, Jorong Koto Baru Nagari Aie Winter, Lembah Gumanti District, Solok Regency. Recognizing that early childhood education significantly influences lifelong development, this research employs Classroom Action Research (CAR) to enhance learning outcomes and address classroom challenges. The study involved 15 children (8 boys and 7 girls) during the first semester of the 2023/2024 academic year, using observation and documentation methods to assess fine motor skill improvements based on the Indonesian Ministry of Education and Culture standards. The research comprised two planning cycles, implementation, observation, and reflection, with collage activities to stimulate fine motor skills. The results demonstrated a significant enhancement in the children's fine motor abilities across both cycles. By the end of the second cycle, all aspects of fine motor development had shown considerable improvement. Additionally, the collage technique fostered cognitive development, brain training, and increased patience and interest among children. The findings suggest that integrating collage activities into early childhood education can effectively support the holistic development of fine motor skills and other related cognitive abilities. This approach provides a valuable method for educators to enhance early childhood learning experiences.

Keywords : Early childhood education, fine motor skills, collage activities.

1. Introduction

Education is crucial in every child's life (Nathan et al., 2018). From birth, children begin to receive education from their families. Education helps children face life's challenges now and in the future. In general, education provides an environment that allows children to develop their talents and interests optimally according to their stage of development (Elvira, 2021).

Early childhood is a child who is in the age range from birth to 8 years (Cao & Li, 2023; Yova, Wilson, & Walkowiak, 2024), as also stated by the National Association for the Education of Young Children (NAEYC) (Suardi, Kurniawati, & Rachmawati, 2021; Sumarni & Pd., 2013). Early childhood has genetic potential that can be developed through various stimuli (Fuadi, 2021), so the early period of a child's development greatly determines subsequent development (Black et al., 2017). This

development is a continuous process that goes forward and cannot be repeated (Swatika, 2018).

Development is a systematic, progressive, and continuous process toward maturity involving physical and psychological changes. Development is physical changes and improvements in functions such as strength and coordination. According to Hurlock dalam Fitriyah, Islamiyah, & Fatahillah (2021), development includes growth or evolution and involution setbacks, indicating that development involves qualitative and quantitative progress. For example, in early childhood development, they experience tooth growth accompanied by pain due to this process (Ulfa, 2022).

Children's potential can be developed both at home by parents and in PAUD (Sufa & Setiawan, 2018). Early Childhood Education (PAUD) focuses on physical, motoric growth and development, emotional, spiritual, social, emotional intelligence, language, and communication according to the child's development stage (Wardhani, 2022). Fine motor skills involve coordination, dexterity, and speed in hand and finger use (Faber et al., 2024; Zhang et al., 2024). To develop fine motor skills, directed and integrated stimuli are needed through games (Li, Song, Cai, & Zhang, 2022; Sun & Chen, 2024). Games that can improve fine motor skills include stringing (Ropiah, 2019), cutting (Angginingsih, Asril, & Wirabrata, 2021), sticking (Mansoer, 2018), folding (Harahap & Seprina, 2019), and collage (Darmiatun & Mayar, 2019).

The capacity of the nervous system to control movement performance (Sutapa, Pratama, Rosly, Ali, & Karakauki, 2021) in which three elements determine it, namely "muscles, nerves and brain" (Izhari, Dhany, Zarlis, & Sutarman, 2018). Fine motor skills are physical abilities that involve small muscles and coordination between the eyes and hands (Ghosh, Chowdhury, Chandra, & Ghosh, 2013). Fine motor skills can be trained and developed through continuous activities and stimulation (Afifah, Sumardi, & Mulyadi, 2020). Therefore, this activity does not require a lot of energy but requires careful eye and hand coordination. The better the child's fine motor movements, the better the child can be creative, such as cutting, drawing, coloring, sticking, and weaving. However, not all children are as mature as others to master this ability.

The collage activity is the arrangement of various materials on a flat piece of paper, with materials of various shapes such as used goods (bottles, plastic, cloth, paper), household waste (coconut dregs and egg shells), and natural materials (seeds, nuts). Greens, soybean seeds, corn seeds, leaves). A collage work can be a complete or only part of a work, for example, a painting that adds pasted elements as an aesthetic element. A collage is a form of image created by arranging colored pieces that are smeared with glue and then attached to the image (Destiana, 2018).

