

Improving Fine Motor Skills Of 5-6 Year-Old Children Through Weaving Activities At Edelwais Paud

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Abstract

This research is motivated by the low fine motor skills of children aged 5-6 years at PAUD Edelwais and the limited variation in learning activities provided. The aim of this study is to determine the improvement in children's fine motor skills through the implementation of weaving activities. This research uses Classroom Action Research (CAR) with the Kemmis and McTaggart model, conducted in two cycles. Each cycle consists of four stages: planning, action, observation, and reflection. The subjects of this study were 14 children in Group B, aged 5-6 years, at PAUD Edelwais for the 2025/2026 academic year. Data collection techniques included observation, interviews, documentation, and tests. Data analysis was performed using descriptive quantitative and qualitative methods. The results showed an increase in classical mastery from the pre-cycle condition at 28.57% to 57.14% in cycle I, and further increased to 92.86% in cycle II. Therefore, it can be concluded that the implementation of weaving activities is effectively proven to improve the fine motor skills of children aged 5-6 years at PAUD Edelwais.

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1. INTRODUCTION

Education, in essence, is not solely oriented toward achieving academic achievement but also toward developing the full potential of students. In practice, educational success is often identified with the ability to read, write, and count, while other developmental aspects that form the foundation of a child's readiness to learn have not always received proportional attention. Yet, each aspect of development is interconnected and contributes to a child's success in the educational process at the next level. Education aims to humanize humans, shape character, and strengthen intellectual capacity to maintain a decent life. This aligns with Law Number 20 of 2003 concerning the National Education System, which states that education is a conscious and planned effort to create a learning environment that enables students to develop their potential (Amri et al., 2021).

Early Childhood Education (PAUD) serves as the initial foundation for subsequent, more formal and structured education, developing optimal human resource quality. During this early age, various aspects experience rapid growth, often referred to as the golden age. This development is holistic, encompassing cognitive, language, socio-emotional, and motor skills (Norlianti et al., 2025). Therefore, the stimulation provided, both negative and positive, can be optimally absorbed by children. One fundamental aspect of development that needs continuous improvement is motor development, particularly fine motor skills.

Fine motor skills are understood as an individual's ability to control the movements of small muscles in the fingers and hands, which is highly dependent on precision and hand-eye

coordination (Sapitri, 2022). This ability is developed by providing children with opportunities to learn and practice their motor skills, enabling them to perform activities independently. Fine motor skills play a crucial role in a child's overall personality development, helping them adapt to their environment, play comfortably with peers, and foster independence (Eliyana et al., 2022).

However, the reality on the ground still presents various challenges. According to Wathon & Ula (2025), field observations indicate that many early childhood children have not yet achieved fine motor development appropriate for their age or show difficulties in coordination and basic motor skills. This is in line with the findings of initial observations conducted on January 12, 2026, at Edelwais PAUD, North Lombok Regency. The results of the observations showed that the fine motor skills of children aged 5-6 years (Group B) generally still have limitations. There are 10 of 14 students who still require intensive teacher assistance, especially in activities that require precision such as sticking and cutting. In addition, in writing activities, there are still children who are not able to control hand movements well, resulting in less neat writing.

This situation is exacerbated by the lack of challenging learning activities. Based on observations and interviews with class teachers on January 13, 2026, fine motor stimulation activities have been dominated by coloring, simple writing, cutting, and pasting with similar patterns at each meeting. These activities are deemed insufficient to stimulate children's fine muscles (Ridwan et al., 2022). Learning innovations are needed that not only train hand movements but also develop creativity, concentration, precision, patience, and artistic value (Jamilah et al., 2024).

