Ceria: Jurnal Program Studi Pendidikan Anak Usia Dini
Volume 14, Number 2, 2025 pages 283-303
P-ISSN: 2301-9905 E-ISSN: 2775-409X
Open Access: https://jurnal.umt.ac.id/index.php/ceria/index

Improving Fine Motor Skills of Kindergarten Children Through 5M+PLAMS Activities at Aisyiyah Kindergarten Bustanul Athfal A

***Amelia Rizka Wardana*[*1], *Basuki Hadi Prayogo*[2], *Trio Suwargono*[3]**
[1,2,3] Universitas PGRI Argopuro Jember, Jember, Indonesia
e-mail: *[1]ameliarizka755@gmail.com, [2]b.hadiprayogo@gmail.com, [3]suwargonotrio@gmail.com

ARTICLE INFO

Article history:
Received: June 24, 2025
Accepted: July 17, 2025
Available online on:
July 30, 2025

Keywords:
Fine Motor; 5M+PLAMS; Early Childhood; CAR

ABSTRACT

This study aims to improve children's fine motor skills through a variety of activities such as cutting, pasting, folding, drawing, coloring, and playing with magic sand in Group A of Aisyiyah Bustanul Athfal Kindergarten for the 2024/2025 academic year. This research is grounded in the importance of fine motor skills for academic readiness and life skills in early childhood. A Classroom Action Research (CAR) design was employed, involving two cycles and 12 children as subjects. Data collection techniques included observation, documentation, and informal interviews, with data analyzed using descriptive quantitative methods by calculating achievement percentages. The pre-cycle results showed 66.67% of children were in the "Emerging" category and 33.33% in the "Developing as Expected" category. After the first cycle, the results improved to 41.67% in the "Very Well Developed" category and 58.33% in the "Developing as Expected" category. In the second cycle, results significantly increased, with 83.33% of children classified as "Very Well Developed." These results demonstrate that varied fine motor activities are effective in enhancing children's skills. It is recommended that teachers use similar activity variations, and further research should

explore other developmental aspects.

Introduction

Early Childhood Education (ECE) is a developmental effort provided to children from birth to six years of age through educational stimulation designed to support their optimal growth and development according to age stages (Fitria et al., 2024). ECE is the primary foundation of child development and plays a vital role in establishing a base for future learning by stimulating various aspects of development, including cognitive, social, emotional, and physical domains (Nada et al., 2024). Therefore, ECE plays a crucial role in providing appropriate stimulation for children, especially through activities that support motor development.

Motor development in children is divided into two types: gross motor and fine motor skills (Azizah et al., 2023). Gross motor skills relate to larger body movements such as running and jumping, while fine motor skills involve coordination of smaller muscles essential for skills like writing, drawing, and using everyday tools (Maisaroh & Sari, 2022; Nuriyah et al., 2024). Fine motor development is a critical aspect of early childhood growth, involving coordination of the small muscles in the hands and fingers (Tanto & Sufyana, 2020).

Good fine motor skills are fundamental in early childhood education as they support children's readiness to face academic challenges, everyday life skills, and future social demands (Retnaningrum, 2021). However, studies show that many young

children experience delays in fine motor development due to lack of proper stimulation (Papalia & Feldman, 2023). Recent studies indicate that 35–45% of preschool children in Indonesia have delays in basic fine motor skills, such as holding a pencil or using scissors (Saadah & Komalasari, 2018). This condition is exacerbated by limited stimulation in ECE institutions, where 60% of learning activities still focus on cognitive aspects rather than physical development (Lumbantobing & Herawati, 2023). Research by Sanenek et al. (2023) proves that children with good fine motor skills achieve 30% higher academic performance in early elementary school.

These skills play a significant role in various activities such as writing, drawing, cutting, and performing daily tasks that require precision and hand-eye coordination (Nada et al., 2024). To address this issue, fine motor stimulation must be provided through enjoyable and developmentally appropriate activities. Some effective activities in improving fine motor skills in kindergarten children include the 5M activities—pasting, cutting, folding, drawing, and coloring—as well as PLAMS (playing with magic sand) (Nababan et al., 2023; Sa'adah et al., 2022).

The 5M+PLAMS method allows children to learn in an enjoyable way while simultaneously developing their fine motor skills. Besides supporting fine motor development, these activities also train creativity, hand-eye coordination, and perseverance in completing tasks (Walida & Rusdiani, 2025). With the regular implementation of these activities

in kindergarten learning, children will be better prepared to face academic challenges in the next education level and more independent in daily life.