To improve the fine motor skills of children in group B of Kindergarten Raudhatul Jannnah Jorong Koto Baru Nagari Aie Winter, Lembah Gumanti District, Solok Regency, researchers will try to improve fine motor skills with collage activities. A collage is a type of artistic activity carried out by sticking and gluing collage materials that have been provided, both natural and manufactured materials, onto existing image patterns. Based on the background above, researchers are interested in adopting the title of this research, "Improving Fine Motor Development with Collage Techniques in Group B Children."

Based on the background described above, it can be identified that the aim of this research is closely related to the problem formulation, namely that using collage techniques can improve fine motor development in Raudhatul Jannah Kindergarten Jorong Koto Baru Nagari Aie Winter, Lembah Gumanti District, Solok Regency.

2. Research Method

The research method used is Classroom Action Research (CAR). CAR aims to improve the quality of learning processes and outcomes in the classroom, as well as helping teachers find solutions to problems that arise in the classroom. This research was conducted at Raudhatul Jannah Kindergarten Jorong Koto Baru Aie Winter, Lembah Gumanti District, Solok Regency, with group B research subjects comprising 15 students (8 boys and 7 girls). The research was carried out in the first semester of the 2023/2024 academic year, with a schedule adjusted to the learning schedule at the kindergarten. The research instruments used include observation and documentation methods. Observations were carried out to obtain data regarding the development of children's fine motor skills, with an assessment format based on Minister of Education and Culture Regulation No. 146 of 2014—documentation in the form of work results and photos during the learning process to complete research data.

Tabel 1. Child Observation Instrument

No	Observed aspects	Evaluation			
		BB	MB	BSH	BSB
	1. Carry out activities that show children are skilled at using their right and left hands in collage activities using loose part materials				
	2. Apply glue to the image pattern as needed				
	3. Image collage according to the shape of the image using loose part materials				

Source: Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 137 of 2014, concerning National Standards for Early Childhood Education, Content Standards concerning Developmental Achievement Levels for Children in the 5-6 Year Group.

Data collection techniques in this research include qualitative and quantitative data analysis to calculate the percentage of children's learning activities. The formula used for quantitative data analysis is p = f/N x 100%, where f is the number of active students, N is the total number of individuals, and p is the percentage. The research procedure follows the four stages of CAR, according to Arikunto, Supardi, & Suhardjono (2015), including planning, implementation, observation, and reflection. This research uses two cycles to measure and improve children's fine motor development through collage activities.

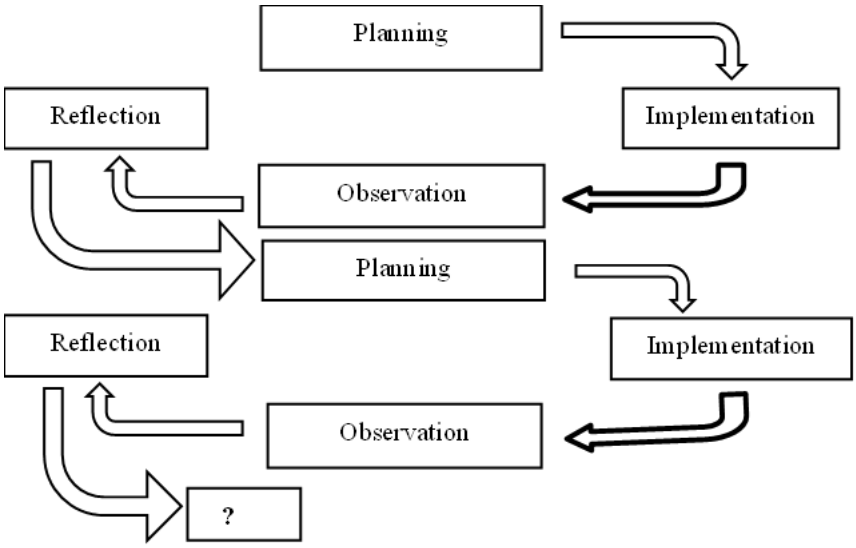

Figure 1. Research Procedures

3. Results and Discussion

3.1 Descriptive Analysist Results

3.1.1 Description of Initial conditions

Based on initial observations in group B of Kindergarten Raudhatul Jannah Aie Winter on Monday, July 24, 2023. Based on the results of observations by researchers with teachers and students in group B at Kindergarten Raudhatul Jannah Jorong Koto Baru Nagari Aie, Lembah Gumanti District, Solok Regency with a total of 15 students, teacher observation assessments in the learning process and children's fine motor development in various activities are still low and have not reached the predetermined success indicators, namely 75%. This is because the learning methods used in the learning process are less attractive to children, so that children feel bored with the existing learning. Children's freedom to explore is not stimulated and the learning that children receive is less interesting and makes children easily bored.