To address these issues, one pedagogical solution that can be implemented is through weaving activities. Weaving is the activity of arranging and crossing materials alternately (overlapping) to form certain patterns (Sari & Simaremare, 2023). This activity involves manual dexterity, precision, and careful hand-eye coordination. The use of colorful paper media packaged simply has the potential to attract children's interest. Several relevant studies, such as those by Putri et al. (2022) and Wahyuningsih & Aprinastuti (2023), also prove that weaving is very effective in honing fine motor control, because children are not just playing, but also practicing inserting, pulling, and tidying woven patterns repeatedly (Rosmara et al., 2025). However, most of these previous studies applied weaving media with a fixed, standard level of difficulty regardless of children's initial fine motor ability, and several were conducted with formal elementary school students rather than early childhood learners (Wahyuningsih & Aprinastuti, 2023), so that the specific challenges faced by young children with still-limited finger strength and coordination, such as narrow weaving gaps that easily trigger frustration, have not been directly addressed. This study seeks to fill that gap by developing weaving media that is adaptively modified across cycles, in terms of gap width, color contrast, and level of teacher guidance, based on ongoing classroom reflection, and applying it specifically to group B early childhood children aged 5-6 years at Edelwais PAUD.

Based on the description above, this study aims to describe and analyze how the implementation of weaving activities can improve the fine motor skills of group B children aged 5-6 years at Edelwais PAUD in the 2025/2026 Academic Year. This study is expected to provide practical contributions for early childhood educators in enriching the variety of fun and meaningful fine motor learning stimulation.

2. RESEARCH METHOD

The type of research used in this study was Classroom Action Research (CAR). CAR is a systematic inquiry carried out by program implementers within their own activities to improve and refine learning practices (Arif & Shinta, 2023; Compilation Team, 2022). This research was conducted at Edelwais Early Childhood Education (PAUD) in Bayan Village, Bayan District, North Lombok Regency, during the even semester of the 2025/2026 academic year.

The subjects of this study were all 14 students in Group B, aged 5-6 years at Edelwais Early Childhood Education (PAUD Edelwais), consisting of 6 girls and 8 boys. Subjects were

selected purposively based on initial observations, which indicated that most of the children in the class experienced difficulties with their fine motor development. In addition to the children, the informants in this study were the class teachers, who acted as collaborators in implementing the interventions (Utomo et al., 2024).

This research design adapts the spiral model from Kemmis and McTaggart, whose implementation is divided into several cycles. Each cycle consists of four main stages: (1) Planning, (2) Action, (3) Observation, and (4) Reflection (Mustafa et al., 2022). This research was designed in two cycles, where each cycle consisted of two to three meetings. The action focused on weaving activities using colored buffalo paper media. In detail, the implementation procedures for each meeting were as follows. Cycle I was carried out in three meetings with the theme "The Universe": the first meeting introduced the concept of weaving and demonstrated the basic top-bottom weaving pattern using a simple sun-shaped paper base; the second meeting had children practice inserting the weft paper into the pre-cut gaps under close, step-by-step teacher guidance; and the third meeting had children complete an entire weaving pattern with gradually reduced teacher assistance, the results of which were scored as the Cycle I assessment. Cycle II was carried out in two meetings with the theme "Art", following improvements made based on the Cycle I reflection: the first meeting introduced the modified media, featuring widened weaving gaps and higher color contrast between the warp and weft paper, together with a slower, more detailed demonstration and personal guidance and positive affirmation for children who had previously struggled; the second meeting had children complete an art-themed weaving pattern as independently as possible, and the resulting work was scored as the final Cycle II assessment.