Teachers play a significant role in providing proper stimulation to support the fine motor development of children (Lukman & Nurhayati, 2024). Young children need guidance and a supportive learning environment to optimally develop their fine motor skills. Activity-based learning methods are one of the effective ways to increase children's engagement in learning through play (Muliara et al., 2021). By applying engaging and systematic learning strategies, teachers can help children hone their abilities through various activities such as pasting, cutting, folding, drawing, coloring, and playing with magic sand.

Previous research has discussed the development of children's fine motor skills through single activities. Niqo and Wahyudi (2024) focused only on cutting activities, while Masrifah et al. (2024) emphasized folding using origami. Abu et al. (2024) studied only the effects of playing with kinetic sand, and Bahri et al. (2023) only explored coloring activities. Ariana and Novitawati (2023) also centered their research on a specific activity—mosaic—even though it used a combination of learning models. The limited focus on single activities indicates that there is still a lack of comprehensive research examining varied fine motor activities in one intervention series. To fill this gap, this study combines various activities—cutting, pasting, folding, drawing, coloring, and playing with magic sand—to provide a more complete

and in-depth picture of fine motor development in children.

Previous studies tended to examine only one or two specific activities in relation to fine motor development in kindergarten children. However, no research has yet integrated various activities simultaneously such as pasting, cutting, folding, drawing, coloring, and playing with magic sand into a systematic and comprehensive study. Therefore, this research focuses on integrating various creative activities that stimulate fine motor skills in a single, comprehensive study. By combining six different activities, this study provides broader insights into the effectiveness of fine motor stimulation methods in kindergarten children. Additionally, it can serve as a basis for teachers and parents in developing more varied and engaging learning strategies to support children's fine motor development optimally.

Initial observation at Aisyiyah Bustanul Athfal Kindergarten found that 66.67% of children in Group A were not yet proficient in basic activities such as folding paper or pasting neatly. These findings are consistent with Ningtyas & Sucahyo (2023), who revealed that conventional learning methods are ineffective in developing fine motor skills. Several contemporary approaches, such as sensorimotor games and structured art activities, have been shown to improve these skills by up to 65% (Insani et al., 2023; Subadi, 2013).

Based on this background, this study develops a 5M+PLAMS model integrating six structured activities. This approach is based on Vygotsky's theory of the zone of proximal development and the concept

of multimodal learning (Vygotsky, 2019). Preliminary research showed that combining motor and sensorimotor activities can improve children's skills by up to 40% within just eight weeks (Suryadin & Wahyuningsih, 2023). Therefore, this research proposes the integration of 5M+PLAMS activities as an innovative solution to the problem. The objective of this study is to analyze the effectiveness of these activities in improving fine motor skills in children and to provide recommendations for educators.

Methods

This study used a classroom action research (CAR) approach following the Kemmis and McTaggart model (1998), which consists of the cycles of planning, action, observation, and reflection (Figure 1). This model was repeated over two cycles with the following stages: (1) Planning, including the preparation of action plans, media materials, and success indicators; (2) Action Implementation, involving the application of fine motor activities such as pasting, cutting, and coloring with teacher guidance; (3) Observation, carried out by monitoring children's development using observation sheets and documentation; and (4) Reflection, to analyze the results and make improvements if needed, with the possibility of repeating the cycle (Arikunto, 2016; Kemmis & McTaggart, 1998).

This method was chosen as it supports continuous improvement in developing children's fine motor skills through various creative activities at Aisyiyah Bustanul Athfal Kindergarten. The research design

followed two action cycles, where each cycle included planning, implementation, observation, and reflection. In each cycle, the activities of cutting, pasting, folding, drawing, coloring, and playing with magic sand were applied and evaluated to measure their effectiveness in improving fine motor skills. The population in this study consisted of all 12 Group A students at Aisyiyah Bustanul Athfal Kindergarten, which provided a supportive environment and facilities for the implementation of these activities.

Data collection was carried out using three main techniques: observation, documentation, and informal interviews. Observations were conducted directly to record children's behavior during learning activities, focusing on fine motor skills. These were documented through observation sheets containing indicators for activities such as cutting, pasting, folding, drawing, coloring, and playing with magic sand. Supporting evidence such as photos and videos documented the implementation and learning achievements. Informal interviews were conducted with the classroom teacher to obtain additional subjective insights on children's development.