3.1.2 Description of Cycle I

The cycle I action process was carried out in two meetings. The meeting I was held on Monday, 28 August 2023, and Meeting II was held on Thursday, 31 August 2023.

The actions researchers took in cycle I were planning, implementation, observation, and reflection.

3.1.3 Description of Cycle II

The cycle action process was carried out in two meetings. Meeting I was held on Tuesday, 5 September 2023, and Meeting II on Thursday, 7 September 2023. The actions researchers took in the cycle were planning, implementation, observation, and reflection.

3.2 Data Analysis Results

3.2.1 Cycle I

Based on the results of activity observations, two meetings were held in the first cycle stage; each meeting had stages of opening activities, core activities, rest, and closing activities by the RPPH that had been created. The increase in children's fine motor development in cycle I, meeting I, and cycle I, meeting II with the collage technique can be seen in the table below.

Table 1. Improvement of Fine Motor Development with Collage Techniques in Group B Children of Raudhatul Jannah Aie Cold Kindergarten BSH+BSB Cycle I Values

No	Indicators Assessed	Children's cognitive development			
		BSH + BSB Cycle I Meeting I		BSH +BSB Cycle I Meeting II	
		Total	%	Total	%
1	Carrying out activities that show children are skilled in using their right and left hands in collage activities using loose parts	3	20	6	40
2	Children can apply glue to picture patterns as needed	5	33,3	8	53,3
3	Image collage according to the shape of the image using loose parts	5	33,3	6	40

The improvement in the results of assessing children's fine motor development in cycle I, the BSH+BSB value can be presented in the following picture:

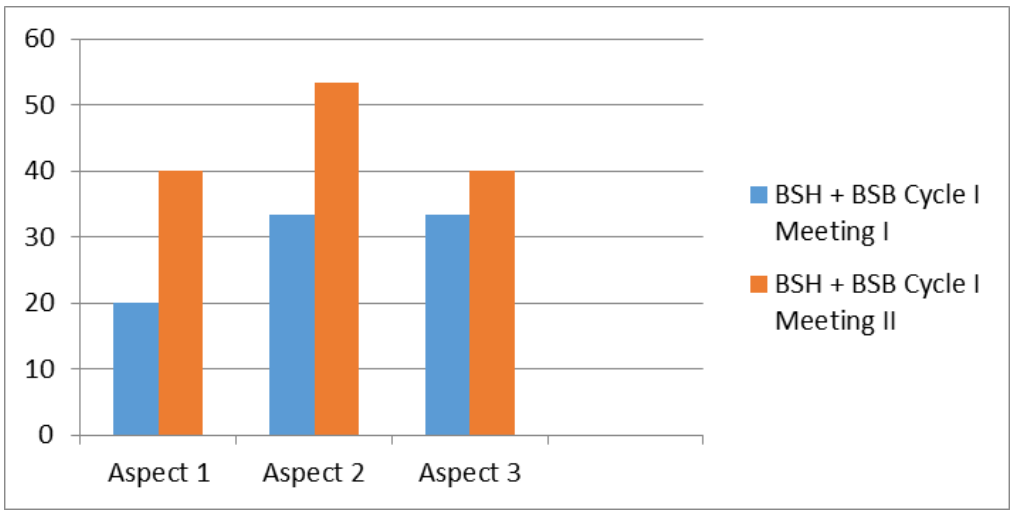

Figure 1. Increasing Fine Motor Development Using Collage Techniques Cycle I

Based on the Table and picture above, it can be seen that there is an increase in the development of children's fine motor skills. The indicator of carrying out activities shows that children are skilled at using their right and left hands in collage activities using loose part materials by 20%. In cycle I, meeting II, it was 40%. The indicator of applying glue to the image pattern according to the needs of cycle 1 meeting 1 is 33.3%. In cycle I, meeting II, it was 53.3%. The picture collage indicator according to the shape of the picture using loose part materials from cycle I meeting I was 33.3%. In cycle I, meeting II, it was 40%. However, it has not met the success rate based on success indicators. This research can be successful if 75% of children get a score of developing as expected (BSH) + developing very well (BSB).