The data collection techniques used included observation, performance (practical tests), interviews, and documentation (Subandi, 2025). Observations were conducted using a structured observation sheet to record the development of children's fine motor skills during the weaving activity, with indicators including: the ability to imitate alternating patterns, use tools correctly, and tidy up the work (Sjamsir et al., 2024). Each indicator was rated using a four-point developmental scale commonly used in early childhood education, namely Not Yet Developed (Belum Berkembang/BB, score 1), Beginning to Develop (Mulai Berkembang/MB, score 2), Developing as Expected (Berkembang Sesuai Harapan/BSH, score 3), and Very Good Development (Berkembang Sangat Baik/BSB, score 4). The scores obtained across all indicators were summed and converted into a 0-100 scale using the formula: $\text{Individual Score} = (\text{Total Score Obtained} \div \text{Maximum Possible Score}) \times 100$. Based on this conversion, children with a final score of 0-25 were categorized as BB, 26-50 as MB, 51-75 as BSH, and 76-100 as BSB. This detailed scoring procedure was designed so that the observation instrument could be applied consistently and replicated by other researchers or practitioners. The collected data were analyzed using comparative descriptive statistical analysis techniques, namely by comparing the percentage of learning completion from the initial conditions (Pre-Cycle), Cycle I, to Cycle II.

The completion criteria in this study were measured through two categories: Individual Completeness and Classical Completeness (Hikmawati et al., 2023). A child was declared to have achieved individual completeness if they obtained a minimum score of 75 (Developing According to Expectations/BSH Category). Meanwhile, the overall research success indicator (Classical Completeness) was set at 80%. This means that this classroom action research was declared successful and was stopped when at least 80% of the total number of students (i.e., 12 out of 14 children) had achieved the individual completeness score (Pongkot et al., 2023).

3. RESULTS AND DISCUSSION

3.1 Research Results

Before the implementation of the action (pre-cycle), the researcher conducted initial observations to map the children's fine motor skills. In the pre-cycle stage, the learning activities carried out were cutting and pasting. The assessment results showed that the percentage of classical completion only reached 28.57% (4 out of 14 children completed individually). A total of 10 children (71.43%) were still below the Minimum Completion

Criteria (KKM). Children still had difficulty placing the pieces of paper in the correct position, the results of the cutouts were not neat, and there was a high level of dependence on teacher assistance.

Based on these conditions, the research continued in Cycle I, which was carried out in three meetings. In the planning stage, the researcher collaborated with the class teacher to develop a Daily Learning Implementation Plan (RPPH) with the theme "The Universe" and prepared weaving media from paper. In the implementation stage, children were introduced to simple weaving patterns (top-bottom). The assessment results at the end of Cycle I showed an improvement, where 8 children (57.14%) were declared to have completed the activity and 6 children were still incomplete. Although there was an increase of 28.57% from the pre-cycle, this result did not reach the established success indicator of 80%.

Failures in Cycle I were evaluated during the reflection phase. Several obstacles were identified, including: children having difficulty inserting the woven material because the gaps were too narrow, children having difficulty following the alternating pattern of verbal instructions, and some children giving up easily (Rizqiyah et al., 2022). Therefore, improvements were designed for Cycle II, including enlarging the woven gaps on the base paper, using more contrasting color coding, providing slower, step-by-step demonstrations, and providing personal guidance and positive affirmations (motivation).