The instruments used included observation sheets with a 1–4 scoring scale for each indicator, assessment rubrics detailing children's skill levels, and qualification tables classifying the scores into four achievement categories, as shown in Table 1.

Table 1. Learning Achievement Qualification

No.	Percentage of Achievement	Criteria
1	76% – 100%	Very Well Developed (VWD)
2	51% – 75%	Developing as Expected (DE)
3	26% – 50%	Emerging (E)
4	0% – 25%	Not Yet Developed (NYD)

Source: Adapted from Permendiknas No. 58 of 2009 and Arikunto (2008)

The observation results were analyzed using descriptive quantitative techniques. The analysis involved calculating the percentage of achievement in children's fine motor development based on scores from observation sheets and rubrics, using the formula:

P = (f/n) × 100%

Where P = percentage of achievement, f = child's score, and n = total number of children observed. Results were then categorized based on the qualification table.

Results and Discussions

Aisyiyah Bustanul Athfal Kindergarten, located in Sumbersari District, Jember, East Java, is an Islamic-based early childhood education institution with six effective learning days. The 12 children in Group A participated in the study, and the school supported various activities to enhance fine motor skills.

Initial observations revealed that nearly all children experienced delays in developing fine motor skills due to insufficient stimulation. Fun, hands-on activities like pasting, cutting, folding, drawing, coloring, and playing magic sand are proven effective but are not optimally

implemented in all early childhood institutions. Thus, this study sought to find a solution to optimize instructional methods for fine motor development at the school.

Table 2. Pre-Cycle Fine Motor Skill Results

Category	Frequency	Percentage
VWD	0	0.00%
DE	4	33.33%
E	8	66.67%
NYD	0	0.00%
Total	**12**	**100%**

Based on the observation results presented in Table 2, the fine motor skills of Group A children at Aisyiyah Bustanul Athfal Kindergarten in the pre-cycle stage still showed results that needed improvement. Of the total 12 children, 8 children (66.67%) were in the "Emerging" category, meaning that most children were just beginning to demonstrate basic fine motor skills such as cutting, pasting, folding, drawing, coloring, or playing with magic sand but still required more intensive guidance and practice. Meanwhile, 4 children (33.33%) were in the "Developing as Expected" category, showing that they were able to perform most fine motor activities according to the indicators, although they had not yet reached the "Very Well Developed" stage. However, no children were found in the "Very Well Developed" or "Not Yet Developed" categories.

These results indicate that the majority of children still need more active teacher assistance, clear instructions, and well-planned and

engaging fine motor activities to optimally develop their skills. Based on behavioral observations, some children were still struggling to hold scissors correctly, neaten cutouts, or color within the lines, while others had begun to follow teacher instructions but still needed support. These pre-cycle results serve as a basis for planning improvements through the application of more varied fine motor activities and learning strategies that match the children's developmental needs.

Based on the pre-cycle results, it can be concluded that improvement actions through more varied and targeted learning strategies are needed to enhance children's fine motor skills. Therefore, in Cycle I, fine motor activities were implemented in a systematically designed combination of cutting, pasting, folding, drawing, coloring, and playing with *magic sand* with direct teacher guidance.

Table 3. *Post-Treatment Condition of Fine Motor Skills in Cycle I – Group A of Aisyiyah Bustanul Athfal Kindergarten*

No	Category	Frequency	Percentage
1	VWD	5	41.67%
2	DE	7	58.33%
3	E	0	0.00%
4	NYD	0	0.00%
	Total	**12**	**100%**

The observation results in Cycle I (Table 3) showed a significant improvement compared to the pre-cycle stage. Of the 12 children, 5 (41.67%) reached the "Very Well Developed" category, and 7 (58.33%)

were in the "Developing as Expected" category. No children were in the "Emerging" or "Not Yet Developed" categories. This result indicates that the application of varied fine motor activities with intensive assistance helped children develop their fine motor skills more optimally. This improvement also shows that children began to successfully perform activities such as cutting patterns, pasting neatly, folding paper, drawing with detail, coloring within the lines, and playing with magic sand with better hand movement coordination.