3.2.2 Cycle II

The actions taken in cycle II show an increase in children's fine motor development using the collage technique, and the success rate is met based on success indicators. This research is said to be successful if 75% of children get a score of Developing According to Expectations (BSH) + Developing Very Well (BSB), which can be seen in the table below:

Table 2. Improvement of Fine Motor Development with Collage Techniques in Group B Children of Raudhatul Jannah Aie Cold Kindergarten BSH+BSB Cycle II Values

No	Indicators Assessed	Children's cognitive development	
		BSH + BSB Cycle II Meeting I	BSH +BSB Cycle II Meeting II

		Total	%	Total	%
1	Carrying out activities that show children are skilled in using their right and left hands in collage activities using loose parts	11	73,3	14	93,3
2	Children can apply glue to picture patterns as needed	11	73,3	15	100
3	Image collage according to the shape of the image using loose parts	11	73,3	15	100

The improvement in the results of assessing children's fine motor development in cycle I, the BSH+BSB value can be presented in the following picture:

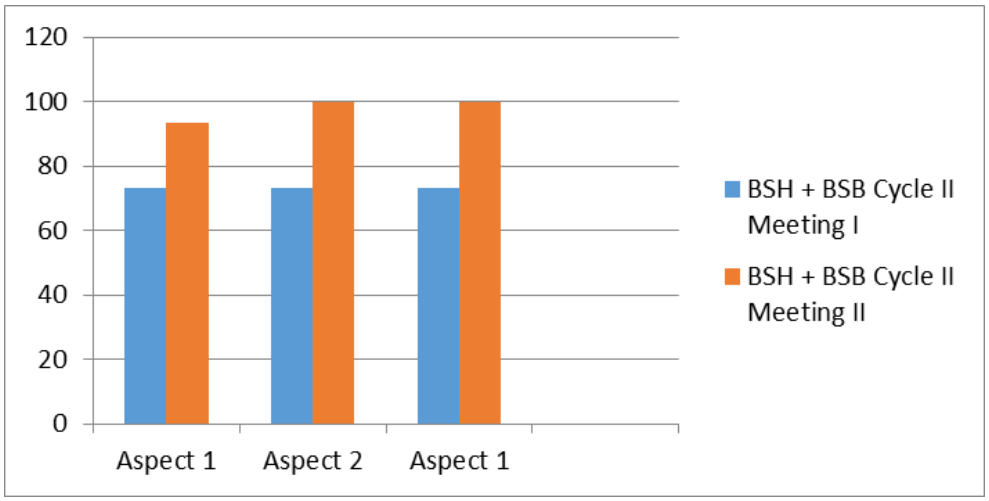

Figure 2. Increasing Fine Motor Development with Collage Techniques Cycle II

Based on the table and picture above, it can be seen that there is an increase in the development of children's fine motor skills; the indicator of carrying out activities shows that children are skilled at using their right and left hands in collage activities using loose part materials in cycle II, meeting I, it was 66.7%. In cycle II, meeting II, it was 66.7%. 93.3%. The indicator of applying glue to the image pattern according to the needs of cycle II meeting 1 was 73.3%, and in cycle II meeting II was 100%. Regarding image collage indicators, according to the image's shape using loose part materials in cycle II, meeting I was 73.3%, and in cycle II, meeting II, it was 100%.

4. Conclusion

Based on the results of classroom action research, which was carried out in two cycles, each cycle consisting of two meetings, several conclusions can be obtained, namely: Collage technique with the theme of needs and sub-themes of staple food and clothing, which was carried out in group B at Raudhatul Jannah Kindergarten, Jorong, Koto Baru, Aie Winter. Lembah Gumanti District, Solok Regency, can improve children's fine motor skills. This is proven by the increase in scores in each cycle carried out by researchers. In cycle II, all aspects of children's fine motor skills have developed well, so it can be said that the children's fine motor skills at Raudhatul Jannah Kindergarten, Jorong, Koto Baru Aie Winter, Lembah Gumanti District, Solok Regency, have increased as shown by comparison with the initial data on the results of children's fine motor skills using the Collage technique. It can improve children's fine motor development abilities.

Apart from that, collage techniques can also improve children's cognitive abilities, train children's brain development, and train children's interest and patience. The conclusion contains a description that must answer the problems and research objectives. Provide a clear and concise conclusion. Do not repeat the Abstract or elaborate on research results. Provide a clear explanation regarding possible applications and/or suggestions related to research findings.

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