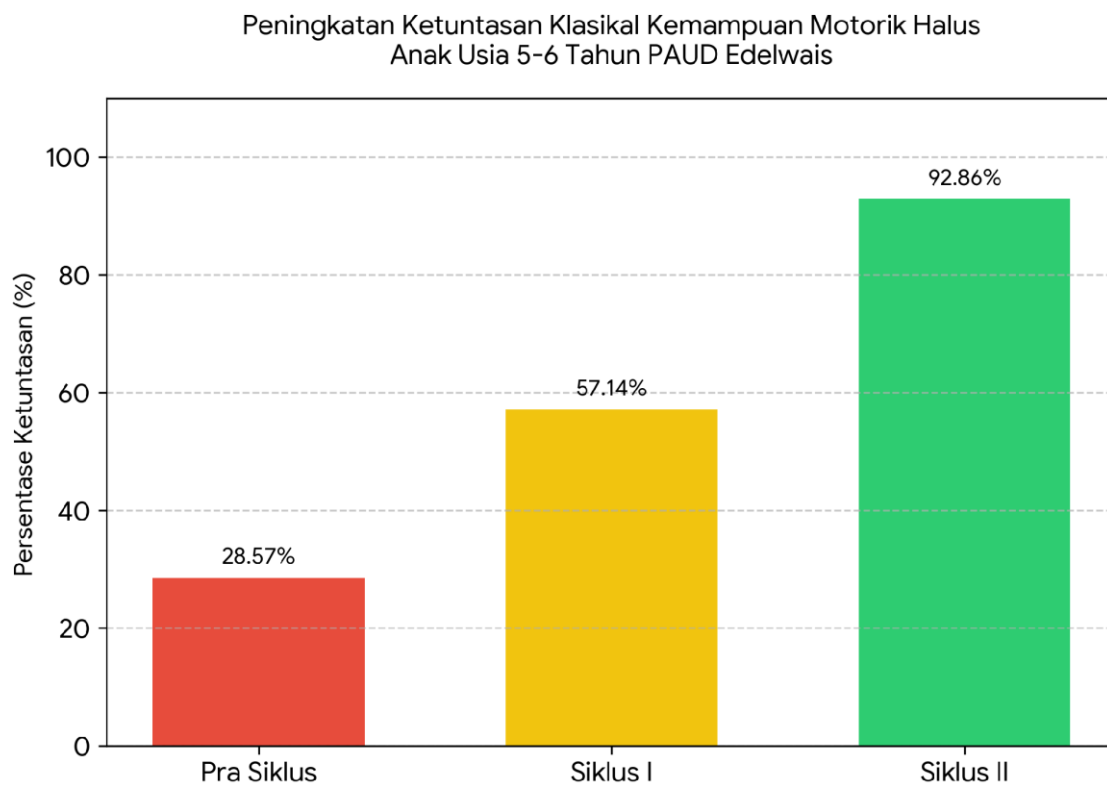
The implementation of Cycle II was carried out in two meetings with the theme "Art". The teacher implemented learning improvements based on the results of the reflection. The children appeared more enthusiastic and confident. The process of inserting the weft into the warp (base paper) became easier because the gaps had been widened. The results of the Cycle II assessment showed a very significant increase. A total of 13 out of 14 children (92.86%) successfully achieved the passing grade, with details of 5 children (35.71%) achieving the Very Good Development (BSB) category and 9 children (64.29%) achieving the Development According to Expectations (BSH) category.

No	Child's Name	Pre Cycle	Cycle I	Cycle II	Final Remarks
1	Almayra Fahriza	75	79	83	Completed
2	Atra Mahaguna	54	66	79	Completed
3	Baiq Wina Asila	66	75	87	Completed
4	Denda Sopiya Agustina P.	62	79	91	Completed
5	Diani Safira	83	87	91	Completed
6	Fathir Ahmad Azmi	66	70	79	Completed
7	Kaenan Makhirano	66	75	79	Completed
8	Noah Pradita Bakri	66	75	79	Completed
9	Raden Dirga Tri Wardana	79	83	87	Completed
10	Radita Hanum	58	66	79	Completed

11	Zafran Adiatma	62	70	83	Completed
12	Raden Yori Athalla	83	87	95	Completed
13	Revania	58	66	75	Completed
14	Kiya	58	58	62	Not yet finished

Table 1. Summary of Fine Motor Skills Scores Between Cycles

To provide a visual illustration of the trajectory of increasing children's classical mastery from the initial conditions to Cycle II, the following is a comparative graph of the percentage of learning mastery.



Graph 1. Improvement in Classical Completion of Fine Motor Skills

3.2 Discussion

Observations during the initial period (pre-cycle) showed that the fine motor skills of children in Group B at Edelwais Early Childhood Education (PAUD) were still in the low category (28.57%). Children's difficulty in cutting according to patterns and placing pieces of paper in the correct position indicated immaturity in visuomotor (eye-hand) coordination and flexibility of the small muscles (phalanges) in the children's fingers. This low ability is in line with the opinion of Jariah et al. (2022) who stated that without varied stimulation interventions, children's fine muscles will have difficulty achieving the functional maturity needed for advanced academic activities such as writing.