Based on the results in Cycle I, it was seen that most children showed considerable improvement in fine motor skills through the applied activity variations. However, observations still indicated some weaknesses, particularly in children's consistency in maintaining neatness, accuracy, and hand movement coordination in tasks requiring detail, such as cutting small patterns, pasting in narrow areas, or coloring within defined borders. In addition, some children still required additional guidance to improve their confidence and independence in completing tasks. Therefore, improvement actions continued into Cycle II with a focus on increasing the intensity of guidance, providing clearer direct examples, using step-by-step instructions, and giving immediate feedback so that children could correct mistakes independently.

Table 4. *Post-Treatment Condition of Fine Motor Skills in Cycle II – Group A of Aisyiyah Bustanul Athfal Kindergarten*

No	Category	Frequency	Percentage
1	VWD	10	83.33%
2	DE	2	16.67%
3	E	0	0.00%
4	NYD	0	0.00%
	Total	**12**	**100%**

The observation results in Cycle II (Table 4) showed a significant increase compared to the previous cycle. Of the 12 children, 10 (83.33%) reached the "Very Well Developed" category, while 2 (16.67%) were in the "Developing as Expected" category. No children were in the "Emerging" or "Not Yet Developed" categories, indicating that all students had shown fine motor skills above the expected minimum standards. Behaviorally, children appeared more confident, enthusiastic, and independent in completing each task. They were able to hold tools correctly, maintain neatness in their work, and show improved eye-hand coordination in every activity.

This significant improvement proves that the application of varied fine motor activities, combined with structured learning strategies and intensive assistance, is effective in supporting the optimal development of children's fine motor skills. The achievement in Cycle II indicates that the research objectives were successfully achieved, as the majority of children improved to the "Very Well Developed" category, and the rest remained in the "Developing as Expected" category with the potential to continue progressing through future learning.

Based on the research results, it can be seen that there was a significant improvement in children's fine motor skills after the implementation of varied activities, from pre-cycle to Cycle II. The transition of most children from the "Emerging" category to "Developing as Expected" and "Very Well Developed" supports Vygotsky's concept of the zone of proximal development (ZPD). Vygotsky emphasized that children's abilities develop optimally when they receive guidance or support from adults or more capable peers (Vygotsky in Kurniati, 2025). In the implementation of this learning process, the teacher served as a scaffold who provided direction, examples, and corrections directly (Fatma, 2025). Support in the form of step-by-step instructions, concrete examples, and feedback became a form of social interaction that helped children achieve fine motor developmental tasks that were previously difficult to do independently.

The results of this study also align with Piaget's theory regarding the cognitive development stage of early childhood, which is in the preoperational stage (2–7 years). At this stage, children cannot think abstractly, so learning must use concrete activities involving the senses and motor coordination (Piaget in Sadvakassova et al., 2023). Activities such as cutting, pasting, folding, drawing, coloring, and playing with magic sand provide sensory-motor stimulation that supports the development of eye-hand coordination, movement accuracy, and fine muscle control. This method aligns with Piaget's idea that through manipulating real objects, children construct new knowledge and skills

through direct experience (Alfadhilah, 2025).

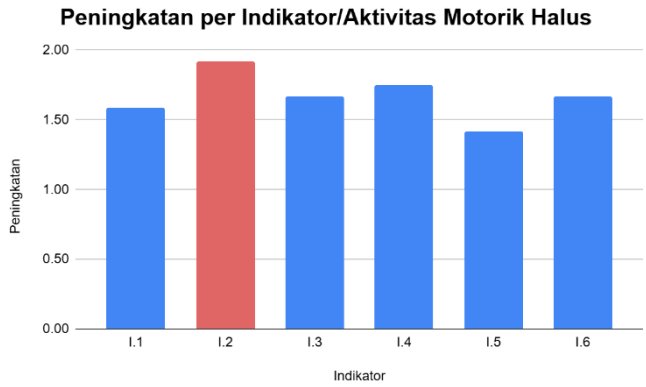
Furthermore, the findings of this study can also be linked to the Montessori approach, which emphasizes the importance of hands-on activities and children's independence in the learning process. In the Montessori method, fine motor activities are considered important as they train coordination, orderliness, and structured work habits (Montessori, 2023). The implementation of varied activities with teacher assistance encourages children to learn independently, practice repeatedly, and take responsibility for their own work (Marwiyati, 2021).

This study is also supported by Erikson's theory, which states that early childhood is in the initiative vs. guilt stage, where children need opportunities to take initiative through creative activities (Erikson in Suharsiwi & Sari, 2024). If children are given the space to try various new activities with appropriate guidance, they will feel confident and proud of their abilities. Conversely, a lack of activity variation or inadequate support may lead children to quickly feel failure and become reluctant to try (Rice & Cun, 2021).

The findings of this study also support previous research by Niqo and Wahyudi (2024), Masrifah et al. (2024), Abu et al. (2024), Bahri et al. (2023), Ariana and Novitawati (2023), and Papalia and Feldman (2023), which demonstrated that fine motor skill development is more optimal when provided through varied, engaging activities carried out progressively according to children's developmental needs. This study adds evidence that a combination of complementary concrete activities,

implemented with planned learning strategies and intensive assistance, is effective in helping children reach the "Very Well Developed" category in fine motor skills.

Figure 1. Average Score Improvement per Fine Motor Activity Indicator



In addition, based on the analysis of the average scores for each indicator (Table 5 and Figure 2), it can be concluded that the pasting activity showed the most significant improvement from the pre-cycle to Cycle II compared to other indicators. This indicates that pasting activities are highly effective in training hand coordination, movement accuracy, and children's concentration in performing fine motor tasks. This was followed by folding and drawing activities, which also made significant contributions in gradually supporting the development of children's fine motor skills. Meanwhile, the coloring activity, although relatively high from the beginning, continued to support stable mastery of hand movement control. These results affirm that well-planned

variations in activities are capable of training various aspects of fine motor skills in an integrated manner.

Table 5. *Average Scores for Fine Motor Activity Indicators from Pre-Cycle to Cycle II – Group A of Aisyiyah Bustanul Athfal Kindergarten*

Indicator	Pre-Cycle	Cycle I	Cycle II	Improvement
I.1 (Cutting)	1.75	2.75	3.33	1.58
I.2 (Pasting)	1.67	2.67	3.58	1.92
I.3 (Folding)	1.83	2.83	3.50	1.67
I.4 (Drawing)	1.75	2.75	3.50	1.75
I.5 (Coloring)	2.00	3.08	3.42	1.42
I.6 (Magic Sand)	1.75	2.83	3.42	1.67

Thus, the implementation of varied fine motor activities is not only aligned with child development theories but can also serve as a practical reference for kindergarten teachers in designing learning programs that support children's readiness to face academic and social challenges in the future.

Conclusion

Based on the findings, it can be concluded that the implementation of various fine motor activities such as cutting, pasting, folding, drawing, coloring, and playing with magic sand was proven effective in improving the fine motor skills of Group A children at Aisyiyah Bustanul Athfal Kindergarten for the 2024/2025 academic year. The improvement from pre-cycle to Cycle II, with most children reaching the "Very Well Developed" category, supports Vygotsky's theory on the

importance of guided stimulation within a child's zone of proximal development. The variation in activities also significantly increased children's motivation and engagement.

Therefore, teachers are encouraged to continue designing varied and contextualized fine motor activities to optimize development. Additionally, this study can serve as a reference for other ECE institutions with necessary adjustments. Further research is recommended to explore the impact of similar activity variations on other developmental domains such as socio-emotional and language development, as well as to compare effectiveness across different age groups for a more comprehensive understanding.

References

Abu, S. P. H., Jamin, N. S., Juniarti, Y., & Sumirat, E. M. (2024). Pengaruh kegiatan pasir kinetik terhadap kemampuan motorik halus anak usia 4-5 tahun. *Jambura Early Childhood Education Journal*, *6*(2), 233-244.

Alfadhilah, J. (2025). Filsafat Pendidikan Anak Usia Dini Menurut Jean Piaget. *Alzam: Journal of Islamic Early Childhood Education*, *5*(1), 94-111.

Ariana, L., & Novitawati, N. (2023). Mengembangkan kemampuan anak dalam mengontrol gerakan tangan menggunakan otot halus melalui kombinasi model project based learning dan model direct instructions pada kegiatan mozaik. *Jurnal Inovasi, Kreatifitas Anak Usia Dini (JIKAD)*, *3*(3), 32-41.

Arikunto, S. (2008). *Penelitian Tindakan Kelas*. Jakarta: Bumi Aksara.