The intervention provided in Cycle I through paper weaving activities began to have a positive impact, as evidenced by an increase in classical completion to 57.14%. The weaving process forces children to focus their gaze (visual tracking) while simultaneously moving their fingers to repeatedly tuck, pull, and close the paper. This operational activity aligns with Esther Thelen's dynamic systems theory, where motor skills develop when children are motivated to take action and adapt to the tools/media available in their environment (Norlianti

et al., 2025). However, this cycle has not yet achieved the target (80%) due to the high level of technical difficulty (the gap is too narrow), making children prone to frustration and relying on teacher assistance (Khoerunnisa et al., 2023).

Crucial improvements were made in Cycle II. Researchers and classroom teachers reconstructed the woven media by widening the gaps (warp) and using weft paper with a strong color contrast, combined with scaffolding assistance. This modification dramatically reduced the cognitive and physical burden on children when inserting paper. As a result, 92.86% of children successfully achieved fine motor mastery with the BSH and BSB criteria. Children showed significant progress in aspects of material insertion accuracy, finger flexibility, neatness of results, and independence.

The success of this research aligns closely with previous findings. Rohmah (2022) and Meriyati et al. (2021) confirmed in their studies that physical activities that emphasize the manipulation of small objects (such as playing with plasticine, loose parts, and weaving) have been empirically proven to improve finger flexibility and hand-eye coordination in children aged 5-6 years. The added value (novelty) of this research lies in the adaptive modification of the weaving media, which is simplified and tailored to children's attention span, transforming weaving, which is often associated with complex activities, into a fun, constructive game. Holistically, in addition to training fine motor skills, weaving has been shown to foster persistence (patience), precision in solving alternating patterns, and pride in independent work (Wahyuningsih & Aprinastuti, 2023).

4. CONCLUSION

Based on the results of the Classroom Action Research (CAR) conducted in two cycles at Edelwais Early Childhood Education (PAUD), it can be concluded that the implementation of weaving activities has proven to be very effective in improving the fine motor skills of group B children aged 5-6 years. This success is marked by a significant increase in the percentage of classical learning completion. In the initial conditions (Pre-Cycle), classical completion only reached 28.57%. After being given action using weaving activities in Cycle I, completion increased to 57.14%. Through improvements in media and mentoring strategies in Cycle II, the percentage of classical completion jumped sharply to 92.86%, exceeding the established success indicator (80%). This increase proves that weaving activities are able to stimulate the flexibility of finger muscles, eye-hand coordination, level of accuracy, and children's independence in completing tasks. Beyond these numerical gains, this finding carries practical implications for early childhood education teachers. Weaving activities can be adopted as a simple, low-cost, and easily modified medium for stimulating fine motor development, for instance by initially widening the weaving gaps and using highly contrasting colors for children with limited motor ability, then gradually narrowing the gaps and reducing the color contrast as children's dexterity improves. Teachers are also encouraged to combine slow, step-by-step demonstrations with personal guidance and positive affirmation during the activity, as this scaffolding approach proved effective in helping initially struggling children build the confidence and precision needed to complete the task independently.

5. SUGGESTION

Based on the above conclusions, it is recommended that early childhood educators make weaving activities (with safe and proportionally sized media modifications) an alternative routine program in fine motor stimulation. Schools are advised to provide a variety of natural and artificial materials (colored paper, leaves, ribbons) to maintain children's enthusiasm. For future researchers, it is recommended to test the effectiveness of weaving activities in younger age groups or compare it with other methods using a quasi-experimental design to enrich the scientific treasure of early childhood education.

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