Arikunto, S. (2016). *Prosedur Penelitian: Suatu Pendekatan Praktik* (Revisi ed.). Jakarta: Rineka Cipta.

Azizah, A. N. I., Nadhifa, A. C., & Hakim, L. (2023). Melatih Kemampuan Motorik Halus Dan Motorik Kasar Anak Usia Dini

(Teori Dan Praktik). *Penerbit Tahta Media*.

Bahri, K., Astawa, I. M. S., Sriwarthini, N. L. P. N., & Astini, B. N. (2023). Meningkatkan kemampuan motorik halus melalui kegiatan mewarnai pada anak usia 5-6 tahun. *Journal of classroom action research*, *5*(2), 97-105.

Fatma, P. (2025). *PENGARUH MODEL PEMBELAJARAN OIDDE DENGAN BERBANTUAN COGNITIVE SCAFFOLDING TERHADAP KETERAMPILAN BERPIKIR KRITIS PESERTA DIDIK KELAS VIII DI SMPN 05 GUNUNG LABUHAN KABUPATEN WAY KANAN* (Doctoral dissertation, UIN RADEN INTAN LAMPUNG).

Fitria, D. A., Ramdani, C., & Miftahudin, U. (2024). Peran sekolah dalam upaya optimalisasi pendidikan karakter anak usia dini. *Banun: Jurnal Pendidikan Islam Anak Usia Dini*, *2*(2), 57-67.

Insani, S. A. H., Usman, A., & Suciati, S. (2023). Peningkatan Hasil Belajar Kognitif Siswa Kelas XF SMAN 3 Probolinggo Menggunakan Media Video Pembelajaran. *Jurnal Biologi*, *1*(4). https://doi.org/10.47134/biology.v1i4.1993

Kemmis, S., & McTaggart, R. (1998). *The Action Research Planner* (3rd ed.). Victoria: Deakin University.

Kurniati, E. (2025). Teori sosiokultural Vygotsky untuk anak usia dini. *Jurnal Studi Pendidikan Anak Usia Dini*, *1*(1), 19-24.

Lukman, L., & Nurhayati, N. (2024). Teacher performance in carrying out duties as curriculum developers in schools. *Inovasi Kurikulum*, *21*(1). https://doi.org/10.17509/jik.v21i1.63517

Lumbantobing, R. A., & Herawati P, J. (2023). Meningkatkan Motorik Halus Anak Dengan Menggunakan Permainan Lost Part. *NBER Working Papers*, *2*(3).

Maisaroh, S. U., & Sari, M. (2022). Pengaruh Permainan Kelereng Terhadap Motorik Kasar Anak Kelompok B Di Paud Nurul Huda Desa Banyuurip Banyuasin. *ULIL ALBAB: Jurnal Ilmiah Multidisiplin*, *1*(9), 2928-2934.

Marwiyati, S. (2021). Pembelajaran Saintifik pada Anak Usia Dini dalam Pengembangan Kreativitas di Taman Kanak-Kanak. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *5*, 135-149.

Masrifah, M., Arum, D. S., Pradana, A. K., Hariani, M., Mardikaningsih, R., Darmawan, D., & Safira, M. E. (2024). Peningkatan motorik halus dengan memanfaatkan origami untuk siswa taman kanak-kanak. *Sejahtera: Jurnal Inspirasi Mengabdi Untuk Negeri*, *3*(4), 47-61.

Montessori, M. (2023). *Spontaneous activity in education*. Otbebookpublishing.

Muliara, M. A. Q., Al-Kirom, M. F., & Khoirunnisa, T. (2021). Metode Ice Breaking Sebagai Solusi Pembelajaran Bahasa Arab Yang Kreatif Dan Inovatif Untuk Melatih Maharah Mufrodat Madrasah Ibtida'iyah. *International Conference of Students on Arabic Language*, *5*(0).

Nababan, S., Agustina, W., & Sitorus, H. (2023). Pengaruh Media Bermain Pasir Kinetik Terhadap Aspek Motorik Halus Anak Usia 5-6 Tahun Di Tk Pelangi Kasih Siborongborong Kabupaten Tapanuli Utara. *Coram Mundo: Jurnal Teologi Dan Pendidikan Agama Kristen*, *5*(2), 290-306.

Nada, Q., Nurani, Y., & Hikmah, H. (2024). Inovasi Permainan Engklek untuk Menstimulasi Keterampilan Gerak Lokomotor Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini*, *1*(2). https://doi.org/10.47134/paud.v1i2.316

Ningtyas, R. K., & Sucahyo, E. (2023). Implementasi Ice Breaking Untuk Meningkatkan Konsentrasi Dan Minat Belajar Siswa. *Jurnal Adam : Jurnal Pengabdian Masyarakat*, *2*(2).

Niqo, H., & Wahyudi, M. D. (2024). Mengembangkan motorik halus anak dalam kegiatan menggunting melalui kombinasi model project based learning dan metode demonstrasi dengan media bahan bekas di tk. *Jurnal Inovasi, Kreatifitas Anak Usia Dini (JIKAD)*, *4*(2), 1-12.

Nuriyah, S., Isah, S., & Perdana, F. (2024, July). Peningkatan Ketrampilan Motorik Halus Melalui Kegiatan Seni Lukis pada Anak Usia Dini di RA At Thoyyibah Karangtengah Kabupaten Pemalang. In *SINAU Seminar Nasional Anak Usia Dini* (Vol. 1, pp. 665-674).

Papalia, D. E., & Feldman, R. D. (2023). *Experience Human Development* (15th ed.). McGraw-Hill Education.

Retnaningrum, W. (2021). Peran pendidik mengembangkan fisik motorik anak usia dini dalam pembelajaran motorik. *Warna*, *5*(1).

Rice, M. F., & Cun, A. (2021). Personalising digital learning for young children: Leveraging psychosocial identities and Techne for literacy development. *British Journal of Educational Technology*, *52*(5), 1823-1838.

Saadah, D. A., & Komalasari, D. (2018). Pengaruh Kegiatan Menggunting Media Kertas Buffalo Terhadap Kemampuan Motorik Halus Anak Usia 4-5 Tahun Di TK Ihyaul Ulum Lamongan. *PAUD Teratai*, *7*(2).

Sa'adah, D. A., Huda, M., & Mursyidah, L. (2022). Pengaruh Media Pasir Ajaib terhadap Kemampuan Motorik Halus Anak Usia 4-5 Tahun di TK Ihyaul Ulum Lamongan. *Alzam: Journal of Islamic Early Childhood Education*, *2*(2), 10-18.

Sadvakassova, N., Mulikova, S., Tuganbekova, K., & Danek, J. (2023). PEDAGOGICAL PREREQUISITES FOR THE WORK WITH PRESCHOOL CHILDREN. *3i: intellect, idea, innovation-интеллект, идея, инновация*, (4), 142-154.

Sanenek, A. K., Nurhafizah, N., Suryana, D., & Mahyuddin, N. (2023). Analisis Pengembangan Kemampuan Motorik Halus pada Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *7*(2). https://doi.org/10.31004/obsesi.v7i2.4177

Subadi. (2013). Meningkatkan Hasil Belajar Siswa Dengan Menggunakan Alat Peraga Melalui Model Pembelajaran Cooperative Learning Metode STAD Pada Materi Pokok Bangun Ruang Sisi Datar Bagi Siswa. *Pendidikan Ekonomi IKIP Veteran Semarang*, *01*(01).

Suharsiwi, M., & Sari, M. (2024). *Pengembangan Instrumen Anak Usia Dini*. CV. AZKA PUSTAKA.

Suryadin, A., & Wahyuningsih, E. T. (2023). Perkembangan Motorik Anak Usia Dini. *SALIHA: Jurnal Pendidikan & Agama Islam*, *6*(1). https://doi.org/10.54396/saliha.v6i1.523

Tanto, O. D., & Sufyana, A. H. (2020). Stimulasi Perkembangan Motorik Halus Anak Usia Dini dalam Seni Tradisional Tatah Sungging. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, *4*(2).

https://doi.org/10.31004/obsesi.v4i2.421.

VYGOTSKY, L. S. (2019). Mind in Society. In *Mind in Society*. https://doi.org/10.2307/j.ctvjf9vz4

Walida, U. B., & Rusdiani, N. I. (2025). PENERAPAN KEGIATAN MERONCE MANIK-MANIK UNTUK MENSTIMULASI PERKEMBANGAN MOTORIK HALUS ANAK DI POCENTER (PONOROGO EARLY EDUCATION CENTER). *INDOPEDIA (Jurnal Inovasi Pembelajaran dan Pendidikan)*, *3*(1), 61-71.